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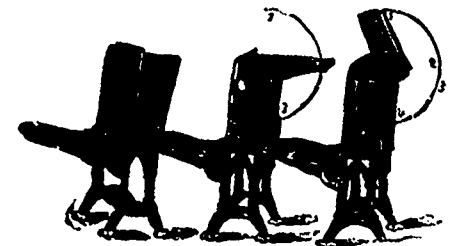
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The Educational Weekly.

TORONTO, DECEMBER 10, 1885.

We are glad that the Minister of Education is using the influence of his name and position to promote self-culture among the members of our profession. In the circular which has just been issued, he recommends courses of reading for third, second, and first-class teachers. To those who are desirous of self-improvement, there is very much gained when they have continually in mind, as a set purpose to be accomplished, a well-planned course of reading; and there is stimulus in the thought that many are contemporaneously pursuing the same course with the same end in view, and amid very much the same conditions, and hence amid the same distractions. Should the teachers' associations throughout the Province decide to adopt the suggestions of the Minister, there will soon be an army of several thousand men and women devoting their spare hours to culture, instead—as would most likely be the case if there were not some such general co-operation as this—of allowing them to be dissipated in purposeless action, and perhaps in idle frivolity.

In the courses marked out pedagogy occupies a prominent place. This is a wise provision. What our Province now needs, in every rank of the profession, is intellectual work; work with thought and method, and purpose in it; not mere imitation of others' handicraft, but informed with living principles, self-sought and self-obtained, though based on the experience and reasoning of others. Nothing leads to thinking and observation more than the study of the thoughts and observations of those who have pursued their investigations in a scientific spirit, and have embodied them in a scientific form. Let no one suppose, however, that because he reads scientific works on education he thereby becomes an educator. The reading will help him much, but he must think and observe for himself. Too many teachers, however, rely altogether on what they are pleased to call their own thinking, and their own observation, and disdain to learn the science of their profession, disdain to be informed by the great masters of pedagogy. This is the curse of the profession; this, the disease, this, the pestiferous conceit, as common in high places as in the humblest, and destructive of progress and earnest labor wherever it exists.

Of the books prescribed we have only to say that, with one or two exceptions, they are all excellent. No two committees would make the same selection, and, where the choice is so great, the difficulty of fixing upon the absolutely best is infinite. But we think the

Minister has made a mistake in prescribing so much to be taken in each year. There are two books in pedagogy, six in science and eight in literature and history—sixteen in all. In our opinion eight or ten would be a large list. The weak point in the scheme is that many will commence with good hopes, but finding their time and strength unequal to the task, will become weary and dispirited, and will give up, and in the end will be more apathetic in regard to self-improvement than ever. Of course we can judge only from our own experience, but that leads us to say that the course prescribed is in quantity about twice as great as it should be.

We have one other remark to offer. We trust that those pursuing the course will own and keep the books they read and master. We have great faith in the abiding value of a library, *i.e.*, of a collection of books whose thoughts one has made one's own. The purchasing of books for mere ornament, or with an indefinite thought that sometime they may be of use, is a harmless luxury to those who can afford it, though inexcusable in others. It brings, however, no intellectual benefit. It adds nothing to one's intellectual capital. But the possession of books which have become dear friends through hours of close and pleasant companionship, is a luxury which the poorest should hardly deny himself; and these are the only books, except works of reference, whose merits are of a different order, that are afterwards of any real value to their possessor.

By article 24 of the late Regulations, teachers are empowered and directed to devote the Friday afternoon of each week to exercises departing from the ordinary routine of the school. This has been the practice of many good teachers for years; the embodiment of the provision in the Regulations simply gives a legal sanction to the custom, and will defend the teacher from the adverse criticism of the illiberal, whenever it may be directed against this sort of work. We wish to suggest some ways by which these afternoons can be made interesting and useful. Music, which we hope will soon be a characteristic feature of school work in every grade, should, in these exercises, be largely employed, and, as far as possible, it should be participated in by the school as a whole. Readings and recitations by the pupils, of pieces which they themselves have selected, will, of course, be frequently given. The most meritorious compositions that have been written during the previous week or month, and heard only in class before, might properly, on these semi-public occasions, be honored with a rendering before the

assembled school. The work of the youngest pupils should be accorded as much distinction in this way as that of the elder ones, and it will prove to be equally interesting. If teachers have a taste for science, they can encourage their pupils to make correctly named collections of woods, barks, grains, leaves, grasses, ferns, wild-flowers, butterflies, beetles, etc. Having been previously inspected by the teacher, and passed by him, they might be publicly received and placed in the school museum on these afternoons. We know of nothing outside of systematic science study which will so stimulate and develop the powers of observation in young children as the preparation of such collections as are here suggested. Then, these afternoons can be used by the teacher in giving informal lessons, by means of pleasant talks and conversation, on conduct and deportment. Nothing needs more attention than these matters. Another profitable exercise will be the correction of grammatical inaccuracies which may have been heard and noted in the playground during the previous week. But the excellent ways of spending these afternoons are so many, that there are few teachers who will not be more at loss to know which to omit, than which to make use of.

THE Waterloo resolutions, asking that a fee of \$25 be imposed upon all candidates presenting themselves for the third-class professional examinations, are exceeded in protective zeal by those proposed in another association, by which \$150 is to be the fee. Our correspondent of November 12th defends the imposition of a fee, inasmuch as it is already recognized in principle,—boards of trustees being empowered to impose a fee of \$5, and county boards of examiners an additional fee of \$2,—and says, furthermore, that the question is one simply of degree. To this we at once assent. But the fee proposed is excessive, and we are quite sure will not be agreed to by public opinion. A fair share of the cost of their professional preparation the public will rightly demand of teachers; but if model schools can be maintained at no more expense to the candidate than a \$5 fee, the public will not ask that the fee be enlarged. The public are naturally interested in obtaining cheap teachers, or rather in obtaining teachers as cheaply as possible, and have no desire to help the teachers of the Province to become a close corporation. The remedy for too easy entrance to the profession, it seems to us, is, that the standard of qualification be gradually raised; of this we shall speak next week.

Contemporary Thought.

CO-EDUCATION, as practised in the majority of American colleges, has received a hearty endorsement from Rev. H. R. Haweis, the popular London clergyman, lecturer, and writer, now on a visit to this country. Mr. Haweis believes that the English can take a great many hints from the joint education of men and women; that it is a system which has a refining influence on both sexes and much preferable to the system practised in England, of having separate ladies' universities like Girton and Newnham. His ideas are the result of a three-week's visit at Cornell, where, for sixteen years, co-education has been successfully tried.—*Chautauquan*.

THE American elements have no respect for even so venerable a thing as the Egyptian obelisk. They are veritably eating it up. To prevent this irreverent destruction, workmen have been sent to Central Park to encase the monolith in a coating which, it is believed, will prevent further depredation. Every loose flake of the stone is being removed. After this the surface of the stone will be heated in sections and the protector, a compound of paraffine and creosote, will be applied. This compound penetrates the pores of the stone, and hardens. It resists the action of acids, alkalis, gases, and all extremes of temperature, and produces no other effect on the appearance of the stone than to make it slightly darker.—*Chautauquan*.

JUDGING by the number of ex-teachers who have become prominent in American politics, one might conclude that the schoolroom is not an unusual stepping stone to greatness. Since 1880 the United States have had three presidents whose novitiate has been served at the teacher's desk. In Congress, the members who have tried to teach the young ideas how to shoot may be counted by scores; those whose efforts have been eminently unsuccessful, at least by dozens. The memory of Mr. Blaine's ill-success in a Kentucky military academy is said to have militated against his success as a presidential candidate. The thoughtful, patient-looking Speaker Carlisle is said to be a typical pedagogue in appearance. Lothrop, Minister to Russia, managed to subsist as a teacher in Michigan for nine months. Minister Cox taught for three months in an Ohio school, and might possibly have remained in the profession, if the parents of his pupils had not unanimously requested his resignation. But some American statesmen have been successful teachers—notably President Garfield, who was all his life connected with educational institutions.—*Halifax Critic*.

THE most useful work which Professor Hyatt has done, and that for which he deserves much credit, is in connection with popular science-teaching. His way of teaching is original, and tended to inspire the student with a love for natural history, by teaching him to look about for himself and observe what there is to see. His first interview and study with Louis Agassiz had much to do with shaping his course, and formed the basis of his system of teaching. Since this study has had such an important bearing upon his life, we reproduce the account of it in Professor Hyatt's own words. Professor Hyatt says: "He gave me a Pentacrinite, or stone-lily, a rather complex

fossil, and told me to study it. This I thought to be easy work, so I took a stroll in the afternoon and thought little of it. Next morning he came up to my table and asked me what I had found. I had never studied from Nature before, and began giving a very general description, saying that it was a fossil petrification, etc., and had what appeared to be the beginning of a stem. When I got to this point, he said, in an impatient tone: 'Stop! stop! you don't know anything about it. It is just what I expected. You haven't told me anything that you know. Look at it again and tell me something that you see for yourself!' I had faint book remembrances, and had been relying upon these. Taken all aback at this, I began to work. I thought about it all day and dreamed about it at night. Next morning I began to tell him what I had found out, and before I was one quarter through he stopped me, saying: 'That is good; but,' he added, 'you have not yet told me what I want.' With this he pointed to the side of the room where star-fishes, ophiurians, and sea-urchins were kept, and told me to see what more he wanted. In this blind way, with no further hint, I worked unsuccessfully for a long time: then I found that I had omitted the most conspicuous point, the star-like appearance. Not knowing whether this was of importance or not, I timidly reported at the next interview this resemblance to the star-fishes, and Professor Agassiz was satisfied. This burned into my mind the most important lesson of my life: how to get real knowledge by observation, and how to use it by comparison and inference."—From "Sketch of Alpheus Hyatt," in *Popular Science Monthly for December*.

LET me take a single example of how even a petty manufacture improved by the teachings of science affects the comforts and enlarges the resources of mankind. When I was a boy the only way of obtaining a light was by the tinder-box with its quadruple materials, flint and steel, burned rags or tinder, and a sulphur-match. If everything went well, if the box could be found and the air was dry, a light could be obtained in two minutes; but very often the time occupied was much longer, and the process became a great trial to the serenity of temper. The consequence of this was, that a fire or a burning lamp was kept alight through the day. Old Gerard, in his "Herbal," tells us how certain fungi were used to carry fire from one part of the country to the other. The tinder-box long held its position as a great discovery in the arts. The *pyxidicula igniaria* of the Romans appears to have been much the same implement, though a little ruder than the flint and steel which Philip the Good put into the collar of the Golden Fleece in 1429 as a representation of high knowledge in the progress of the arts. It continued to prevail till 1833, when phosphorus-matches were introduced, though I have been amused to find that there are a few venerable ancients in London who still stick to the tinder-box, and for whom a few shops keep a small supply. Phosphorus was no new discovery, for it had been obtained by an Arabian called Bechel in the eighth century. However, it was forgotten, and was re-discovered by Brandt, who made it out of very stinking materials in 1669. Other discoveries had, however, to be made before it could be used for lucifer-matches. The science of combustion was only developed on the dis-

covery of oxygen a century later. Time had to elapse before chemical analysis showed the kind of bodies which could be added to phosphorus so as to make it ignite readily. So it was not till 1833 that matches became a partial success. Intolerably bad they then were, dangerously inflammable, horribly poisonous to the makers, and injurious to the lungs of the consumers. It required another discovery by Schrötter, in 1845, to change poisonous wax into innocuous red-brick phosphorus in order that these defects might be remedied and to give us the safety match of the present day.—*Sir Lyon Playfair, in Popular Science Monthly for December*.

MRS. AGASSIZ was the companion of her husband in his scientific researches, his reading and writing, and this biography which she has prepared is in every way a thoroughly able and satisfactory record of a life singularly interesting, not only to scientific but to non-professional readers as well. He was a man of winning personality as well as high scholarly attainment. The material from which this book is largely made up was originally collected only for preservation and reference in the family; recognizing the value of the papers to Agassiz's followers and admirers, it was decided to issue this book. The two distinct periods in the life of Agassiz are sharply divided by these two volumes. The first relates to the scientist's life in Europe, and the second to his adventures in this country. As a boy he was a daring leader in all athletic sports, an infallible guide to haunts of birds and fish, and more fond of a tramp in the woods with his brother Auguste than of serious study. At ten years of age he began making notes of his observations, and continued them until nearly twenty years old. Before that time, however, he had chosen his profession, and thenceforth every step was a step forward. His sincerity and industry won him praise from the best men in his profession, among them Humboldt and Cuvier. To the former he was indebted for unflinching encouragement and most timely aid. The hand so graciously extended by the older man was never withdrawn, and it was mainly due to its kindly support that he was enabled to prosecute his studies and investigations after leaving college. In 1832 he began his career as a teacher in the University of Neuchâtel, and was most successful. His love of teaching was second only to his love of nature. Amid the duties of the lecture-room he managed to pursue his studies, and write his important work on "Fossil Fishes." It was published in instalments, and secured a recognition in England, America, France and Germany. His study of the Glacial Theory with Professor Guyot, naturally led him deeply into palæontology, and gave him his inspiration to visit America. It was not until 1849, however, that he managed to start upon what he purposed should be a visit here, but which proved to be his permanent home. He began his new career by lecturing in the principal cities, and by his simple and impressive handling of involved subjects secured from the people an affectionate interest which never flagged. Both volumes are full of most interesting personal matters, related in a charming, natural style. Agassiz's mental growth and devotion to zoology, botany, geology, chemistry, and palæontology successively, is told by an appreciative and sympathetic friend.—*The Book Buyer, on Life of Louis Agassiz*.

Notes and Comments.

WE call the attention of our readers to the very practical and interesting paper on "Joint Stock Companies," by Principal Johnson, of the Ontario Business College. The paper was read with marked approval at a late meeting of the Institute of Chartered Accountants, of which Mr. Johnson was one of the first Fellows elec. ed.

OUR progressive friends, the *'Varsity'* people, are intending to bring out a special Christmas number of their excellent paper. They are promised contributions from many of our foremost literarians, to use the new-made word. *'Varsity'* is fast becoming a leading literary power. We wish it continued success, and commend it to all graduates of the University of Toronto. If you have not seen it, fellow-graduates, send for some specimen copies.

"SUBSCRIBER" wishes to know "if a teacher, who has signed a contract to take but *four weeks'* holidays, has taken, under the amendment to the School Act passed this year, the *six weeks* now allowed, is he entitled to payment for the whole of the year's salary agreed upon?" We think he is. The law must have contemplated cases such as the one cited, and in taking away from trustees the power of contracting for *four weeks'* holidays it did not in any way affect the other provisions of the agreement, of which the amount of the year's salary is one.

WE congratulate Mr. Merchant upon his appointment to the principalship of Owen Sound High School, and we congratulate the Owen Sound people upon their choice. Mr. Merchant's reputation in Ingersoll has been excellent for every quality that a teacher should possess. He has been there for many years, and his loss will be felt in every interest relating to the social and intellectual well-being of the town. Mr. Briden, assistant to Mr. Merchant, succeeds him as head master. Mr. Briden's promotion is well deserved.

AT the last Monday Popular Concert, the music-loving people of Toronto were treated to classical music of the highest type. With this they seem, for the present, to be satisfied. At the next concert English ballads are to be the principal feature, and Miss Henrietta Beebe, of New York, who has won great favor as an interpreter of this class of music, is to be the principal soloist. With due deference to musical connoisseurs, we say, we see no reason why *all* songs should not be sung in English. It is true that the sharp and slender so-called long vowel sounds of our English tongue have not the flexibility of utterance of the long Italian vowels, or the sonorous qualities of the long German vowels; but our consonants are

manageable, while French and German consonants are never heard properly enunciated in a concert room, and Italian is both to performers and listeners a mere unintelligible vocalization. It is affectation on the part of the singers that makes them cling so absurdly to a mincing imitation of an unknown foreign speech, and a foolish fear of being thought uncultured that makes the people submit to the imposition.

WE regretted last week that we were obliged to excise the following from Mr. Ames' paper. There was nothing lost to sense, however, and inserting it here will, we hope, give it even more emphasis:—

Mr. Herbert Spencer devotes a chapter to Intellectual Education, in his essay on "Education." It is interesting to note that the conclusions to which he comes by a different process to that of Prof. Payne's are substantially the same as those I have mentioned.

Mr. Spencer's conclusions are these:—

1st. "Education should proceed from the simple to the complex; *i.e.*, from the concrete to the abstract."

2nd. "The education of the child must accord both in mode and arrangement with the education of mankind generally—a principle first enunciated by Comte."

3rd. "It is a corollary from this that in each branch of instruction we should proceed from the empirical to the rational"; *i.e.*, we should observe facts and generalize from these facts.

4th. "A second corollary is, that the child should be told as little as possible and induced to discover as much as possible," and therefore the teacher should tell as little as possible.

FROM the Manitoba Education Report, referred to last week, we find that, in addition to a five months' session at headquarters, Principal Goggin, of the Winnipeg Normal School, conducted training institutes in sessions of one month each at five local centres. Their names, and the numbers of those who received diplomas (good for four or two years, according as their non-professional certificate is "A" or "B") are as follows: Birtle, 14 diplomas; Brandon, 18 diplomas; Rapid City, 23 diplomas; Pilot Mound, 9 diplomas; Portage La Prairie, 21 diplomas. In his report Mr. Goggin says: "From a short experience of this method of monthly institutes, I am, however, led to recommend that, as soon as practicable, the length of each session be prolonged to at least six weeks. After the first two weeks of each session, the value of each succeeding week to the student increases to such a degree that it is always with regret that the close is looked forward to at the end of the month, both by teacher and students. At these institutes the young teacher gets his first ideas of educational

principles and methods. Practice in teaching under constant criticism is afforded. Lectures are given on the management of the school buildings, grounds and children. Approved methods of dealing with ordinary school offences are discussed and an effort made to give a practical preparation for the important duties on which the young teacher is about to enter. Trustees and parents are invited to observe the daily work of the Institute."

OUR kind contemporary, the *Educational Record*, a monthly journal devoted to the interests of the Protestant Committee of the Council of Public Instruction for the Province of Quebec, has done us the honor in its last issue of quoting with strong approval our late remarks concerning the necessity of a professional training for every rank of teachers. From the *Record* we make a few gleanings which we think will be of interest to our readers:—The Central Board of Health have taken very stringent measures to protect schools and school children from the infection of smallpox.—The number of students in the various faculties of McGill College are:—In Arts, male, 161; female, 48; in Law, 25; in Medicine, 230; in Veterinary Science, 23; and in Applied Science, 48. Of these, 90 are from the Maritime Provinces. The smallpox epidemic has affected the attendance only in preventing the annual increase. Many improvements and enlargements of the college buildings have been made, especially for the benefit of the Faculty of Applied Science, and the Faculty of Medicine. "The library, museum and dissecting rooms [of the School of Medicine] have been greatly enlarged, but the additions which specially claim attention are for the laboratories of various kinds which are now, or will very shortly be, fully equipped both for educational purposes and for original research. They are five in number; four are devoted respectively to Chemistry, Physiology, Pharmacology, and Histology, while the fifth is for experiments and researches connected with bacteria and the relations of the germ theory of diseases to practical medicine. This is the only laboratory of the kind in America, with the exception of one just opened in the Johns Hopkins University in Baltimore."—The Protestant Committee of the Council of Public Instruction has, in harmony with late legislation, accorded money grants to eighteen Protestant institutions, which are thus recognized as academies or schools of higher instruction. Fifteen of these institutions are as follows:—Huntingdon, Waterloo, Coaticook, Knowlton, Clarenceville, Bedford, Granby, Inverness, Shawville, and Cowanville Academies, St. John's High School, Berthier Grammar School, Three Rivers and Côte St. Antoine Schools, and Stanstead Wesleyan College.

Educational Opinion.

HIGH SCHOOL COMMENCEMENT EXERCISES.

WHAT these shall be each school will decide for itself, since exercises that are suitable for one school would not suit other localities. An interchange of views, however, can do no harm; and probably the suggestion of a few general features, to begin with, may lead others to contribute valuable thoughts bearing on the practical details of the scheme.

I. PRELIMINARY STEPS.

1. *Careful Classification.*—The first step necessary to make the closing exercises successful is to make a good beginning at the opening of the year. That is, our pupils should be classified with care, being placed in such classes of study as will lead regularly to the particular end to be reached in each case. This cannot be done at random. Pupils must be dealt with individually, especially those who do not intend to become teachers or pass a matriculation examination.

These general pupils form a large proportion of our attendance. Many of them have not yet decided what course to pursue, while not a few are quite indifferent. We shall likely find it advisable first to consult with parents at their homes, and converse with pupils in private; after which, little difficulty will be experienced in permanently placing our students. This done, we have gained a footing for definite work, with the invaluable adjunct of parental approval, and with pupils predisposed to co-operate. In this connection the conditions attached to receiving diplomas should be clearly explained. [Regulation 102.]

2. *Regular Promotions.*—Promotion examinations throughout the several courses should be conducted with regularity and care. Terminal or annual certificates of promotion would be useful, as definitely indicating to pupils their recorded status. This would tend to keep students evenly advanced in all their subjects, and also contribute to regularity in all parts of the course.

3. *Securing Co-operation of Parents.*—We should strive to create an *esprit de corps* in the several classes, corresponding to that which exists in college classes. Those expecting to graduate together will have many interests in common, and mutual aid should be regarded as a matter of course. If we succeed in this, we shall have no difficulty in gaining the support of parents. This interest should begin early in the course, and culminate at the close. By sustaining friendly communication between parents and ourselves, we shall enlist their practical sympathy; and when graduation day comes they will be in a condition heartily to participate in the exercises.

II. OBJECTS OF THE PUBLIC MEETING.

Assuming that we have brought our pupils through a course extending over two, three, or four years; that we have secured their confidence and sympathy, and the co-operation of their parents, we may consider the advantages likely to result from the closing meeting.

1. *To Explain and Illustrate the Work of the School.*—On this occasion we must aim at inspiring the patrons of the school and the general public with the strongest confidence in its value. Formerly, the chief feature of these gatherings was a public examination on the various subjects of the course. The law still provides that in public schools a quarterly examination shall be held, at which "visitors," trustees, and parents, are to be invited—the exercises to include an examination into the progress of the pupils, and the state and management of the school. For high schools no such examinations are prescribed; but I believe that to give in public a genuine presentation of the methods of instruction employed in the different departments of our high schools would be productive of good. As a rule, parents do not visit the school, and a brief and faithful presentation of regular school-work might do much to create interest and inspire confidence. Prominence should be given to the æsthetic side of the culture received. Specimens of drawing, painting, writing, bookkeeping, etc., should be exhibited; while exercises in reading, recitation, composition, and music, should form part of the programme.

Again, advantage should be taken of the presence of the public briefly to explain the several courses of study, and to urge upon parents the desirability of having their children complete one or other of these lines of work. Such exercises could not fail to aid in creating and sustaining public opinion in favor of high schools, at the same time stimulating our pupils to faithful work and good deportment.

2. *To Satisfy the Public on Financial Matters.*—High schools are becoming more dependent for support on the municipalities than in former years, and increasing financial burdens tend to create a prejudice against these schools in some places. I think that much of the opposition shown would disappear, if at least once a year councillors, parents, and others interested, were presented with a lucid financial statement by the trustees, accompanied with a few explanatory remarks.

A disparaging remark made on the street soon spreads through the town, and a year's accumulation of such remarks, if left uncorrected, will do much towards killing an institution. The annual meeting will not only tend to prevent such remarks, but will also

give an opportunity for vindicating the just claims of the school.

3. *To Cultivate Friendly Relations with the Public School and the University.*—The former supplies us with pupils, and for the latter we do preparatory work. Success at our graduation largely depends on the foundation laid in the public school, and for subsequent advancement we look to the university. Nothing could be more fitting than that representatives of the public school on the one hand, and of the university on the other, be invited to take part in the proceedings.

4. *Reunion of Old Pupils.*—As far as practicable, these exercises should include a reunion of old schoolmates. The official awarding of diplomas and the regular graduation would give tone and character to the gathering, and the effect would undoubtedly be to deepen their feelings of attachment to the old school.

5. *Valedictory and Salutatory.*—The presentation of diplomas should be accompanied by some kind of valedictory address and a short salutatory to the incoming classes. If prizes are to be given, they also should be presented at this meeting.

As before stated, each school will decide for itself in regard to commencement exercises, and these general remarks are intended merely as suggestive. I think, however, that they include at least some features likely to characterize the closing proceedings in our best schools.



JOINT STOCK COMPANIES.*

Joint Stock Company.—A Joint Stock Company is an association of individuals who have united for the purpose of carrying out an undertaking, which would require a larger amount of capital than any single person would be able or willing to risk. Each member subscribes and pays for shares in the capital stock. The object may be to mine or manufacture, to trade, to print, to carry on a banking, loan, or insurance business, or, in general, to do what an individual may do.

The extent to which the resources of Canada have been developed is largely owing to the efforts of joint stock companies, acting under letters patent from the crown, or under the authority of special Acts of Parliament, upon the limited liability principle.

Limited Liability.—The term "limited liability" expresses the position of shareholders in joint stock companies, other than banks. It means that the responsibility of

* This instructive article properly belongs to our department of "Special Papers"; but it is more convenient for us to place it here. See "Notes and Comments."—EDITOR.

shareholders for the liabilities of a company does not extend beyond the amount of stock subscribed for. If that has been fully paid up no further calls can be made; but if it has not, then, in the event of its being required, shareholders must pay in full the sum of the shares taken. Individuals will contribute of their means and become partners in a concern formed to develop a local or general industry that will benefit the community, when doing so will involve no risk beyond a definite sum, while they would refuse to join an ordinary partnership, with its attendant risks and unlimited liability, formed to effect the same purpose.

While the law thus limits the liability of shareholders in joint stock companies, it requires, under a penalty of twenty dollars per day for neglect, that the public shall be informed that they are dealing with a partnership possessing exceptional privileges as to the liability of the members, and it is incumbent upon every company to affix the word "Limited" after its name on its sign over its place of business, on its seal, on its advertisements, on its business papers, and, in short, whenever its name is used.

Double Liability.—The term "double liability" expresses the position of shareholders in banks. In order to afford security to billholders and depositors, the law makes the liability of stockholders double the amount of the subscribed capital. For instance, the owner of ten paid up shares of one hundred dollars each would be liable, in event of the bank's failure, to be called upon to pay in one thousand dollars, as well as lose the money already invested. Except in the recent case of the Exchange Bank this protection has always been ample. The only fault to be found with this method of securing the currency of the banks is, that billholders may be inconvenienced by delay in payment, owing to the length of time necessarily taken to liquidate the affairs of the suspended bank. I may add here that neither delay nor loss can be experienced by holders of bills issued by American banks, as their notes are secured by deposits of United States' bonds with the National Government.

Unlimited Liability.—Unlimited liability in connection with joint stock companies is unknown in Canada, but is quite common in Great Britain. The failure, about five years ago, of the City of Glasgow Bank was an illustration of the utter ruin that may come to the holders of shares in an unlimited liability company.

Incorporation.—The incorporation of joint stock companies may, under Dominion legislation, be effected in two ways, either by obtaining a special Act of Parliament, or by letters patent under the General Joint Stock Companies Act. Banking, Insurance, and Railway Companies must be incorporated

by special Act, as their requirements are such, and the powers which they seek are so extensive, that special legislation determining their limit and scope is absolutely necessary. For all ordinary undertakings incorporation under the general Act is amply sufficient. The general Dominion Act now in force is "The Canada Joint Stock Companies Act, 1877," to be found at chap. 43. Statutes of Canada, 40 Victoria, 1877.

Under Ontario legislation incorporation may be effected either by a special Act of the Legislature, or under "The Ontario Joint Stock Companies Letters Patent Act," to be found at chap. 150, page 1320 of the Revised Statutes of Ontario.

Prospectus.—A number of individuals having agreed to form a joint stock company under the Dominion Joint Stock Companies Act, issue a prospectus, setting forth the proposed name of the Company (which must not be the same or similar to that of any other incorporated or unincorporated company), the number of shares, the amount of each and the capital, the name of the provisional directors, the bank at which it is proposed to do business, and generally stating the business proposed to be carried on, and the probable profits to be derived from it.

Stock Book.—A stock book is prepared, in which each of the subscribers for shares writes the number he is willing to take, and affixes his signature, seal and residence. This is a binding and solemn contract to pay the calls upon the stock as they shall severally become due. Having obtained subscriptions to the amount of at least one-half of the total amount of the stock of the company, and not less than ten per cent. thereof having been paid in and deposited to such credit in some chartered bank (unless the object of the company is one requiring that it should own real estate), application may be made to the Governor General through the Secretary of State of Canada, for the issue of letters patent, the applicants being in number not less than five. Prior to the application at least one month's notice must have been given in the *Canada Gazette* of the intention to apply for the same, stating therein the proposed name of the Company, its purposes, place of business, amount of capital, number of shares, the name, address and calling of each of the applicants and the names of those who are to be the provisional directors. Notice of the granting of letters patent will be given forthwith by the Secretary of State in the *Canada Gazette*, and thereupon, from the date of the letters patent, the persons therein named, and their successors shall be a body corporate and politic by the name mentioned therein. The fees charged are, when the capital is \$500,000, or upward, \$200; between \$200,000 and \$500,000, \$150; between \$100,000 and

\$200,000, \$100; between \$50,000 and \$100,000, \$50; and less than \$50,000, \$30. A change of name may be obtained subsequently, if it is not sought for an improper purpose.

Increase of Stock.—The directors of a company may at any time after the whole capital stock has been taken up and fifty per cent. thereon paid in, make a by-law for increasing the capital stock, and they may also in the same way decrease the capital stock, but their action in this regard must be sanctioned by a vote of not less than two-thirds in value of all the shareholders of the company at a general meeting called for considering the same, and confirmed by supplementary letters patent.

Directors.—The affairs of a company are managed by a board of directors, which may consist of not less than three nor more than fifteen. They are usually elected annually at the annual general meeting, and they must be shareholders in their own right to the amount required by the company's by-law, and not in arrears in respect of any calls upon stock. Each shareholder is entitled to give one vote for each share held by him; such votes may be given in person or by proxy—the holder of any such proxy being himself a shareholder.

Officers.—The president and permanent officers of the company are elected by the directors; but the auditors should be appointed at the annual meeting of the shareholders, for the reason that the officers of the company are largely controlled by the directors, and the audit being, as far as this connection goes, an examination of the faithfulness to the shareholders of both the officers and directors, it is necessary that the stockholders themselves should appoint the auditors.

Secretary.—The secretary, who is frequently the responsible bookkeeper also, should be a skilled accountant. In my own experience I have been called upon to audit the books of companies that had at their inception appointed as secretary and accountant a "friend of the president," or a lawyer, or some "young gentleman" whose father was a large stockholder, and the books, or to be more accurate, the memoranda, kept by such men have always been mixed and muddled. You can no more expect a man to perform the work of an accountant who has never thoroughly and patiently learned his business, than you can look for reliable building plans from a man who has never studied architecture. It is hardly necessary to point out how much the success of the business of an individual, or firm, or a company, depends upon sound and accurate bookkeeping, and yet the lessons taught by the failures confessedly brought about by the absence of it are often neglected. No man or number of men

should attempt to conduct a business without the knowledge of bookkeeping themselves, or the employment of those who are possessed of it; and what is essential in this respect with individuals or firms is indispensable in connection with joint stock companies, the affairs of which are usually of magnitude, and affect a wide circle.

Calls on Stock.—For the first and each subsequent call upon stock an instalment list will be made out, and the payments will be acknowledged by issuing to each shareholder instalment scrip. When the last call has been paid the instalment scrip will be called in, and in place of it stock certificates will be issued.

Bookkeeping.—There are certain books that are required by law to be kept by all companies, and which shall be kept open for the inspection of shareholders and creditors of the company, and from which they may make extracts. One of these is called the Reference Book, which shall contain:—

1. A copy of the Letters Patent incorporating the Company and the by-laws thereof.
2. The names, alphabetically arranged, of all the persons who are or have been shareholders, with their address and calling.
3. The number of shares held by each shareholder.
4. The amount paid in and remaining unpaid, respectively, on the stock of each shareholder.
5. The names, addresses and calling of all persons who are or have been directors of the Company, with the several dates at which each became or ceased to be such director.

A book called the Register of Transfers shall be provided, and in such book shall be entered the particulars of every transfer of shares.

The penalty for neglecting to keep such books is the forfeiture of Company's Corporate rights. For the bookkeeping proper, all companies will at least have a Cash Book, Journal, General Ledger and Stock Ledger; such auxiliary books will be used as the nature of the business may demand.

Stock Ledger.—The use of a stock ledger will be apparent if you consider how troublesome and inconvenient it would be to keep an account in the general ledger with the numerous individual stockholders of a company who hold stock to-day and may part with it to-morrow, as is done with the individual partners of an ordinary partnership whose interest is permanent. This book contains an account with each shareholder, in which are recorded his name and address, the number of shares of the capital stock of the company held by each, and the instalments that have been paid upon them. A moment's reflection will make it apparent how easily transfers of stock are posted in this book without affecting the general ledger. For instance, there stands at the

credit of A 10 paid up shares, which he sells to-day to B. They go to the office of the company where A signs a transfer on the company's transfer book, and delivers up his certificate, which is cancelled: A new one is issued to B, and from the stub of the transfer book A is made debtor to B in the stock ledger. Such transfers may be made through the medium of stock-brokers acting for both buyer and seller. No restrictions can be placed upon the transfer of fully paid up stock, but the directors of a company must sanction the transfer of stock that is not fully paid up, in order to prevent holders from getting rid of the liability to pay by transferring it to people who are not worth anything.

Opening.—In opening the books of a company there are two ways of dealing with the stock subscribed for: you may debit the original subscribers for stock in the general ledger with the amount of their subscriptions and place at the credit of the Capital Stock account the total of these, which is the nominal capital of the Company, until the stock has been fully paid up, when it becomes the real capital. It is a permanent credit on the ledger only affected when the capital stock is either increased or diminished or watered. As calls upon stock are paid, credit the shareholders' accounts in the general ledger from the cash book, and at the same time credit their accounts in the stock ledger, which will be opened when the first call is paid. When stock has been fully paid up the shareholders' accounts in the general ledger will be closed, after which the stock ledger only will show their accounts. In the event of the ledger being closed before stock is fully paid up, close the accounts of shareholders "By Balance," as you would any other personal accounts showing a debit to the Company. In the balance sheet put the matter thus:—

Capital Stock subscribed (say)	\$50,000.
" " unpaid, 60%.....	30,000.
" " paid up.....	20,000

Capital Stock account in the general ledger will agree with the first figures; the total debit balances against the shareholders in the general ledger will agree with the second figures, and the total of the amounts credited to shareholders in the stock ledger will agree with the last.

Another way of dealing with the Capital Stock is to credit the account as instalments are paid, crediting the payments to the shareholders in the stock ledger at the same time, without opening accounts for the shareholders in the general ledger at all. This is the simpler way; the argument for the first is that as the unpaid stock is a liability to the company, it should be shown in the general ledger at the debit of the individuals.

Prices of Shares.—Whether a company's shares are being sold at par, that is, the face

value, at a premium or at a discount, they are always at par in the company's books. The first issue of shares at the inception of a company will always be at par. Subsequent issues may be offered at a premium if the old stock is above par in the market. After the stock authorized by the charter has been taken by subscribers, a company's shares are no longer within its own control. It has none to sell, and their real value will be the investing public's estimation of them, based upon the efficiency of the company's management, the past earnings and an estimate of its powers in that direction in the future. If you desire to buy stock in a company whose shares have all been taken up, you must find some holder willing to sell, either by your own seeking, or the employment of a stock-broker. What you pay for the shares is a private bargain between yourself and the holder, with which the company cannot interfere. If the company whose shares you buy is a large and important concern like a loan company or a bank, the stock will be quoted on the stock exchange, and you will be guided in your purchase by the latest quotations.

Dividends and Rests.—It seldom occurs that any properly managed company declares a dividend (division of profits) amounting to the full sum of its earnings. The proper course is to reserve a certain sum annually to provide against possible future contingencies. Our chartered banks have a Rest Account to the credit of which a certain sum is carried annually from the profit and loss account until it reaches a certain proportion of the Capital Stock; and it is customary also with them to leave a certain amount at the credit of profit and loss. The prosperity of the Bank of Montreal, selecting it as the most prominent example, is, in a large measure, due to following this wise course. Its "rest" now amounts to six millions of dollars. That is, out of its earnings, it has set aside from year to year sums that now amount to this figure. The bank would have to lose in bad debts the sum of six millions before its capital could be impaired. Besides the provision which the possession of a "rest" makes against unforeseen contingencies and bad debt, it serves the exceedingly useful purpose of enabling the company to pay as nearly as possible a uniform dividend from year to year. In any one year the profits of a company will not be precisely the same as those of a previous year, but the possession of a rest will enable the directors to equalize the dividend and preserve the stock of the company from the fluctuations in price to which a constantly changing rate of dividend would subject it.

Dividend Stock.—Dividend Stock will be most easily explained by giving an example: We will suppose that a certain gas company has been in existence a score of years in a pro-

perous community, enjoying the monopoly of supplying it with light. The price charged is high, and in consequence the company is making large profits; so large, indeed, that the directors fear that if the facts should become known they will be confronted either with a demand for a reduction in the price, or the formation of a rival company. In order, therefore, to make it appear to the consumers that the profits are not excessive they declare a reasonable dividend in cash, and place a certain amount to the credit of the "rest" account, of which the public are informed, and they also distribute a dividend in stock, of which the public are kept in ignorance.

When this has been done for a number of years the capital stock will have greatly increased. We will say, for the purpose of illustration, to double the original money paid in. Now, while the annual profit upon the original capital, if it were known to the public, would appear excessive, the profit upon both the original stock and dividend stock combined is reasonable, and the directors say—"Why, we are only making eight per cent. of profit on our capital, and cannot afford to sell gas for less than we are now charging."

The entries in the books of so fortunate a company, for distributing the profits as indicated above, would be as follows:—

At the credit of profit and loss account there stands—say the sum of \$16,000, as the net profit for the year upon a capital of \$100,000; this is 16%. A dividend of 7% in cash is to be paid, 2% is to be placed to the credit of rest account, and the balance is to be paid in stock:

Profit and Loss, Dr. \$16,000.	
To Dividend.....	\$7,000
" Rest	2,000
" Capital Stock...	7,000

When the dividend has been paid that account will close. In the stock ledger credit each shareholder with his proportion of the \$7,000, and issue certificates. In doing this, of course, there will be fractions of shares to be credited in some cases.

The above mode of creating stock is simply equivalent to the existing shareholders subscribing for new stock and paying for it out of the earnings of the old stock. The only objection that can be urged against it is that it deceives the public regarding the company's profits, and by the manipulation, the company maintains excessive prices for its wares. In the case of a company in which the public has no interest there can be no objection at all to the payment of stock dividends.

Watered Stock.—There is another method of creating stock, called watering, to which serious objection may be urged. It is the writing up of the value of assets beyond their cost or worth, the crediting of capital stock with the amount, and the issuing of shares to the extent of the inflation. I can only

suppose a very few instances where such a course would be honest or justifiable. One would be the case of a mine, for which say \$100,000 had been paid, but which proved, by the operation for years, to be worth a much larger sum.

Conversion of Private Partnerships into Joint Stock Companies.—In Great Britain within the last twenty-five years, and latterly to some extent in Canada, the conversion of private partnerships into joint stock companies has become very general. In all branches of commerce you will observe such signs as "John Arnott & Co. (Limited)," and on making enquiry regarding the change it will generally be found that it was effected at the death of some of the original partners, whose interest in the concern has been inherited by a number of heirs who desire to retain the interest in the business, but take no part in its management, nor incur any responsibility for its liabilities. An old-established firm that might otherwise cease to exist, for death dissolves a partnership, is thus preserved, the management remains undisturbed, the shares are in the hands of the families of the original partners, who, without risk or anxiety, enjoy the fruits of the labors of those whose heirs they are. When any of these desire to sell their shares they have simply to find a purchaser at will. During a visit to Ireland three years ago, I found that the old Belfast house of Hawkins, Robertson, Ferguson & Co., with whom I served an apprenticeship of four years, had become a joint stock company under the name of Robertson, Ferguson, Ledlie & Co. (Limited), at the death of the senior partner, and for the reasons that I have mentioned. It has latterly become quite common for manufacturers in the Dominion to convert their concerns into joint stock companies; the object being to extend their trade by the introduction of new capital, which could not be obtained on the ordinary partnership or special partnership principle, but only on that of limited liability. The former owner will take the price of the property in paid-up stock. In opening the books under such circumstances make the plant and other property accounts debtor for their respective values to capital stock; credit the man in the stock ledger, and give him a stock certificate for the number of shares. The new stock and stockholders will be dealt with as before described.

Services Paid in Stock.—Services are sometimes paid for by the issue of stock. A company which had not issued all the stock authorized by its charter being desirous to reward a president for his services might do so by giving him say ten shares of paid-up stock. The journal entry would be:—

Expense, Dr.
To Capital Stock,

and in the stock ledger the president would be credited with ten shares and he would receive a certificate for that number.

Subscribed, but Unpaid Stock, a Resource.—It is not unusual for companies, other than banks, which desire to secure public confidence, without which they could not exist, to obtain subscriptions for stock to a much larger amount than the capital necessary to carry on their affairs. To illustrate—a life insurance company must command public confidence to be successful. The capital required to carry on its operations, beyond the amount deposited with the Dominion Government in the interest and for the security of policy holders, is small in comparison with that of a bank, or an important manufacturing concern; but the permanence of the company and its ability to pay its liabilities to the widows and orphans, who will be its chief creditors, are of vital importance. By obtaining subscriptions for stock to an amount much larger than the capital required, and calling up say only a fourth of the amount, it has a reserve which, in the event of its being required, can be called for at any time. This reserve, in the case of life insurance companies, is as tangible an asset as the double liability resource of a bank.

Bonds or Debentures.—When joint stock companies borrow money for a long period they do so by the issuing and disposing of bonds or debentures, which are negotiable instruments, payable to the bearer, and attached to which are interest coupons, usually two for each year of the time for which the bonds are to run. The bonds of a railway or mining company are usually secured by a mortgage upon its property held by trustees for the bondholders, and they are called first mortgage bonds, if the mortgage is the first lien upon the property. Loan companies borrow money upon their bonds, not, as in the case of the railway or mining company, because they are hard up, but to obtain money at a cheap rate to lend at a high rate. If the company be an old and sound one it could probably borrow at par in England upon its bonds at four per cent. The proceeds would be brought to Canada and loaned at say seven or eight per cent., the result being a handsome profit upon funds not contributed by its shareholders, just as the banks make a profit by loaning the funds left with them on deposit.

The difference between a stockholder and bondholder of a company will of course be apparent—the stockholder is a partner, the bondholder is a creditor. Governments and municipalities also borrow upon debentures or bonds. The bonds of the Government of England are called Consols, which is an abbreviation of the term "consolidated bonds."

J. W. JOHNSON.

TORONTO:

THURSDAY, DECEMBER 10, 1885.

SCHOLARSHIPS.

THE business of an education system is to provide for the best and most equable development of the moral and intellectual faculties of the student, and so prepare him for life and citizenship—nothing less, nothing more. Competition is not only no essential part of this process, it is injurious to it. Neither the State, nor any organization acting under authority from the State, has the right to say to a student, you are of less ability than your fellows, or you are of greater; it has no right so to arrange its educational processes that every one must, *volens volens*, submit to an arbitrary classification and registration of his intellectual endowments or deficiencies. Whatever arguments there may be for scholarships as eleemosynary institutions, or for competition as being beneficial to slow and torpid intellects—arguments, however, in which, in our opinion, there is no validity—these can offer no ground whatever for the enforcement of the competitive examination and prize system upon all students, as an obligatory part of their education. It is an infringement upon the liberty of the child, and, as well, an interference with the authority of the parent, to force the child to compete with its fellows, and so engender in its breast all the evil passions which rivalry is sure to breed; and, similarly, it is an infringement upon the liberty of a young man or woman, who wants simply the advantages of training and acquirement which follow from the pursuit, under competent direction and supervision, of a college education, and who cares nothing at all about what his position, or her position, may be relative to others pursuing the same course—it is an infringement upon the liberty of such an one to be forced to enter into competition which is repugnant to all the better feelings of one's nature. It may be said that competition is not obligatory. We reply that it *has* been obligatory in every examination held by the university; and that, though the system is now somewhat broken down, enough of it remains to warrant opposition; and again, that even in cases where the competition is restricted to honor classes, which are optional, it is still an infringement upon private liberty for students desirous of taking the work which is included in the

honor courses to be forced to enter into competition with their fellows in order to obtain credit for having satisfactorily read the work prescribed.

We will not go so far as to say that one may not prepare for a competitive examination, and even for one in which large money prizes are offered, and work in accordance with true educative principles; but we do say, that competition and prizes tend to put one on wrong tracks, to lead one to pursue the study of a subject with entire reference to his conception of what the examiners' questions on that subject are to be, to lead one to make all other ends in study subsidiary to the one great end of being sufficiently ready on examination day with facts and formulae, indifferent as to methods employed in fixing these in the memory, and indifferent as to their remaining there, that is, to make the passing of the examination in the subject, and not the mastery of it in its entirety and proper proportions, the main thing to be aimed at. Of course we know it will be replied that, under a competent system of examination, these two, the mastery of the subject and the satisfaction of the examiners, are identical. We reply, that the history of the examination system goes to show that they have never been identical; and it would not be a difficult matter to show that they never can be.

Competitive examinations not only disastrously affect the methods and motives of the students directly; their indirect effect is more disastrous, when to the rivalry of the students is added the rivalry of competing teachers and of competing schools. The chances of the students pursuing vicious methods—of making facts of more importance than principles, the result of acquisition of more importance than the mode of acquisition—become positive certainties, when teachers vie with one another in the coaching process, and schools publicly advertise their so called successes and make out comparative statements proving their own superiority—which things unfailingly happen wherever the competitive system obtains. We do not say that all this is necessarily wrong and evidences a moral obliquity in those who have taken part in it. But we do say that the *system* is inherently wrong, and the totality of its influences is evil.

The competitive examination and prize system injuriously affects the quality of

teaching in another way—that is to say, when the rivalry engendered by it does not extend to the teacher; e.g., in a school where prizes are given, or in a college where the winning of scholarships enters largely into the hopes and aspirations of all the clever men attending it. The vitiating effect upon teaching is as bad in this case as in the other. It is mere fatuity to suppose that all teachers are good; many are poor, many are bad, and many, of whatever quality may be their ability, are indolent. These the prize and scholarship system apparently relieve of responsibility; the cleverer students, who least need help or direction, are stimulated by the rivalry of competition to depend entirely upon themselves, and so work to satisfy the examiners, and pay no attention to the weak efforts of their nominal instructors. In this way honors are gained, scholarships are won, class lists are filled, and the poor teachers are excused of failure, because apparently there is none. But those students who have not the same natural parts as their more fortunate fellows, or who lack their emulative and ambitious spirit, and who really need some positive instruction, and would be eternally benefited by coming into contact with the living, active mind of a true teacher, have not this inestimable privilege, and, for lack of better provision, are forced to endure the lifeless repetition of lifeless lectures, which probably were still-born at their first delivery some half a score of years ago. There is no doubt that the examination system, in institutions which are not affected by outside competition, has often kept in position incapable men who would long before have been forced to retire under the adverse criticism of the keen-eyed, clever students of their classes, had not the attention of these latter been diverted from the incapacity of their instructors by the (to them) more important matter of endeavoring to get a high place in an outside examiner's list.

A fallacy has been introduced into the discussion of this question, which, it seems to us, needs little more than mentioning to be exposed, viz., that prizes and scholarships are *earned* by those who obtain them. One can be said to earn money only when by the conditions of his engagement he is indefeasibly entitled to payment for his work when he has finished it. "Earning" supposes a contract, and only two parties to the contract, the em-

ployer and the laborer ; no third party can in any way interfere with the claim for payment when the work is done. In a prize competition there is no contract, real or supposed, between the donor of the prize and the individual competitors. The winning of a scholarship is no more "earning" it in any economic sense of that word, than the winner of a prize in a lottery can be said to "earn" it. The conditions which determine failure in each case are entirely beyond the control of those that fail.

The ostensible object in the giving of scholarships is to help some of those who are in need of help. This much must be said in favor of the system, that those who obtain money in this way are never subjected to the opprobrium of being alms-takers. But those who win scholarships are, as a rule, those who, by favor of means, have been able to spend longest time in preparation. But we have no desire to discuss this part of the question. We take the higher ground that, even supposing the scholarships always go to the needy, this is not by any means a sufficient reason for fastening upon a scheme of public education a competitive system, of which the total results are injurious. If it be thought best to continue the awarding of scholarships upon the results of examinations for eleemosynary purposes, then the examinations therefor should be entirely distinct from the ordinary examinations of the education system ; they should form no part of the necessary or conventional process of education, and only those should be asked to compete at them who make application therefor. We admit that we should consider the retention of the competitive system in this modified form, as still of very baneful influence, and we doubt whether education has any right to claim from the State more than the best possible teachers and appliances, at the lowest possible cost to the student. If the State goes so far as to make its system as perfect as possible, and perfectly free to all, then the wisdom of the "bonusing" system may well be questioned.

Harsh as it may seem to say it, we have little doubt that the retention of the scholarship system in our higher institutions of instruction is due, more than to anything else, to the rivalry of these institutions in the obtaining of students. We could illustrate this in many ways ; from the statements made by those who have canvassed

for money for the endowment of scholarships, and from the printed utterances of the defenders of the scholarship system. What may be done in institutions supported by private benefactions is no concern of ours ; but the University of Toronto is a public corporation, and the actions of its Senate are free to the criticism of the public press. And we cannot refrain from saying that, whether the late action of the Senate increasing the number of scholarships to be awarded at junior matriculation be an attempt to out-bid other competing universities or not, it has been asserted by the defenders of the act to be such, and it looks exceedingly like it, and as such is unnecessary, much to be deprecated, and certain to provoke opposition. Our national university should have no thought but for the provision for the education of such students as may come to it in the best possible way. The deficiencies in the staff of University College are known to everyone ; the remuneration of some members of it is inadequate to retain them if they are good for anything ; if they are not good for anything they should not be there. The staff needs strengthening both quantitatively and qualitatively. The equipment of the college is deficient. The fees of the students were raised, ostensibly to remedy these matters. But what has been gained in that way is lost in this useless and unnecessary system of prize-giving, and the late action of the Senate seems to us in every way to be regretted.

But we have discussed the subject in its general aspect. We repeat that the entire business of an education system is concerned with the best and most equable mental and moral development of those coming under it, and their preparation for life and citizenship ; that it has no concern beyond this ; and that especially it is no concern of it to attempt to determine whether one student has more brain power, or a more decided bent of genius in a certain direction, than another, that in attempting to do so it fails, and that in making the attempt with everyone it interferes with private rights, and establishes a competitive system whose totality of influences is bad.

OUR EXCHANGES.

Our Little Men and Women (Boston : D. Lothrop & Company. \$1.00 per annum) for December contains poems, tales, historical sketches and illustrations in abundance, all for young folks.

Among these may be specially mentioned, "A Bible Lesson," from a painting by Mrs. Alma Tadema.

The University (Weekly—Chicago. \$2.00 per annum) of which Mr. Charles Douglas is the editor, is the leading educational and critical periodical of the West. Among its contributors are eminent professors in the Universities of Michigan, Wisconsin, Pennsylvania, California and Kansas, and of Cornell and Johns Hopkins. Its principles, while they are liberal and advanced, are eminently practical. We welcome its weekly visits.

In *The Chautauquan* (Meadville, Pa. \$1.50 per annum) for December, Dr. T. L. Flood, the editor, discusses the methods of the Four Champions of Temperance now at work in America, and adds : "We believe them to represent the temperance principles and methods which must win in the second century of this great reform. John B. Gough, Francis Murphy, Neal Dow, and Frances E. Willard." Among the contributors for December may be mentioned Dr. J. H. Vincent, Edward Everett Hale, Dr. A. A. Livermore, George Alfred Townsend, Charles Barnard, Bishop Hurst, G. Brown Goode, William Cleaver Wilkinson, and President D. H. Wheeler.

The Century (New York : The Century Company. \$4.00 per annum) for December has for its frontispiece a portrait of the late Helen Jackson ("H. H."), and accompanying it are an account of her life, and seven poems, her last work in verse. The amusing article of the number is Mark Twain's "Private History of a Campaign that Failed," with illustrations by Kemble. Captain Ericsson describes the "Monitors" as a class, and also the original "Monitor," of whose constructive principles he was the inventor. "The City of Teheran" is most profusely illustrated, and is accompanied by a portrait of the Shah. Students of poetry and art will be most interested in the essay on the "Lamia" of Keats as illustrated by Mr. Low. A number of Mr. Low's illustrations are reproduced. The serials of the year are continued. The poetry of the number is remarkable. We have not mentioned the half of the good things of this most richly illustrated periodical.

St. Nicholas (New York : The Century Company. \$3.00 per annum) for December has all the Christmas attractions. The frontispiece is a "Portrait of a Little Girl," from a painting by Sir Joshua Reynolds. Mrs. Burnett's "Little Lord Fauntleroy" (with illustrations by Birch) is one of the most charming stories for children we have ever read. There are two articles on "Rugby," one describing school-life there, one its aspects in vacation. These are illustrated by Mr. Penzell, who is now in England, employed constantly for the *Century* and *St. Nicholas*. We need scarcely say that these illustrations are exquisite both in subject and treatment. Accompanying these articles there is a fine full-page portrait of Dr. Arnold, which will be gladly obtained by all lovers of that noble character. Stockton's story is "Christmas Before Last." These may be said to be the principal features ; in addition there are tales, poems and illustrations almost beyond enumeration—and all beautiful.

Special Papers.

HOW FAR SHOULD A TEACHER AID HIS PUPILS?

THIS subject seems tacitly to admit that aid is necessary for pupils, and then asks to what extent it should be given. It seems to me that the answer to this question is not easily given, since it depends on numerous conditions. It would be as easy to say how much medicine would make an antidote for all diseases.

In the first place the age of the pupil will make no small condition in the consideration of this question. Young pupils need more aid than those more advanced in years, since the former are not accustomed to mental exercise of a methodical nature and requiring penetration of thought, but the latter are more or less prepared for it. As to studies, young children are like those beginning to walk, they need help at almost every step, and thus they gain confidence and strength, till they seldom stumble, and can generally erect themselves if they chance to fall.

I know that the general opinion expressed and the principle laid down is that we should help the pupil only till he can help himself, and that further aid would be a positive injury to him. The latter view may be correct. If it be so I fear that a large proportion of humanity are suffering from the so-called positive wrong inflicted on them. We know that there is a certain limit to be covered by pupils in the various grades of school-work, before they proceed to more advanced work. Should a teacher not try to cover that limit as soon as possible? Certainly he should, if he values the time of his pupils, or is careful as to his own reputation.

One of the chief annoyances to teachers is indifference on the part of their pupils. This may in part be overcome by an effort to create a liking for work. Pupils usually like a study in proportion to the extent of their success with it; hence the teacher who makes a slight effort to help his pupils to remove obstacles does much towards making it more pleasant for himself and his scholars, and thus secures more rapid advancement. It is a difficult matter to say when a pupil is fully prepared to help himself, and for my part I would prefer to make the error of helping a pupil too much rather than permit him to waste his time, and it may be, his prospects.

I do not think that as a rule teachers help their pupils too much, and when I hear teachers talking as if time hangs heavily on their hands, it seems to me that they are permitting to pass a splendid opportunity for aiding their pupils by way of drill, which will never come amiss when the teachers find time for such an exercise.

To illustrate a little more pointedly where a teacher should render assistance, take problems as an instance. Let us suppose the class meets with a difficult problem, which the teacher knows will baffle most of his pupils. If he waits till some pupils solve the problem correctly, and probably the most of them either know not how to begin, or else they do it incorrectly, is there not a waste of time? for the teacher has then to illustrate the method of proceeding, and give the reason for solving it in a certain way. Thus half an hour, or even more time than that, is almost wasted. Would it not be infinitely better for the teacher to explain the problem carefully to all who are in doubt, and then fix the mode of solving and the reasons by several well chosen problems?

It will be said that pupils thus get no opportunity to draw on their mental resources, so that one great aim of school-training is lost, since no premium is given for originality. I believe what is lost in this way is more than made up by the increased number of problems solved. Pupils also get a chance for exercising originality on the weekly or monthly examinations usually held.

By the mode of procedure thus suggested the pupil is encouraged to work, and he does it with a right good will, since he feels that the teacher has sympathy with him in his troubles. We cannot pursue a course more likely to cause a dislike to studies than by permitting our pupils to plod along in semi-ignorance as to the best mode of procedure.

We should, as teachers, endeavor to put ourselves mentally in the pupil's place, and then we can judge better how far we should render assistance. Even we teachers know how hard it is to work persistently at any subject presenting difficulties when we are in doubt about the correctness of our investigations. We like to feel conscious that we are pursuing the proper course, and when we do meet with difficulties we are prone to accept aid from anyone. How much stronger will the same feelings operate in young pupils! During these days of ball-playing we often hear it said, "Run that man in." If encouragement is beneficial in sports, how much more so is it in work. I fear that we too often do not realize the amount of "fog" hanging around the child's mental horizon when he is solving his problems or doing other difficult work, else we would sympathize more with him, and be ready to aid him more frequently than we do. Most pupils are eager enough to work when they know how to do it, and we would not like to return to the old system of teaching, when the teacher sat in his arm-chair like a police-magistrate, and all who had difficulties were supposed to appear before his "worship," and probably the difficulty was solved with little or no explanation; or

quite often the unfortunate youth, after submitting to a scolding, was ordered to his seat to go through the drudgery again with a result similar to that previously obtained.

If aid is so necessary with problems, I think it no less needful in connection with other subjects. If I am conducting a reading lesson I need to show the pupil how it should be read. It is not enough that I ask him to read over repeatedly the piece which he has rendered wrongly—I should do it for him, and then he does well if he succeeds. Few lessons of any kind should be given to be prepared until they are fully explained by the teacher. Scholars, whether young or more advanced in years, should be instructed not merely as to what they should learn, but how it should be learned. This is an important field that teachers have for aiding their pupils. If I say to my pupils, "Read pages 50 to 60," I impose a task doubly as heavy as it would be were it previously explained, for in many of our text-books (take Mason's *Grammar*, for instance,) it is almost as difficult to pick out what is useful and practical as it would be to discover wheat in a jungle.

But we should not fall into the error of "cramming" in our work, or "posting" our pupils in such a way that they answer by mere rote. This reminds me of the story told about pupils that were prepared for the superintendent in one of the old-time schools. Among other things the pupils were questioned on the "Nursery Catechism," which begins with the question, "Who made you?" Answer, "God." "Of what are you made?" Answer, "Of dust." The class was prepared so that each knew what to say, provided all were present, but unfortunately that day the head boy was absent, thus necessitating a slight shuffle in the order of answers. The first boy was asked, "Who made you?" Somewhat bewildered, since he had not expected that question, he answered, "Dust." "No," says the examiner, "you must have misunderstood me; the answer is 'God.'" The pupil answered, "Please, Mr., the boy that God made is away home with a pain in his stomach." I imagine that the teacher vanished.

W. W. JARDINE.

(To be concluded next week.)

THE following new teachers have been engaged for the Waterdown Schools. Mr. Otway Page, B.A., of Port Perry, as head master of the high school: as his assistant, Mr. G. V. McLean, B.A. These gentlemen will find the high school in a very satisfactory condition, which fact is due to the energy of the recent head master, Mr. Crichton, B.A. Miss Laing, of Dundas, and Miss Brown, of Ancaster, have been appointed to the second and first departments, respectively, of the public school.—*Hamilton Spectator*.

Practical Art.

For the EDUCATIONAL WEEKLY.

ELEMENTARY DRAWING.—X.

It will be found upon examination that nearly every object can be resolved into one or more geometric forms, either plane or solid, these constituting the framework upon which the object may be said to be built. Success in object drawing depends largely upon one's skill in thus analysing objects, and it will therefore be seen that it will be of great benefit to the children to know what these geometric forces are and how to make use of them. The principal ones are the right angled, equilateral and isosceles triangles; the square, oblong and some of the more simple polygons; the circle, ellipse and oval; the cube, parallelepiped and prisms; and the cylinder, cone and sphere. Some of these will no doubt be too difficult, both as regards form and name, for the children to understand and remember; if so, they must be simplified, or omitted altogether. At all events, the teacher should have specimens of all of them in his box of models, to be used either separately as illustrations, or in combination as objects to be drawn.

In the illustrations accompanying my previous papers, the objects introduced have nearly all been analysed in the way suggested. Thus, in fig. 9, *a* is based upon the isosceles triangle, *b* upon the cone; both *a* and *b*, fig. 10, upon the oval; *a* and *b*, fig. 11, upon the semi-circle and isosceles triangle; *b*, fig. 12, upon the hemisphere and semi-circle; *c*, fig. 13, upon the cone; in fig. 15, *a* upon the ellipse, *b* upon the cylinder, and *c* upon the semi-circle, circle and hemisphere. In the illustrations below, the pails and tub are really truncated cones; the drum and bottle are cylinders; the spool is formed by two cones, with their apices in one point, united by a cylinder; and the bell is

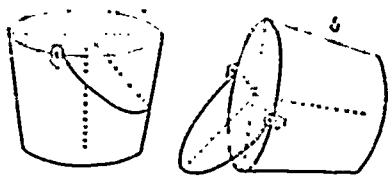


Fig. 17.

contained by a cone, the apex of which is in the top of the handle. It will not be difficult for the teacher to show this to his pupils, and also to show them how to represent properly these different geometric solids. As the solids are all made up of surfaces, they themselves can be simplified; thus, a cone is resolved into a circle, represented by an ellipse, and two straight lines from its extremities, meeting at the apex; a cylinder is formed by two ellipses and two straight lines; and a hemisphere by a semi-circle

and an ellipse. By attending to the rules laid down, these can be represented in different positions, and then converted into some familiar object. This will teach the children to look for these construction lines, and the result will be that their drawings will be more exact than if made without the use of any such guide-lines. In drawing the pail marked *a*, fig. 17, a long vertical line should be drawn first, to represent the axis of the cone; through the top end draw a horizontal line as the diameter of the ellipse; draw the ellipse; join its extremities with the lower end of the axis, by straight lines; cut off a proper length from the top of the axis by another horizontal line; and on this draw another ellipse for the bottom of the pail. The method for drawing the handle has been explained before. In *b*, fig. 17, the bottom line of the pail, that is, the side upon which it is resting, should be drawn horizontally, of the length of the side of the cone, then the top line of equal length, then the axis bisecting the angle formed by these two lines, then the diameters of the ellipses, perpendicular to the axis, and lastly, the ellipses and handle. The sides of the pail should not converge too rapidly. The height should be about three-quarters of the diameter at the top.

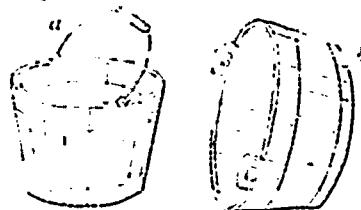


Fig. 18.

The pail and tub, *a* and *b*, fig. 18, require to be treated in the same way as the pails in fig. 17, as far as the outline is concerned. In representing the lines of the staves, care must be taken to make them narrower as they approach the right and left sides. If the teacher has a wooden pail in the classroom, he can show this clearly by ocular demonstration. The lines of the staves should be drawn towards the apex of the cone. Finish by adding the hoops and handle. The axis of the little cylinder of wood on the handle, should be drawn almost parallel with the line joining the extremities of the handle. The children may be asked such questions as these: Why is the pail made round instead of square? Why is it made smaller at one end than at the other? Why is the handle at the top, instead of being at the side as in a tea-pot? Why is the handle loose, instead of being rigid, as the handle of a watering-can? Why is the little wooden cylinder put on the handle? Perhaps some teachers have never enquired into these matters and need a little information themselves. In order to fasten the staves tightly together the hoops must be driven on with considerable force. If the

pail were cylindrical, a hoop would be no tighter at one end than at the other, but when the sides are inclined outwards towards the top, by driving the hoops in this direction the staves are pressed more firmly together and leakage is prevented. The circular form is necessary to enable the sides to withstand the pressure of the hoops. In carrying heavy weights in the hand, we usually get them as near to the ground as

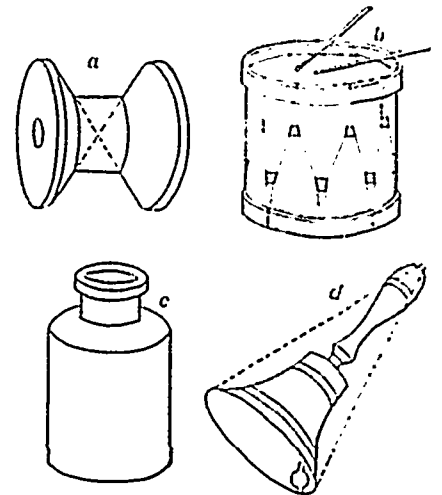


Fig. 19.

possible, and so the handle of the pail is at the top instead of at the side; it is made loose for the sake of convenience in pouring water from the pail, and also because it falls down out of the way when not in use. The little wooden cylinder protects the hand from being hurt by the small wire in the handle, when the pail is being carried full of water or anything else. These questions and answers will no doubt be suggestive to the teacher of many other questions which may be asked and much other information which may be given respecting common objects. This combination of drawing and object lesson will prove to be exceedingly interesting and beneficial to the children, teaching them to use their eyes and reasoning powers; teaching them to look for causes where, to the majority of people, none exist; teaching them the important truth that very few things are made at random, that thought has been expended over the most trifling objects, and that the forms of the useful articles which we are constantly using, have been decided, only after earnest study of the uses to which they are to be put and the shape best adapted to enable them to fulfil those uses.

Arthur A. Reading

I will be glad to reply to any questions that may be asked, concerning this subject.

A. J. R.

THE literary society connected with the Petrolia Collegiate Institute, having quite a fund at its disposal, has purchased a piano for use in the school.

The Public School.

For the EDUCATIONAL WEEKLY.

LITERATURE FOR ENTRANCE INTO HIGH SCHOOLS.

XV.—THE FIXED STARS.

Ontario Readers—New Series. Page 97.

SUGGESTIVE NOTES AND QUESTIONS.

"Turning vault of heaven." The vault of heaven appears to turn round the earth, though in reality the vault is stationary, while the earth revolves on its axis.

"Than the planets." Name any.

"Shining with its own light." True of moon? of planets?

"With a very large telescope." Difference between a microscope and a telescope?

"A point of light." Explain. (The larger the telescope the smaller the point appears.)

"By using the same instrument." The spectro-scope."

"As we see at once only one-half the star-sphere." What is the star-sphere? Why is only one-half of it visible at once?

"The largest telescope yet made." Alluding perhaps to Rosse's.

"Each one has, like our sun, a family of worlds travelling round it." What is the family that travels round the sun?

"The mind is lost amid these wonders." To what is the mind here compared?

"Called the Pleiades." The seven daughters of Atlas and Pleione, said to have been placed by Jupiter among the stars. The sailing stars, so called because they rose at beginning of the sailing season.

"Nebulae." Latin for thin clouds.

"It is well for us." Why?

"One hundred and eighty-five thousand miles in every second." Seven times round the earth.

"More than three years." How many seconds in a year?

"Psalms of old." Who is meant?

Expand into phrases or clauses the words italicized in: the turning vault; the largest of the suns; a glowing mass; and other known substances; even a small one; faint stars are always seen.

Change the construction of: the stars which keep always; when we look at a star; we find that each star is; no signs of being so; without a telescope we can see; if all could be counted; two stars which happen to lie in the same direction; until after a few months it cannot be seen; and after shining very brightly.

XVI.—STORY OF LE FEVRE.

Ontario Readers—Old Series. Page 368.

SUGGESTIVE NOTES AND QUESTIONS.

"Dendermond was taken." A town of Belgium in East Flanders. Louis XIV. besieged it in vain in 1667, but Marlborough, aided by a long drought, succeeded in taking it in 1706.

"By the Allies." Pronunciation? Who?

"The corporal's lame knee." What is a corporal? Who is meant here?

"Exquisite pain." Explain.

"Proper artillery." Meaning? What is cavalry? infantry?

"Of a little inn." What is meant?

"Empty phial." Another spelling of this word?

"A glass of sack." A dry wine, generally Spanish.

"Who has been taken ill four days ago." Any mistake?

"Has never held up his head." What would this indicate?

"Beg, borrow, nor buy." An expression of which the alliteration has made it popular.

"We are concerned for him." Other meanings of this word?

"I will answer for thee." A common expression arising from the supposed impropriety of speaking of one's own merits.

"With my service." My offers of assistance.

"We can hire horses from hence." Any mistake? Of what use would horses be?

"For I heard the death-watch." A small insect that makes a ticking noise.

"Said the landlady to me." The corporal; the landlord is no longer speaking. Notice the dots at beginning of this paragraph. What do they denote?

"And instantly burst into tears." Why?

"In the longest march . . . dinner." What would the length of the march have to do with the desire for dinner?

"To eat with him for company." Explain.

"Ain't please your honor." If it. Notice the very affecting simplicity of all the characters.

"Blowing his nose." Indicative of what?

"I think so too." Notice this and other instances of the feeling of sympathy marking this extract. We instinctively love Uncle Toby and the corporal.

"Said the curate." A subordinate clergyman whose duty it is to assist in parish work.

"As a parson." The minister in charge of a parish.

"He has the most reason to pray." Why?

"In the trenches." When are trenches used?

"For I was fagged." Meaning? The cause?

"We shall be advanced." Promoted or rewarded.

"In a red coat or a black one." Explain.

"Leven's," "Angus's." Names of two commanders of detachments of soldiers.

"Breda." A strongly fortified town of Brabant in Holland.

"I wish I were asleep." What do these words indicate? Sadness.

"Ensign and his wife." An officer second in rank below a captain.

"Right as a soldier, wrong as a man." Explain.

"He shall not die." Showing Uncle Toby's great interest and sympathy.

"Heaven's chancery." The judgment seat or place of record.

"Blushed as he gave it in." Why?

"The wheel at the cistern turn round its circle." The heart supply force to circulate the blood.

PULLETTUS.

PRACTICAL WORK.

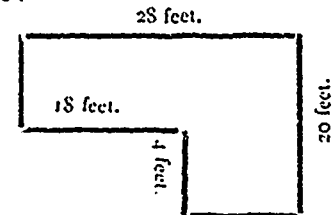
Wm. M. GIFFIN, A.M.

IT seems to the writer that there is a great want of practical work in our schools; if not, why do so many of our girls and boys go into the world quite unable, seemingly, to apply in every-day life the principles

learned in school? One reason that so many of our good citizens undervalue the real worth of the school is, that they judge from results as seen by them. If a father desires to test his son in arithmetic he does not fumble over the pages of a book to find an example for him to work. He says to him, "John, take this yard-stick and find how many yards of carpet I must buy to cover this room."

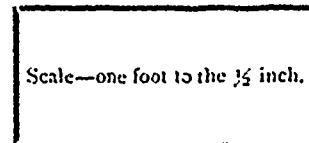
John takes the stick, and his heart begins to jump about one hundred to the minute, and when he reads his answer, it calls for more carpet than will cover the floors of the whole house. What is the trouble? Why, poor, passive John has been called on to act. In the schoolroom this has always been done for him; the book has always told him just how many feet long and wide the floor was. Working only examples from the book does not teach John to do.

Let your pupils handle the yard-stick, then. Give them examples right from the class-room. Draw a plan on the blackboard, like this:



When drawn, simply say to them, "Find the number of yards of cloth, $\frac{3}{4}$ yards wide, required to carpet a floor the size and shape of this:

Next draw a plan like this:



making it three feet long, and two feet wide. If they have been taught geography rightly they will know what is meant by "scale, one foot to the half-inch," and hence should have no trouble in finding how many yards of carpeting are required to carpet a floor the size of the room, as shown by the plan.

Again, have a long table in the room. If you cannot get the table, get two ten-foot pine boards and place them on the tops of two chairs.

This will answer every purpose, and show a little pluck on your part. On the table have two water pails, one filled with water and one empty. Also have a tin gallon, quart, pint, and gill measure. Buy them if you can, if not, ask the pupils to get their parents to lend them to you. You will find that they will be glad to do it. Next have cards distributed to each pupil in the class. On these cards have written, "3 pints of vinegar at 40 cents per gallon, 50 cents paid"; "2 quarts of syrup at 80 cents

per gallon, \$1." As each pupil's name is called he is to step to the "counter," call for the quantity named on his card, and from a pile of money on one end of the table, containing one, two, three, five, ten, twenty-five, and fifty cent pieces, and one dollar pieces, he is to choose the amount of money named on his card, when the teacher is to measure from the pail containing the water, calling it vinegar, syrup, or whatever may have been called for on the card, and at the same time call on some member of the class or the pupil himself to tell how much the article comes to and what the change must be. For example, A is called; he steps to the counter and says, "I want three pints of 40 cent vinegar." At the same time he puts down a 50 cent piece. B is called and says, "3 pints of vinegar at 40 cents per gallon comes to 15 cents, and 35 cents change must be given to A."

If the teacher desires, he can make the exercise intensely interesting, when measuring the water, by using different measures. For example, the order may be for two gallons of vinegar. The teacher may begin first by filling two gill measures, then a pint, next two gills again, and finally a quart, having it understood that when he has the required number the pupils are to raise their hands. Each pupil will be watching with great interest, so as to be the first one to raise his hand.

Beg, buy, or borrow a pair of scales and let the pupils weigh sand, calling it sugar, tea, coffee, or anything that may be suggested. Five dollars, which can be raised by a ten-cent entertainment, will buy many very useful articles for such exercises.

I would ask the different business men to give me bill-heads; they will be glad to do it. Then let pupils write a bill on the real thing. Obtain a real bank cheque to show them; also an insurance policy—anything that will give them an insight into the practical.

One other point. When explaining to a class the difference between two feet square and two square feet do not try to explain it to them by *telling* them the difference; but *draw*, or, better yet, have one of them draw both on the blackboard, if large enough; if not large enough, use the floor. Too many teachers try to teach their pupils by *telling* them *truths*. Do not do it; but lead them to discover the truths for themselves. — *Teachers' Institute.*

HINTS FOR YOUNG TEACHERS.

ANNA C. BANCROFT, in the *American Journal of Education*, gives the following excellent counsel to young women entering upon the work of teaching:

1. Let nothing prevent you from thoroughly preparing every lesson—*no matter how simple*—that you are to give next day. Never

go into the schoolroom without knowing exactly, *even to details*, what you are to do.

2. No matter what happens, be sure to keep your temper.

3. Don't omit to visit all families who send children to your school. Make a friendly call. Don't wait for them—show yourselves *really* interested in them and their children.

4. If any trouble occurs with any child, or there is danger of any—best go and see the parents and get their co-operation.

5. Don't be in a hurry about punishing, if necessary. *Waiting* to think it over never does any harm.

6. Be sure everything about your dress, desk and schoolroom is always in perfect order.

7. Try to make the room attractive, so that the children will find it pleasant.

8. Remember always that it is the best interest of the *children and school*—not your own—that you are to work for.

9. Be sure that you carry out exactly all the directions you give. *Think well before giving them*: but then carry them out.

10. You must be entirely and always *just*. If not, you will not command respect—and not to have that, means failure.

11. Be *very* careful in your dealings with other teachers in the town. Never give them occasion to think that you set yourselves above them. Be always pleasant and friendly, you can learn from them. If you are working *for the schools*, there can be no jealousy—make them welcome in your rooms. *Seek* to know them. You can both get and give help, if you work in the right spirit.

12. Dress *perfectly—simply*. Dress should be plain, without much trimming. If it were not for washing, I would say, wear white aprons in school.

13. For arithmetic classes. Do all the examples yourselves at home before the time; then you will know what you are about, and can tell where the error is. Keep ahead of your class.

14. Talk over all your difficulties together.

15. Don't take any part in any village *gossip*. Don't allow yourselves to talk about *anyone* in the village, unless you have something good to say.

16. Try to make the children *polite* to each other in school.

17. Try the plan of having a school house-keeper for each day. Try to get the children to feel interested themselves in keeping everything neat and in order.

18. Don't be afraid to say, "*I don't know*,"—if you don't.

19. If you have made a false statement about anything in a lesson, don't be afraid to acknowledge it.

20. Correct all errors in English speaking that you notice.

READING TABLETS FOR PRIMARY SCHOOLS.

W. N. HALLMANN.

YOU wish me to describe our plan of preparing reading tablets for the children of the primary schools. It is quite simple. The children learn to read and write simultaneously in script. About the third month they are taught the use of the printed letters, with the help of dissected letter-cards and reading charts. At the same time, however, they continue the language exercises in script. About the fifth or sixth month they are able to write short descriptions and accounts of simple happenings, about "My Doll," "Our Cat," "Rover," "My Grandfather," etc. The best of these are collected by the teachers, sifted again by the superintendent, and placed in the hands of the printer.

The manuscript furnished by the children is supplemented by the teachers with news items concerning some happenings in particular schools, an occasional riddle, or story, or interesting language exercise, a few suggestions about the care of the school collections, the plants, the clay tiles, etc. When done, the tablets are distributed in the schools, eagerly read and commented on by the children. They furnish topics for lively conversations, and plans are formed for the next tablet. The tablets are paged continuously, so that those who desire it may collect a respectable little supplementary school-reader in the course of the year.

Tablets are printed at least once every two weeks. There seems to be no question that the children are deeply interested in the work, and learn to read well and thoughtfully. To me it seems, too, that the reading matter furnished by the children compares quite favorably with what is usually found in First and Second Readers.

Concerning the progress, some light may come from the list of subjects in the fourteenth tablet furnished by last year's beginners. It treats of "Pigeons," "A Truthful Boy" (George Washington, of course), "A Visit to New Carlisle," "A Picture," "A Sheep Story," "The Baker," "The Country," and a few similar matters. — *American Teacher.*

THE late Richard Grant White had a choice story, illustrating the native courtesy of well-bred Americans, which is in print this fall for the first time, we believe. When General Washington was in New England, he was entertained at dinner by a country gentleman, who lived comfortably but quietly in his old-fashioned home far from town. When the general rose to go, the little daughter of the host, not yet in her teens, opened the door for him. As he passed out in his stately way, he bowed and said to the little maid: "I wish you a better office, my dear." "Yes, sir," she quickly replied, with a bow, "to let you in, sir."

Educational Intelligence.

NORTH YORK TEACHERS' ASSOCIATION.

A CONVENTION of this association was held in the model school, Newmarket, on Thursday and Friday, October 29th and 30th, the president, Mr. D. Fotheringham, in the chair. On Thursday the secretary read a communication from the Minister of Education asking inspectors to collect specimens of pupils' work in Geography, Arithmetic, and Drawing, for the Indian and Colonial Exhibition to be held in London in 1886. The inspector was instructed to issue circulars to teachers asking them to send to him before the 15th January next specimens of work done. A committee, composed of Messrs. Rannie and Macpherson and Mrs. Wylie, was appointed to assist the inspector in making selections of suitable work. The secretary read a paper on "School Discipline." He emphasized kindness and firmness on the part of the teacher, unhesitating obedience on the part of the pupil, the doing of one thing at a time, and having one command executed before another is given.

In the afternoon Miss Thomas gave an Object Lesson to a "junior third" class—subject.—A Cork. The work was skilfully done. Miss Jennie Ross then read an exceedingly interesting and instructive essay on the method of teaching "Case." A Question Drawer was opened, for information on practical school work. The questions were answered by Mr. J. E. Dickson, B.A. In the evening a lecture was delivered by Mr. J. L. Hughes, P.S.I., Toronto, on "My School Days in Cedar Vale."

On Friday Miss Lizzie Ross gave an exhibition of kindergarten songs with a class. The exercise was enthusiastically received. After this the following subjects were introduced:—Algebraic Factoring, by Mr. Martin; Common Errors in English, by Mr. Hollingshead; Simple Interest, by Mr. Watson; and The Teaching of History, by Mr. Sangster.

The following work was arranged for next meeting:—Composition to 3rd and 4th book classes; the "look and say" and the phonic methods of teaching reading; primary writing and drawing; physics taught to beginners; geography in ungraded schools; textbooks, their uses and abuses; work for Friday afternoons; trustees' attendance at conventions; map drawing; and work among the Indians of Georgiana Island.

HALTON TEACHERS' ASSOCIATION.

ON Thursday and Friday, October 30th and 31st, the teachers of this association assembled in the Milton Model School.

On Thursday, in his address to the teachers, Mr. Deacon, Public School Inspector, spoke of the difficulty of his position; referred in feeling terms to the late inspector, Mr. Little; said that, while he did not feel called upon to make any changes just at present, it would be his aim to maintain and to increase the high state of efficiency in which he had found the schools of Halton. He expressed a desire to have the sympathy and co-operation of all the teachers. It is sufficient to say that all were pleased with the kindly manner and practical good sense evinced by the inspector during the meeting. Mr. Houston, M.A., Parliamentary Librarian, Toronto, discussed the defects of our alphabet, for a short time. This led him to the subject of Spelling Reform. He said that there was the utmost need for reform, for no man can spell with certainty any word unless he has first seen it, nor can he pronounce a new word until he has first heard it. There is at present no relation between the spelling of a word and its pronunciation. A number of changes were proposed, some of which were, to strike out the useless letter in such words as head, heart, people, believe, making them hed, hart, peple, beleve. In such as philosopher, alphabet, to write, filosofer, alfabet, etc.; to leave out the final "e" except where it has a lengthening effect on a preceding vowel—as hav for have, wer for were, infinit for infinite, etc. He admitted that at first anarchy would prevail, but thought that gradual harmony would evolve. Mr. Houston's next paper was on "The Teaching of English." The art of expression, he dealt with more particularly. This was treated in a thoroughly independent manner, or perhaps "revolutionary" would be the better term. The system of paraphrasing, he condemned. He advised the teachers to read no work on composition and to put none into their pupils' hands. The formal study of grammar and parsing and analysis should have died long ago.

On Friday, Mr. Deacon gave a method of teaching geography, which he said he had followed with success in the schoolroom. He would have the scholars begin by measuring the room; then the playground; drawing a representation of these on slates, making in position familiar objects, and so getting an idea of what a "map" is, next carrying the plan to the township and county, then to the province. By familiar talks he would make them acquainted with the shape of the earth, its motions, and its surroundings. He would pay less attention than heretofore to the learning of useless capes, bays, etc., and more questions of a living, practical nature—cities, harbors, products, commerce, etc.

Mr. Cooke, of Streetsville High School, followed with a paper on history. Were this subject taught as the speaker suggested,

history would not be the uninteresting study that it too often is. The chief fault lies in the books, which are not conducted on rational principles. More interest could be awakened in the dress, the feasts, the homes and the religions of our ancestors, than in the dry skeletons usually presented. Especially should the history of our own country be taught. Mr. Longman took up algebraic factoring by symmetry, and Mr. W. J. Galbraith, of Streetsville, read an instructive paper on industrial design. Dr. Lusk, of Oakville, gave a practical illustration of how a lesson in English literature should be conducted. Mr. Grey sketched his method of teaching orthoëpy. During the discussion on teachers' salaries the practice of some teachers in under-bidding each other for position was denounced. It should also be a point of honor not to apply for a situation when the salary was not mentioned in the advertisement. At the Friday evening session it was decided to hold the annual Government Institute at Milton, and to have half-yearly local associations in each end of the county. The saddest occurrence at the meeting, because reminding of the recent loss to the association and the cause of education by the death of the late inspector, was the drafting of an address of condolence, which was ordered to be engrossed and presented to Mrs. Little.—*Condensed from the Georgetown Herald.*

MR. RUSSELL STEWART, of Embro, has been engaged for Glencoe School.

A NEW schoolhouse in School Section No. 11, Ancaster, was opened on 20th November.

MISS McDONNELL and Miss Johnston are engaged to teach the Amherstburg Public School.

MISS FILLERALL, assistant high school teacher, has resigned her position.—*Dundas True Banner.*

MR. HUGH R. DUNN has been re engaged as principal of the Beachburg Public School.—*Almonte Times.*

TWO new teachers have been engaged for the Waterford School, Miss Bannister, and Miss Green.—*Waterford Star.*

MR. MCKEE, Principal of the Uxbridge Schools, has been offered the position next year at an advanced salary.—*Whitby Chronicle.*

MR. JOHN SIRACHAN, of Rockwood, has recovered from his recent illness and has resumed his teaching duties.—*Acton Free Press.*

THE school board has engaged Miss L. Moore, of Florence, as teacher in the second department of the public school.—*Watford Advocate-Adviser.*

THE trustees of Woodstock High School have made application to the Minister of Education to have the school raised to the status of a collegiate institute.—*Dunfries Reformer.*

MISS ROBERTSON, at present in charge of the senior division of St. Patrick's Ward School, Goderich, has been appointed to S.S. No. 1, Goderich township, for 1886.—*Huron Signal.*

MR. JOHN DARRACH late teacher in the Parkhill High School, intends starting a newspaper in that place on the first of December next. It is to be known as the *Review*.—*Forest Free Press*.

THE trustees of S.S. No. 1, Elma, have secured the services of Mr. T. W. Cosens as teacher in the senior department of their school for the coming year, at a salary of \$475.—*Clinton New Era*.

MR. J. S. DEACON, I.P.S., inspected Acton, Dublin and Lorne Public Schools last Thursday and Friday. He reports the schools to be in a generally favorable condition.—*Acton Free Press*.

THE Board of Public School Trustees of Essex Centre have re-appointed all the old teachers, for 1886, as follows: B. M. Brisbin, B.A., Mrs. B. M. Brisbin and Miss Annie Ballard.—*Amherstburg Echo*.

THE Acton Board of Education have engaged Miss Hattie G. Jelley for the second department at a salary of \$300; Miss Annie Mahaffy for the third department at \$250, and Miss Lena Dorland for fourth department at \$225.

T. BENNETT SCOTT has given such good satisfaction as teacher in S.S. No. 11, Gosfield, that he has been re-engaged for 1886, at a salary of \$505, an increase of \$35 on this year's salary and the most ever paid a teacher in that section.—*Amherstburg Echo*.

THE last meeting of the St. Thomas Model School Literary Society held on Thursday evening, Nov. 6th, proved to be a very successful one. The students presented Mr. Campbell, principal of the school, with a silver water pitcher, as a token of regard.

THE Amherstburg Public School Trustees have engaged Miss Kate McDougall, of Greystead, Middlesex Co., to take charge of the third division of the Richmond Street School, and for the fourth division, Miss Bessie Johnston, of Ingersoll.—*Amherstburg Echo*.

MR. JNO. MCCOOLE, of Paisley, has been engaged as Principal of Hanover Public School. Miss Holden, of Plevna, County of Frontenac, has been engaged for the position of teacher in the second department at a salary of \$300 per year.—*Hanover Post*.

THE County Council of Elgin, at its recent session in St. Thomas, refused to rescind its motion, made last spring, advising the abolishment of the Vienna High School by the Provincial Department of Education, after the 31st of December next.—*Tilsonburg Observer*.

HARRISON'S NEIGHBORHOOD School Section, Peel Co., advertised for a teacher for 1886, and the trustees received 115 applications, the salaries asked ranging from \$250 to \$500. They have accepted the offer of a lady holding a Second-class Normal who asked \$350.

IN the Petrolia School Miss Corry retires and Miss Dibb takes her place. Miss Harley, Miss Sanson and Miss E. McRobie are going to the Normal School, and Miss Buchanan, Miss Cameron, Miss Hayhurst and Miss McRobie have been engaged to fill the vacancies.—*Petrolia Advertiser*.

THERE are thirty-one more pupils at the Peterborough Collegiate Institute than there were at this time last year. The pupils and teachers are working harmoniously, and we anticipate a better standing for the institute in the future than we have had for some years.—*Peterborough Examiner*.

THE York County Council have asked Mr. Wm. Rannie, Principal of the Newmarket Model School, to resign his position on the examining board, on the complaint of Mr. Wismer, Principal of the Parkdale Model School, on the ground that it was against the spirit of the law that teachers should examine their own pupils.

MR. HENRY BEWELL, at present Principal of Carleton Place Public School, has been offered the position of Mathematical and Science Master of Norwood High School, to be vacated at New Year's by the resignation of Mr. G. W. Jackman, who is going to Europe to pursue his studies as an artist. Mr. Bewell has accepted the offer.

THERE will be no distinction in the non-professional second-class certificates next year. The grade will be given on the Professional Examination. Any candidate who obtains one-third of the marks in each subject and one-half the aggregate marks obtainable, shall be entitled to rank as a holder of a non-professional certificate of the class for which he is a candidate.

THE closing examination of the county model schools will begin on Monday, December 7th, and continue as many days as the Boards of Examiners may deem necessary. The Education Department will not submit a paper in drawing, but candidates will get their standing from the inspection of their drawing-books by the Boards of Examiners at the final examination.

ON the evening of Friday, the 26th Nov., the teachers-in-training at the County Model School, Port Perry, entertained their teachers at a complimentary supper, and during the evening presented the principal, Mr. Alexander M. Rae, with a very flattering address, referring in the highest terms to his ability and success as a teacher and the benefits they had derived from his instructions during the session.

THE teachers of Acton Public School for 1886 are all engaged as follows: First department, Mr. Thomas T. Moore, salary \$550 and free residence; second department, Miss Hattie G. Jelley, salary \$300, third department, Miss Annie Mahaffy, salary \$225, fourth department, Lena Dorland, salary \$225. Miss Reid, of Erin, will take charge of Lorne School, at the New Year, salary \$350. The trustees of Lorne school received 110 applicants for the position. —*Acton Free Press*.

THE Perth Board of Education has made the following appointments. In the collegiate institute, R. R. Cochrane, B.A., of Port Arthur, Principal, salary \$1,000; Mr. D. E. Smith, Modern Language Master, \$850; Mr. Charles Young, Classical master, \$700; Mr. Lothead, B.A., English and Science Master, \$700. In the public school: Mr. Jaques, Principal, is to have his salary increased by \$50. Miss Emma McKinley has been appointed to the third department at a salary of \$200.

THE York County Council have passed the following resolution: "That this council desires to record its full confidence in Mr. Wm. Rannie as a teacher and a gentleman, and regrets its hasty action at the June session of appointing a teacher of the model school as one of the examiners of the model school pupils, which might be the means of creating jealousy in the minds of teachers and pupils, and, further, that a copy of this resolution be forwarded by the clerk to Mr. Rannie."—*Markham Economist*.

Correspondence.

REYNOLDS' EXPERIMENTAL CHEMISTRY.

To the Editor of the EDUCATIONAL WEEKLY.

DEAR SIR,—Although the communications of Messrs. Merchant and Spotton have satisfactorily disposed of the adverse criticisms of Reynolds' *Experimental Chemistry*, the enclosed letter from the author will, I am sure, prove interesting to your readers. Yours truly,

JOHN SEATH.

St. Catharines, Dec. 3rd, 1885.

TRINITY COLLEGE,
UNIVERSITY OF DUBLIN,
November 11, 1885.

DEAR SIR,—I am much obliged for your letter with enclosure extracted from the EDUCATIONAL WEEKLY, and giving a strange criticism of my *Experimental Chemistry* by a "Science Master."

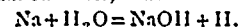
The main contention of the writer is that while I define a molecule correctly, I pay no attention to the received view that "there are in the case of the majority (?) of the elements two atoms in the molecule." It is extremely difficult to understand how anyone who had taken the trouble to read through Chapter V. of my book could make a statement of the kind.

The fact is, that I have occupied *four* pages (49 to 52, inclusive, 3rd edition) with the *demonstration* of the truth of the view to which, as "Science Master" asserts, "Reynolds pays no attention." On the pages referred to it will be found that (1) I have fully described an experiment (No. 29) which is by far the best we are acquainted with as serving to lead the student to recognize the dual structure of the molecule of oxygen gas; (2) the reasoning applied to the results of Experiment 29 is logically complete, and (3) leads directly to the explicit statement (on page 52) of the conclusion I am supposed by "Science Master" to ignore!

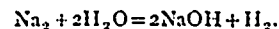
My critic further asserts that in consequence of the supposed omission just referred to, my book is "full of mistakes," as "a great many of the equations [used] to explain reactions are entirely wrong."

When these sweeping statements are examined they are found to refer exclusively to the fact that I generally use the simple atomic symbols to represent the free elements which take part in chemical reactions, instead of the so-called "molecular formulæ."

In illustration of my imaginary errors "Science Master" quotes an equation which I give at page 87 representing the action of *solid*, or, perhaps, *liquid* sodium on water, viz.,



It is not denied by the critic that this equation is quantitatively correct, but he doubles the whole expression, and asserts that it should be written thus:—



The point being that the symbol Na_2 is supposed to indicate the molecule of sodium, "in which case we have the action of molecules on molecules."

I use the simple atomic symbols for the elements generally in my books because I am well aware that the so-called "molecular formulæ" too often prove misleading to teacher

and to student alike, for the fact is generally overlooked that they are alone strictly applicable to the elements in the state of *perfect gas*. I could not suggest a better illustration of the kind of error to which the careless use of "molecular formulæ" commonly leads than that unconsciously provided by "Science Master" himself. His equation above given has no justification in fact, as far, at least, as the symbol Na_2 is concerned. The experiment to which it refers is not one made with sodium *gas*, whose molecule *may* contain two atoms (though V. Meyer thinks this doubtful), but with the liquid or solid element, whose molecule may contain 200 atoms for aught we know to the contrary!

As mistakes such as that into which "Science Master" has so innocently fallen are very common, even amongst writers of text-books, it may be well to point out the grounds for the cautious position now taken by an increasing number of chemists in reference to this matter. All the facts known to us concerning gases or vapors near to their condensing point, lead to the conclusion that their molecules are then much more complex in atomic structure than when they are in the state of perfect gas, and it is difficult to resist the conclusion that their complexity must be still greater when the liquid and solid states are reached. We have not any means at present of determining the extent of this atomic condensation, hence it is more in accordance with the spirit of science to put aside mere assumptions and keep well within our facts. And that is just what I have done; for while carefully teaching the two-atom structure of the gaseous molecules in the singularly small number of cases about which we have direct evidence, the general formulæ used are confined to the simplest expressions which can accurately represent the relative atomic weights concerned in chemical changes. By so doing we avoid attempting to teach more than we really know, and so escape pitfalls such as those into which "Science Master" so easily stumbled.

I am, dear sir,

Faithfully yours,

J. EMERSON REYNOLDS.

J. Seath, Esq.,

Inspector of High Schools.

To the Editor of the EDUCATIONAL WEEKLY.

DEAR SIR,—About Mr. Merchant's communication with reference to the study of chemistry in high schools, I wish to say a few words.

With the essential parts of my letter to the WEEKLY he agrees, still, there are a few points upon which a little information may be gained.

Mr. Merchant misapplies his utilitarian idea in regard to the theory of chemistry, for if he were well up in all the principles of the study, I am sure he would find that to keep to theory in every respect would serve the true utilitarian idea as well as furnish the best mental training. The Education Department, I maintain, has virtually selected a text-book on chemistry.

Does Mr. Merchant suppose that, when the student knows that he is to be examined on Reynolds' Chemistry, he will not buy the book? I believe that in the majority of cases the book will be procured. Then there are always a number who study the subject while teaching, and get no instruction other than from a text-book. Will they not buy the work? Mr. Merchant makes

some very nice statements about the student investigating everything for himself. I am of the opinion that hardly one out of every ten schools will be able to furnish each student in the class, apparatus, etc., to make each experiment. They haven't the time, nor will one-tenth of the schools be so amply furnished with materials to permit it. How are students who know very little, if any, chemistry, to be suddenly transformed into original investigators? It takes time to be a discoverer in chemistry. One requires to know vastly more than the little he has time to learn in the six or ten months he has at his disposal in the ordinary high school laboratory.

The science of chemistry has made great progress only since Dalton proposed the "atomic" theory, and Avogadro discovered the simple relation that exists between the volumes of gases entering into combination and the resulting volume. The study of chemistry has become vastly easier since the "atomic" theory was advanced. To understand the theory of chemistry thoroughly, and to be able to apply it in the case of all compounds, furnishes the best training to the mind; and I maintain that, to keep the theory, which has done so much to develop chemistry, and which is its foundation, intact as far as possible, one must represent actually what takes place in a reaction, even if it is possible to represent it more simply. This idea is exactly in accord with the teaching of the learned Professor of Chemistry in University College, Toronto. If Mr. Merchant has to prepare any students for a university examination it would be well for him to teach the correct equations, or confusion may be the result. Tilden, the author of a book on chemical philosophy, a work, the study of which would give the student a true and complete idea of chemistry, says: "Chemical changes involve neither the destruction nor creation of matter, but simply a redistribution of the materials of which the acting masses are composed. In order, therefore," he goes on to say, "to represent symbolically the results of any given action, it is only necessary to write down the formulæ of bodies engaged, and then to transpose their symbols in such a manner as to build up the formulæ of bodies which are produced." For instance, we have free hydrogen and free chlorine acting on each other, there is merely a redistribution of the molecules. Thus: $\text{H}_2 + \text{Cl}_2 = \text{HCl} + \text{HCl}$, or 2HCl . Wurtz in his "Atomic Theory," a text-book on the programme of studies in University College, Toronto, treats the point in question in a similar way.

Thus I think I have shown that Mr. Merchant is not quite correct when he makes the statement that it is customary with chemists to use the simplest ratios in representing reactions.

Since writing the above, Mr. Spotton's letter has appeared. A few words with regard to it. Reynolds' book is full of mistakes if the objection I take to it is correct, and I contend it is. I have given some good authorities as to the point of contention. Mr. Spotton has very conveniently taken a very isolated case from Tilden's book. Instead of the equation $2\text{KClO}_3 = 2\text{KCl} + 3\text{O}_2$, one may take $\text{KClO}_3 = \text{KCl} + 1\frac{1}{2}\text{O}_2$ for the comparison of weights. If it is only for convenience in calculating the weights that the latter is taken why not cancel the 2's, thus, $\text{KClO}_3 = \text{KCl} + 3\text{O}$, and then calculate the weights? One would avoid

fractions, have it just as simple, and besides, we would use a correct equation. Tilden uniformly uses molecular formulæ. The above equation is about the only one in which he divides the molecule. It is some time since Mr. Spotton graduated. Things have changed since then. Therefore, I would recommend him to obtain the opinion of Professor Pike, of the University of Toronto, and I think he will find that my views accord with his. When, for the sake of simplicity merely, you represent what is not true, then you are doing what is wrong.

Mr. Ellis is, I think, correct in saying that the student's time, which is generally limited, will be wasted if he has to investigate everything for himself. I believe there are very few schools in the Province in which every student, if the class be of any size, will perform every experiment.

I wonder how many high schools will furnish all the apparatus necessary for the experiments mentioned in Reynolds' book!

Second class candidates, who haven't studied the subject before, will find the abstract considerations about atomicity and calculations of atomic weights of less practical value than if they were taught a good general idea of chemical substances together with sufficient theory that they may understand the composition of compounds. I imagine that the nice little reasoning contained in Chapter V. of Reynolds' book would be but poorly appreciated by a student who knows nothing more about chemistry than is contained in the preceding four chapters.

Thanking you for the space required for communication, I am, yours truly,

SCIENCE MASTER.

November 30, 1885.

THE special committee appointed by the Board of Education to purchase physical and chemical apparatus for Paris High School is proceeding with the work as rapidly as circumstances will permit. The selection has been made and the purchase is now only a matter of price and quality. The vacant room at the high school has been fitted up as a laboratory where experiments will be conducted as soon as the new arrangements are perfected. A reference library for the use of teachers and pupils is also spoken of. The new regulations issued by the Education Department entailed considerable expense upon the country, and it is to be hoped that there will be corresponding benefit to the pupils. — *Paris Star-Transcript*.

A COMMUNICATION from A. Cruickshank was read, stating that the executive committee of the Hamilton Teachers' Association are desirous of holding a general meeting during the year in order to secure the Government grant, and advance the interests of the body. They asked that Friday, the 27th inst., be given for that purpose. The chairman asked the board what was their will with regard to Mr. Cruickshank's letter? He (Mr. Morgan) had discountenanced the idea of a holiday when consulted on the subject by Mr. Cruickshank. Mr. Brennen moved, seconded by Mr. Smith, "That the request of Mr. Cruickshank be not granted."—Carried. It seems to be the general opinion of the board that the teachers could attend to the matter in their own time (say on Saturday) without disarranging the schools.—*Report of Hamilton Board of Education*.

Departmental Regulations

TEACHERS' READING COURSE.

The Course of Study and Training prescribed for teachers by the Education Department is designed as a test of their ability to teach intelligently every subject on the Programme of Studies for Public Schools. It is presumed that in obtaining the knowledge requisite for this purpose a desire has been implanted for higher attainments, and that in no case will the mind be allowed to lapse into a state of dulness or inactivity. The experience, however, of many of our best teachers shows that the tendency of their daily duties—largely because of their routine character—is to produce that mental lassitude so fatal to all intellectual culture and development.

By the establishment of Teachers' Institutes this tendency has been to a large extent corrected. They have already, by means of mutual association and the friendly discussion of educational matters, stimulated many to greater exertion, and aroused the enthusiasm of even the most zealous members of the profession. But the Institute, valuable as it no doubt is, can do but little comparatively towards supplying that mental equipment which every teacher so much requires. Two or three days in the year should not suffice when the harvest is so great and the consequences of its not being garnered so disastrous to society. There is then but one alternative—the teacher must himself become a student. With him mental torpidity must be impossible. After setting apart as much time as may be necessary for rest and recreation, he should apply the remainder in preparing for the school room by private study. If he is to stimulate others, his own mind must be active.

In order to give definiteness to the efforts of teachers in this direction I have arranged a Course of Reading, by means of which, while not ignoring professional obligations, they may carry on daily the work of self-culture and at the same time learn to regard their vocation from a higher standpoint. The Course extends over three years, and embraces pedagogy, science and literature. It can be mastered in the allotted time, without difficulty—one hour per day being quite sufficient. It will be observed that the books in the Professional Course are those already used at the Normal School and Training Institutes, so that by taking them up in the Reading Course the work required for entering the higher grades of the profession is simply prepared in advance.

As the Course is purely voluntary no examination will be held in connection with it. Should, however, the teachers of any Inspectorial Division agree to read the course with this end in view, and should the County Board of Examiners make adequate provision for such examination, the Department would recognize by special certificate this additional element of professional culture. Such a certificate would no doubt be duly appreciated by Trustees and the public generally, as it would entitle the holder to a strong claim upon their liberality. It will be the duty of the Directors of Teachers' Institutes to make such comments and give such directions to teachers in regard to the best methods of profiting by this Course as they may deem expedient.

In recommending to the profession the Course of Reading outlined, I do not wish to be regarded as imposing a task from which there is no advantage to be gained. The status of the teacher depends mainly upon his own exertions. To repress his individuality, or by Departmental restraints to endeavor to make each teacher the counterpart of every

other, would be to secure uniformity by the sacrifice of power. I fully recognize that each member of the profession is a separate and distinct unit. To direct these separate units in such a way as to conserve their force for the public good and their own prosperity is the only object in view. Whether successful or not in this will depend upon their co-operation, the experiment is, at least, worth trying.

GEO. W. ROSS, *Minister of Education.*

Toronto, Nov. 10th., 1885.

LIST OF BOOKS RECOMMENDED.

NOTE.—It would be well for teachers of each class to confine themselves to the Course of Professional Reading prescribed for their particular class. In the other subjects it is recommended to take one-third of the books in Science and Literature each year.

PEDAGOGICS.

Third Class Teachers.

(Two books to be taken in one year in the order given.)

1. Outlines of the Study of Man—*Hopkins.*
2. Lectures—*Fitch.*
3. Educational Reformers—*Quick.*
4. Psychology of Cognition—*Jardine.*
5. Education as a Science—*Bain.*
6. Education—*Spencer.*

These text books are all on the Normal School Course for Second Class Teachers.

Second Class Teachers.

(Two books to be taken in one year in the order given.)

1. Systems of Education—*J. Gill.*
 2. Lectures on the History of Education—*Jos. Payne.*
 3. The action of Examinations—*H. Latham.*
 4. School Management—*Joseph Landon.*
 5. Teachers' Manual and Method of Organization—*R. Robinson.*
 6. Culture Demanded by Modern Life—*E. L. Youmans.*
- The text-books named are all on the Professional Course for First Class Teachers.

First Class Teachers.

1. Psychology—*Sully.*
2. Greek Education—*Mahaflly.*
3. History of Pedagogy—*Hailman.*
4. Mental Physiology—*Carpenter.*
5. Education and Educators—*Lay.*
6. The Schoolmaster—*Ascham.*

PHYSICAL SCIENCE AND NATURAL HISTORY.

(Six books to be taken in one year in the order given.)

1. The Fairy Land of Science—*Buckley.*
2. Ants, Bees and Wasps—*Sir John Lubbock.*
3. Sound Bodies or our Boys and Girls—*Blaukie.*
4. Forms of Water—*Tyndall.*
5. Physiology—*Huxley.*
6. Heat as a Mode of Motion—*Tyndall.*
7. Methods of Study in Natural History—*Agassiz.*
8. Homes without Hands—*Woolfs.*
9. Elements of Physical Geography—*Geikie.*
10. Physical Geography of the Sea—*Maury.*
11. The Races of Man—*Peschel.*
12. Connection of the Physical Sciences—*Somerville.*
13. Common Sense of the Exact Sciences—*Clifford.*
14. Physical Forces—*Faraday.*
15. The Sun—*Praeger.*
16. Wild Animals, their Life and Habits—*Wolf.*
17. Flowers and their Pedigrees—*Grant Allen.*
18. Health—*Corfield.*

LITERATURE AND HISTORY.

(Eight books to be taken in one year in the order given.)

1. Julius Caesar—*Shakespeare.*
2. Every-day English—*R. G. White.*
3. Selections from Wordsworth—*Matthew Arnold.*
4. Milton and Wordsworth—*English Men of Letters.*
5. Industrial Biography—*Smiles.*
6. Short History of the English People—*Green.*
7. Montcalm and Wolfe—*Parkman.*
8. The English Constitution—*Bagshot.*
9. Macaulay's Life and Letters—*Trevelyan.*
10. Getting on in the World—*Matthæus.*

11. Walks about Rome—*Hare.*
12. Words and their Uses—*R. G. White.*
13. Johnson's Chief Lives of the Poets—*Matthew Arnold.*
14. Expansion of England—*Seeley.*
15. Words and Places—*Taylor.*
16. English Literature (concise)—*Laine.*
17. The United Netherlands—*Wells.*
18. Oliver Cromwell—*Carlyle.*
19. Life of Johnson—*Boswell (Murray's Edition).*
20. Language and Languages—*Farrar.*
21. Paradise Lost—*Milten.*
22. Life and Correspondence of Thomas Arnold—*A. P. Stanley.*
23. In Memoriam and the Princess—*Tennyson.*
24. Nicholas Nickleby—*Dickens.*

COLONIAL AND INDIAN EXPOSITION, LONDON, ENGLAND, 1886.

The following Circular has been issued to Public and High Schools by the Education Department.

Toronto, 5th October, 1885.

SIR,

I am directed by the Minister of Education to state that it is the intention of the Education Department to make an effort to represent the educational progress of Ontario at the Colonial Exhibition, to be held in London next year. Although the statistics, which may be easily compiled from the Reports in the Department, exhibit the most gratifying progress, still it is desirable to submit examples, so far as practicable, of the actual work of our Public and High Schools. The subjects in which this can most conveniently be done are, Writing, Drawing, Map Geography and Arithmetic. In order that every portion of the Province may have the fullest opportunity of exhibiting the work of the pupils in these subjects, Inspectors will be good enough to collect specimens as follows:—

Writing:

Ten copy books representing each class using copy books, i. e. forty books from the Inspectorate. Specimens of writing on ruled paper may also be sent. The name of the school and class must be written on the top, and the pupil's name and age at the bottom of each book.

Drawing:

(1) Samples of Drawing from Parts I. and II. of First Reader.

(2) Samples from each of the authorized Drawing Books. For the sake of uniformity the Blank Books which accompany the authorized Drawing Books should be used by the pupils for this purpose. Twenty specimens are required from each Drawing Book and Reader, name and age of pupil to be shown as in Writing, also name of school.

Geography:

(1) Map of the Western Hemisphere.

(2) Map of Ontario.

(3) Map of the British Islands. Ten specimens from the Inspectorate of each map, name and age of pupils to be shown as in Writing books.

Arithmetic:

Twenty specimens of the work of pupils in each of the four classes, on paper of the same size as the copy books, name and age of pupils to be shown as in Writing. Say eighty specimens from the Inspectorate.

The Inspector should see that any work intended for exhibition, is sent to the Department not later than February 1st, 1886.

ALEX. MARLING,

Secretary Education Department.

GRAND SPECIAL OFFER.

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Kelly's Cross, P. E. I., July 10th, 1885.

"The New Arithmetic" received. It exceeds my expectations, and is certainly far ahead of the books now in use.—MARK A. SMITH.

Brooklyn, N. Y., 176 Quincey St., July 10th, 1885.

"The New Arithmetic" has arrived. I have carefully gone through it, and pronounce it unequalled by any other.—F. H. BREWER.

Business College, Brooklyn, N. Y., July 3rd, 1885.

I have been testing your "New Arithmetic" as far as possible in one class, and find it very satisfactory.—PRINCIPAL H. C. WRIGHT.

Collegiate Institute, Collingwood, Ont., July 1st, 1885.

"The New Arithmetic" is a credit to the publishers.

The mechanical part of the book is very superior, and the arrangement sensible and practical.—JOHN TAIT.

Melissa, Ont., July 22nd, 1885.

You have placed many teachers under great obligations by publishing such a valuable work as your "Arithmetic."—J. F. CARMICHAEL.

Keene, Ont., June 24th, 1885.

"The New Arithmetic" far exceeds my expectations.—W. HAMPDELL.

Newport, P. E. I., June 18th, 1885.

I consider "The New Arithmetic," which has just been received, a most complete book on this subject.—J. W. McDONALD.

Mount Forest, Ont., July 10th, 1885.

I prize your "Arithmetic" very highly. It is a model text-book constructed on the proper principle.—D. F. H. WILKINS, B.A., B.Sc.

Amulree, Ont., July 6th, 1885.

I consider "The New Arithmetic" one of my prizes. I am truly delighted with it.—C. S. FRASER.

Ranelagh, Ont., June 10th, 1885.

All other Arithmetics will have to go. "The New Arithmetic" will take the lead.—CHARLES FORBES.

This book will be very valuable to teachers of every grade of school in drilling pupils in Arithmetic—both mental and written—and in preparing examination papers.

It contains nearly 3000 carefully graded problems.

To any person who will send us **ONE DOLLAR**, we will send **THE NEW ARITHMETIC**, post-paid, and in addition we will send **THE EDUCATIONAL WEEKLY** for **THREE MONTHS FREE**. Present subscribers taking advantage of this offer, will have **THREE MONTHS** added to their subscriptions.

To anyone sending in a **CLUB OF FIVE** for the above, we will send **The Educational Weekly** for **SIX MONTHS FREE**.

To anyone sending in a **CLUB OF TEN**, we will send **The Educational Weekly** for **A YEAR FREE**.

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