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THE ONTARIO TEACHER:

A MONTHLY EDUCATIONAL JOURNAL.

Vol. 3.

SEPTEMBER, 1875.

No. 9.

ONTARIO TEACHERS' ASSOCIATION.

Of late years the President's address at the annual meeting of the Teachers' Association of Ontario, occupies a place of considerable interest and importance in the proceedings. This year, owing to its very practical character, more than the usual importance attaches to the annual address. Mr. Goldwin Smith, who on account of his great literary reputation has been considered, and justly too, quite an acquisition to the intellectual productiveness of Canada has now, for two years consecutively, occupied the honorable position of President. In his *annual message* to the teachers this year, he undertakes to discuss matters of more than ordinary interest. To his remarks on many points we give our cordial approval, although his views on some other matters connected with our educational institutions we do not believe by any means to be orthodox.

The propriety of throwing open the meetings of the Council of Public Instruction to reporters, has been repeatedly alluded to in our columns. We observe, what we would not expect from Mr. Goldwin Smith, that

he favors their exclusion. The following is his argument in full as reported in the Toronto papers:—

“There was one change which many still desired, that was that the meetings should be public, and that reporters should be admitted. He believed he could speak upon that question with perfect impartiality, though some people seemed to think that he had some motive in excluding reporters, and keeping the meetings private. He could have no such motive. This was his last year of office, and besides if he did not choose to speak before reporters, one had always the refuge of being silent. But he thought, the question required very considerable deliberation before they proceeded to take the step which was proposed. This Council was not administering public moneys. They had no special reason for keeping a very sharp or vigilant eye upon it. What it was wanted to do was to transact current business, and to make regulations which required, for the most part, minute consideration rather than great speeches like those which were made in

public. They wanted it, he considered, not to talk well but to work well. There was no constitutional reason why it should debate publicly, or why reporters should be admitted. There were many Boards in England doing the same kind of work, thought not on the same subject exactly, to which reporters were not admitted. If there was anything at all analogous in England to the Council of Public Instruction, it was the Committee of Council on Education, which did not sit publicly and was not reported. He could not help thinking that if reporters were admitted, and the debates were published they would have a great deal of talk, and that was a considerable evil when they remembered that the Council was not a body of residents meeting from day to day, or through a long session, but of members scattered throughout the country, who were brought from their other avocations for a limited time, and from whom, therefore, they desired to get the largest possible amount of work, and the least possible amount of needless talk while they were here. Again, it was very difficult to deliberate really when their words were being taken down by reporters. That was notoriously the case in great legislative assemblies. If they asked any member of the English House of Commons whether a speech in that body had ever turned a vote, he would say, 'Yes, on one occasion. That was when Lord Holland moved that the Master of the Rolls should be disqualified like the other judges from sitting in the House, and Lord Macaulay made a speech in opposition which turned the vote, Lord Holland himself saying that if he had not moved the resolution he would have voted against it.' That was one exception, but the rule was that people came with their minds already made up and made speeches in order to justify to the nation the vote they were going to give. If they wanted to deliberate on some difficult private matter with half-a-dozen friends, would they be

likely to deliberate freely, or to change their opinions if there were need to change them in order to arrive at the proper decision, if a reporter were sitting by to publish every word afterwards? That was the way with the Council of Public Instruction. Members coming from the country could not be well informed of the business beforehand; they had to learn the facts when they arrived, and they might express opinions which in the course of discussion they might find it right to change, but it was very difficult to change an opinion after it had been taken down. His opinion was that if reporters were present the debates of the Council would be of much less practical value. There was another danger. He hoped that in time public education and other beneficent institutions would improve their politics; but now they wanted to confine them to their own sphere. They did not want them in their soup or in their education. He believed that if they had reporters taking down the debates, and the newspapers commenting on them afterwards, it would be very difficult to keep out politics. He did not say this on mere speculation. Not long ago a question was raised about a debate in the Board on the subject of the Depository, and if they remembered the comments of the two leading newspapers on that occasion, they would recollect that they both fixed upon the objects of their political aversion for attack. At present the Board was not political. Politics were excluded from it. It was governed entirely—whether it was right or wrong—by the interests of education. That, he thought, in this political world was a valuable characteristic, and one which he should not like needlessly to endanger. He was as great a friend of publicity as could be, and if there was any ground for supposing that the Board did not deliberate honestly, or played tricks with the public, by all means let the doors be thrown open and the reporters admitted, but the object

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was not that it should talk well, but that it should work well, and reporting would be a great impediment to work."

The first argument of the learned President in favor of closed doors is "The Council was not administering public moneys. They (the public) had no special reason for keeping a very sharp or vigilant eye upon it." Is it to be inferred from this statement, that the "administration of public moneys" is of all other matters the most important to the public, and that only in cases where their pockets are concerned, has the public a right to know the views of the representatives? Or would Mr. Smith, following up the analogy propose, that only in those cases where the business involved the expenditure of money, the doors of our Legislative Halls should be opened and the public permitted to know the opinions of their representatives? The expenditure of "public moneys" has never been a matter of any serious consequence, in connection with our educational system.* The Council of Public Instruction acts under instructions in such matters from the legislature, and its duties are merely Departmental. But in other matters, much of the choice of text-books, regulations for the public schools and the management of the depository, the council possesses legislative functions. It is from these functions it derives its importance and interest. It was to give scope and breadth to its deliberations, that we advocated the introduction of the elective principle, but now we are told, that, forsooth, because it does not administer "public moneys" its deliberations may be invested with all the secrecy of a Privy Council.

Considerable stress is laid by Mr. Smith upon the necessity of the Council being a *working body*. He says, "what they want to do, is not to talk well but to work well." We agree with Mr. Smith on that point. But is it not the duty of every Council and every legislative body to *work well* rather

than to *talk well*? Are not our Parliaments and County Councils equally bound by this obligation? And yet who ever suggests that they should sit with closed doors? The argument that publicity means talk and buncombe and no result, is simply a reflection upon the whole council, and unworthy of a man who has so long and so closely studied the liberalizing tendencies of education as Mr. Smith has. It is quite possible that some might, from a desire to lay their views before the public, occupy more of the time of the council with the reporters present than without them, but what of that? Surely *haste* is not a valuable element in legislation, and even should the sittings of the council be somewhat protracted the public benefits accruing would far more than counterbalance any inconvenience to its members.

But Mr. Smith believes that with publicity the labors of the council would be of less practical value. How? Why? To be of any value at all the work of the council must be practical. To be practical, the council must know the wants of the public. Now how are their wants to be ascertained? Is it by preventing discussion, or by inviting an expression of public opinion? Does Mr. Smith suppose that when the council meets in solemn conclave and shuts out the busy world around, by excluding the only means of daily communication with the world we now possess, by some special revelation the *practical* knowledge so much desired will be made known? Would it not be far more in conformity with the 'precedents' of history to throw open the doors to the reporters, to allow the views of individual members to go to the public, and let the press as it has done in other matters, direct public opinion to the most desirable conclusions.

But Mr. Smith is afraid if reporters were admitted, it would be very difficult to keep out politics. Keep out politics! Why not in one case as well as the other? Are the

members of the council so weak-minded, that through fear of publicity they would violate their consciences and do wrong? Is it possible that in secret they might vote one way, but in public they would vote another way? Who are these craven-hearted mortals that cannot do their duty in the light of day, as nobly and manfully as under the cover of secrecy? Let them be told that the public may know whether they are the elective or the nominated members of the Council. Politics! This constant dread of politics and political pressure is most humiliating. Its admission shows unbecoming weakness, and is apt to leave the impression that we are living under a political terrorism, that represses our convictions, and prevents the expression of free thought. Surely this is not a fair representation of the public opinion of Canada, where we fondly thought we had "the liberty to know, to argue and to utter according to the dictates of our own conscience."

We are glad to see that the venerable Chief does not share in Mr. Goldwin Smith's views in this matter. His long experience of public life in Canada has led him to a different, and we believe a wiser conclusion. He said, "he believed if the proceedings during the last year had been public instead of private great good would have resulted to the public. The Council should be either purely administrative or it should be responsible to the people. There should be the most thorough public investigation, and no secrecy in any part of it. He should not think that the pluck characteristic of Englishmen would be shaken by the fear of being reported."

These are the views which ought ultimately to prevail, and from the cordial manner in which they were received by the Association, we believe they are the views of the great body of the people of this country.

The information given to the public that a revision of Text Books is under way, will be gladly received by the great majority of

teachers. Indeed it ought to be welcome news to all, that we are soon to have a new Geography and Grammar. We trust also, that the new History of Canada promised us will not be on the same plan as the miserable text book now in use—a book which we believe has done so much to disgust both teachers and scholars, that it will be many years before a favorable reaction can be secured. There is no reason why a history of Canada should not be made as interesting as the history of any other country. Mr. Smith thinks it wants connection. We do not think so. What it wants is *system*. Let some writer who is so thoroughly conversant with Canadian history as to be able to overlook the whole field, undertake the task of preparing a text book—let him systematize his work as Hamilton or Collier has done his plans of English history, and there is not the slightest danger but Canadian history would be invested with all the interest requisite to make it at once an easy and a pleasant study.

His remarks on our Reading Books we reproduce entire, reserving our comments for next issue:

"Another class of books about which he had heard a good deal said in the local associations, and which must probably come on some day for inspection, if not for revision, was the reading books. His own inspection of them led him to sympathise with those who thought a change should be made, but before acting they must settle some principle on which they should act. Was the object to be purely literary, simply to teach reading, or to convey specific information at the same time? Although the two objects might not be absolutely incompatible, yet they would frame a very different set of books if they went on one principle or the other. That must be determined again by another question as to the "programme" — whether some subjects now upon it should be left there or not. If the scientific or philosophical subjects now in-

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troduced in the programme were removed, there would be an additional reason to introduce them into the reading-books, and so convey information no longer given in any other way."

In closing our review of Mr. Smith's address, we must do him the justice of saying that we believe he has labored faithfully to understand our Canadian school system, and also the wants of a Canadian public. By attending several Teachers' Associations he has ascertained the views of many of our leading teachers on matters of practical importance—his own good judgment and experience no doubt, directing him toward what was most useful and desirable. The address which we in some respects think the most practical address yet delivered on occasions of the kind closes with the following sensible remarks on school work generally:—

"During his visit to the local associations several questions had come up. One was whether certain scientific and philosophical subjects had not better be removed from the programme. The real question was, could these subjects be effectively taught or not. He should say that some of them could not be taught in the rival Schools. He was of opinion that the staple should be reading, writing, arithmetic, grammar, and geography. Let these be thoroughly taught, especially arithmetic, which, independent of its obvious uses, was the best mental training that our children received. He had no doubt that the Scotch owed a great portion of their remarkable success in life to the very thorough training they underwent in arithmetic in Scotch schools. A

great deal had been said about the economical value of education in the increased value it gave to labor; but they must remember that, after all, the root of industry was hard work, and while they made labor more skilled and intelligent, there might be a danger of making manual labor distasteful. This result had already been seen in the United States. The superiority of English workmen arose not from anything learned in the school, but from the long-trained habit of conscientious labor. Referring to the subject of rewards and punishments, he said he was inclined to sympathize with many people who were opposed to the prize system. He thought that to excite ambition and envy in the minds of children was not conducive to their happiness, and after all, the great thing they desired to form was not intellect, but character. With regard to punishments, some thought that corporal punishment in schools could be done away with altogether. But in the statements which had been published as to cases in which it had been successfully abolished were true, they only showed the persons that had succeeded to have possessed wonderful powers of moral command, such as were not given to one teacher in a hundred. Among ordinary children and ordinary teachers cases must arise when corporal punishment should be used. But, of course, the greatest economy of punishment was the greatest proof of the teacher's powers of moral command. The punishment should always be administered in cool blood, and if possible not at the time; it should never be inflicted for stupidity or nervousness, but only for wilful disobedience, including obstinate idleness."

THE PUBLIC SCHOOLS OF MANITOBA.

BY GEO. B. ELLIOTT, WINNIPEG.

Two theories prevail with regard to the social and public character of our new Provinces. The first is, that the same old struggle which has been fought out in the older Provinces, will be repeated in the newer ones—renewed perhaps with less rancor and harsh feeling, but at all events renewed. The second is almost if not quite the converse, (i.e.) that each new Province will start upon its voyage from the point where the old ones have started. In the case of the latter, it is to be feared that the wish is intimately related to the thought. Manitoba has been a Province for five years, and she has already had more than her share of those strifes, which have divided the people of the older Provinces into contending parties. Their contests for the most part have been fought on the strength of *sectional* and national rights, real or imaginary. And generally where the grievance is only imaginary, the contest is bitter and the struggle greater. In these quarrels for the perpetuation of old nationalities, the Canadian as a rule has stood quietly, by with an indifference suggestive of the remark, that as he has no national *status* he has no business with the quarrels of antagonistic nationalities. Occasionally, he has been found identified to some extent with one or other of the contending parties, but even then he has frequently been found to relinquish his share of the quarrel and to declare that the interests of the state should transcend all others; that not local or sectional aims should guide the subject, but the general good. I shall not stop to inquire why the *real* Canadian citizen is so actuated; but in passing, I may observe that his indifference to the quarrels arising out of old prejudices, is in a measure to be attributed to his early associations and his training. But more than mere indifference on his part is necessary, if ever the Canadian people are to become a compact entity. It is his duty as a citizen of a great country, whose extent is measured only by oceans, to discountenance and condemn those acts by which, instead of having a *type* of people common to the whole country—we would only have a number of tribes or clans, each endeavoring to rival the other in the perpetuation of prejudices, which they it is true, may have found difficult to throw off; but with which *their* children have no more to do than they have to perpetuate the prejudices of the Japanese, or constitute themselves the custodians of Chinese peculiarities. While parents whose associations belong to another continent, still cling to the delusion of the "re-production of prejudices"; the Public School is rapidly accomplishing one at least of the many objects which it is intended to realize. In the Public School the great masses of the young Canadian people are where the heart of, shall I say the nation? is being formed. It gives rise to associations which with the Canadian youth must have a greater claim upon his patriotism and mind, than all the traditions which his less Canadian parent may pour in his ear about transatlantic wars. The one has been educated or brought up amid the prejudices and persecutions incident to countries where population is great and territory small, where societies are formed for the protection of one subject and the destruction of another—the other has been educated or brought up in a country where population is small and territory large, for it is a remarkable fact just in proportion as

you overcrowd a country with the human family, you will have hatred, jealousy, and persecution, while on the other hand, if you are living in a large country and meet only with a few of your kind, the opposite qualities are developed. Ten years ago when the journey across the Rocky Mountains by the Saskatchewan River in Canadian territory, was more of an undertaking than it is now, the traveler who started from the Red River settlement, to cross the great confines, might complete his journey and during the whole course of it not see a half a dozen whites, and perhaps a few miserable untutored savages of the plains. Yet to meet either was to feel a bond of brotherhood, which would be dissolved as soon as the traveler reached the busy haunts of men on the other side, and when he returned to the overcrowded human marts it was perhaps to settle down in the great hive, and begin again the struggle of man against man. In other words, thickly populated communities are the most zealous and intolerant, and the same may be said of countries and of nations. It has been truthfully said that few people who have been raised and who have developed in old countries, can shake off all the prejudices which they have imbibed. If any do succeed in so doing, there is always an indescribable something which is not found in the native of a new country, who has been compelled to take his share of roughing it. Very few Canadian children entirely educated at the Public Schools in Canada, are brought up with the same prejudices as formed a necessary portion of the curriculum of their parents. A dash of the intolerant spirit is sometimes found among the pupils of the Higher School and Colleges, and this is a matter which is to be deplored. It is the same in the United States higher schools. A foolish pride and conceit, which stick to the graduates, hinder and retard their progress through life, being sometimes more pernicious than illiteracy itself. The fault rests with the teacher, but

more frequently with the parent. This conceit, or whatever it is, is not owing to the scholar knowing more, but it is part of the *curriculum* which should be dispensed with in a new country at least. Lads who leave the ordinary "district school" and obtain a smattering of the solemnity of Latin, or obtain an acquaintance with Greek hieroglyphics, and who have trotted through the eulogies, too frequently get beyond their depth, shallow as the stream has been, and we see them turned upon the world with a weakness fully developed, and ready to shipwreck them at the first opportunity. But this is a *practical country* and the opportunity in most cases for unlearning are afforded, and when these scholars are left to their own resources, if the defect has not fully ripened, they overcome it, but why should that weakness be developed at all? Why should *not* one College be as practical in its work as the district school? We all know that to *unlearn* is more difficult than to learn, and why should we not make theory approach practice so closely as to render the dividing line almost invisible. But to return to my subject. It is unfortunate in one sense that the trees of to-day were planted a long time ago, for the new generation has to plant, to await the final dissolution of old classes to make one upward step in the direction of educational reform. The trees of another decade period, have been planted but recently. Whatever may be the fault of the planting and the nurture, one object however, will be accomplished if all others fail. This is the fountain of pure patriotism, early associations. The Canadian youth has his childhood associations in the home of his birth, and while those of his parents may be beyond the seas—his are to be found in Canada the home of his nativity, and doubtless the field of his future labors. Hence it is, why there is such an absence of national spirit. Those who are now upon the scenes are for the most part citizens of an older land, cling-

ing to its faults and prejudices and to their associations, with a fondness which is surprising, when it is considered that they had to seek other lands in which to secure the comforts of a home, and perhaps the luxuries of a palace. You cannot expect any other national spirit amongst a people who already have one nationality in their hearts. A new nationality is co-eval only with the birth of a new race. The associations rivet the soul and bind the citizen to his native land, with chains of silk that never break. The Province of Manitoba commenced its history with a rebellion, a despotism of the few exercised over the many. A small minority of the people aided by ecclesiastical power, dictated political wrongs, which began with the concession of Separate Schools, and shall I say ended with the condemnation of a murderer. Brief as the revolutionary period was, the Province went through many of the old quarrels of her sister Provinces, and the minority came out the winners. Certain publicists have talked eloquently about the injustice suffered by minorities, but here is a case where the minority has ruled, and it is not a solitary one in the political history of Canada. A Separate School System was granted to Manitoba by the Macdonald-Cartier Alliance, in order to retain followers. Mr. Mackenzie has done the same thing with reference to the newly organized territory of which Fort Felley is to be the centre. With regard to Manitoba, it must be said that its School System is such only in name. The total revenue of the Province does not exceed \$73,000. Nearly one-half this amount is absorbed in the expenses of a Legislative Assembly, a Legislative Council, and the French language, which is a forced luxury. Last year the amount appropriated by the Legislature for public school purposes was only \$7,000, equal to less than 25 cents per head on the whole population, estimated at about 30,000. During the same year British Columbia

with a population of 13,000, spent on public schools \$50,000 upwards of \$3.50 per head. The \$7,000 set aside by the Legislature of Manitoba, was *not* divided according to the average attendance of the pupils of all the schools, but apportioned equally, the Protestant Schools receiving \$3,500, and Roman Catholic the same. The number of Protestant Public Schools was 22, attended during the year by 693 boys and 353 girls, or a total of 1,248, the average attendance being 635; the nett amount actually paid these schools was \$2,605, the balance of the Protestant appropriation being expended in the Superintendent's salary \$600, and incidentals. The amount paid to the schools was not expended to the several schools, in proportion to the average attendance of each. This according to the law should have been done; but the Catholic Superintendent put in the plea, that the average attendance of the pupils belonging to the schools under his charge had not been *kept*. The money was therefore spent at the discretion of the Superintendents—general efficiency having been treated as of secondary importance—size and numbers of pupils being the first consideration.

The Superintendent of the Catholic Schools, is a Mr. Elie Tasse, formerly editor of the *Courier D'Ontario*. He never taught a school in his life, but he has been unfortunate enough to be appointed to his position by political perds, for political services rendered. Mr. Tasse reports 21 schools under his charge, attended by 945 pupils, 304 of whom were boys, and 441 girls. No record of the average attendance was kept, but it is known to be very much less than that of the Protestant Schools. Thus the Protestants of Manitoba, who pay the larger portion of the school-monies, help to contribute to the support of Roman Catholic Separate Schools.

Yet the Roman Catholic minority of New Brunswick are held to be suffering from injustice, because they are asked to

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give their proportionate support not to Protestant, but to secular Schools.

As to the system and the Schools, not to speak of the results, there is vast space for improvement. Neither of the Superintendents ever taught school. They know nothing of practical or theoretical teaching as an art. The one is a gentleman of the old school similar to the "old fashioned Local Superintendent of Ontario"; the other is a whilom journalist politician, also holding the position of French translatory Clerk in the Legislature. In order to put the whole educational machinery into effective operation, it will be necessary to have a

government grant of at least \$13,000 per annum. Next, supposing that the dual system can be made effective—there must be a pair of experienced Superintendents, men who have won their spurs in the "noble art," and as a *sine qua non* your teachers of the modern class, must be invited to come here from other places and a uniform standard of qualification insisted upon.

Lastly, a wholesome reform in text-books must be carried out, adopting the books which the latest reports of Ontario Education have recommended. Nothing short of these conditions should be permitted.

SOLUTIONS TO QUESTIONS.

AT THE RECENT TEACHERS' EXAMINATION.

BY J. C. GLASHAN, ESQ.

ARITHMETIC,—THIRD CLASS.

1. Ans. $\frac{4108}{7883}$.
2. 1 hhd = 252 qts.,
 1 doz. qts. = 12 qts.,
 1 doz. pts. = 6 qts.,
 1 doz $\frac{1}{2}$ pts. = 3 qts.,
 \therefore 1 doz of each = 21 qts.
 No of doz. in 1 hhd. = 252 qts. \div 21 qts.
 = 12.
 Selling price per. hhd. = $1\frac{3}{4} \times \$175$
 = \$201.25.
 Selling prize per doz. qts. = \$201.25 \times
 $\frac{1}{2}$ = \$9.58 $\frac{1}{2}$,
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 \$4.79 $\frac{1}{4}$ = \$2.39 $\frac{1}{2}$.
3. 4 months takes \$.003 off the \$1,
 9 days takes \$.00225 off the \$1,
 \therefore 4 months 9 days leaves \$.96775 to be
 paid for each \$1 on face of note;
 \therefore face must be for (\$240 \div \$.96775) \times
 \$1 = \$247.998—

4. A's share of whole = $\frac{1}{3} \{ \frac{2}{3} + \frac{1}{3} (\frac{1}{3} + \frac{1}{4} + \frac{1}{6}) \}$ = $\frac{10}{27}$.
 \therefore B's + C's = $1 - \frac{10}{27} = \frac{17}{27}$ worth \$37300
 \therefore A's $\frac{10}{27}$ is worth \$16700.
5. 500(\$1.30 - \$1.20) - \$20 = \$30, loss.
6. Ans. 17s. 9 $\frac{1}{11}$ d.
7. (\$1568 - \$224) \div $\frac{4}{5}$ = \$1680
 \$1800
 ————— \times 20 bbls. = 300 bbls.
 \$1800 - \$1680
8. \$10 \div 1.33 $\frac{1}{3}$ = \$7.50.
 105
9. $\frac{105}{47\frac{1}{2}} \times 454\frac{1}{2}$ ft. = 1004 $\frac{5}{8}$ ft. = 334 yds.
 2 $\frac{5}{8}$ ft.
10. $4 \times 1280 \times (1 - .14) \times $.0275 = 121.088
11. $293.05 \times 1.095 \times \$4.44\frac{1}{3} = $1246.17\frac{2}{3}$.

ARITHMETIC—SECOND CLASS.

1. $\frac{4}{4+7+9} \text{ of } \frac{10}{9} \times \$22500 = \$5,000;$

$$\frac{7}{4+7+9} \text{ of " " } = \$8,750 ;$$

$$\frac{9}{4+7+9} \text{ of " " } = \$11,250.$$

2. $1.25(\$6 \div 1.07\frac{1}{2}) p. c. = \$64\frac{2}{3} p. c.$
 $\{ \$ (7-1.5) \div .85 \} p. c. = \$61\frac{3}{4} p. c.$
 $\$810 - 150 \times \$5 = 60.$

3. No. bbls. superior = $\frac{\$6 - \$5}{\$6 - \$5} = 60.$
 No. bbls. inferior = $150 - 60 = 90.$

4. Reckoning from Nov. 1st.,

$$\begin{aligned} \$100 \times 0 &= 0, \\ 225 \times 5 &= \$1125, \\ 180 \times 17 &= 3060, \\ 75 \times 21 &= 1575, \\ 120 \times 28 &= 3360, \end{aligned}$$

$$\begin{aligned} \$700 \times ? &= \$9120. \\ 9120 \div 700 &= 13\frac{4}{7}. \quad 13 + 1 = 14, \end{aligned}$$

adding in the 1st,

\therefore equated time from which to reckon credit will be Nov. 14; (or rather the morning of Nov. 15.)

$$(1.04 - .96 \times \frac{1}{3}) \div \frac{2}{3} - 1 = .12\frac{1}{2}$$

5. $\frac{2ft}{.96} - 1 = .12\frac{1}{2}$
6. $\frac{2ft}{\frac{3}{4}yd.} \times 4\frac{1}{2}d. = 4d.; \therefore$ the cost will be the same.

7. Cost equals $10,000(\$2.15 + .3 \text{ of } \frac{7s. 6d.}{\text{£1}})$
 $\times 1.375 \times \$4.44\frac{4}{5} = \$28,375.$

$$\text{Returns} = 10,000 \times \frac{7s. 6d.}{8d.} \times \frac{1}{8} \times \$30 \text{ equal}$$

$$\begin{aligned} \$33,750. \\ \text{Gain} &= \$33,750 - \$28,375 = \$5,375. \end{aligned}$$

8. $16 \times 64 \times 27 \times 18 \times 36 \text{ men} = 48 \text{ men.}$
 $24 \times 72 \times 18 \times 12$
 (For 13 deep, printed in TEACHER read 12 deep.)
 $\text{£}2 \text{ 14s. 3d.}$

9. $10 \text{ of } (576 + 296) - (.08 \text{ of } 576 + .12 \text{ of } 296)$
 equals $9s. 8\frac{1}{4}d.$

10. (a.) $\sqrt{(65^2 - 50^2)}$ ft. equal $41.54 + \text{ft.}$
 $\frac{12^3 + 10^3}{14^3 - 13^3}$ equal $73\frac{1}{4}$ inches.

ARITHMETIC.—FIRST CLASS.

1. Since the discount is at 8 p. c. on the face of the note or $8\frac{1}{2}$ p. c. on its present value, the face : present value :: 17 : 16 \therefore face : discount :: 17 : 1

\therefore discount equals $\frac{1}{17}$ th of face.

But at 8 p. c. per bank year or $\frac{1}{48}$ p. c. per day

discount = $\frac{1}{4800}$ of face per day

\therefore No. of days = $\frac{1}{17} \div \frac{1}{4800} = 265 -$

\therefore the note will be payable on 21st January, 1876.

and was drawn payable on the 18th January 1876.

2. Impossible, for the defeated candidate would receive a majority of (49—41) p. c. equals 8 p. c.

3. Indeterminate. If A receives $(\frac{1}{2} + x)$ of \$4 and B, $(\frac{1}{2} - x)$ of \$4;

$$\frac{n - 5\frac{1}{2}}{n - \frac{1}{2}} (\frac{1}{2} + x) - \frac{n - 6r}{n} (\frac{1}{2} - x) = \frac{1}{20}$$

in which n equals No. of hours B worked and $\frac{(n-6)r}{n-6r}$ is the ratio of his afternoon to his forenoon efficiency.

4. $\frac{15s. 9d.}{\text{£}1} \times 1.09\frac{1}{2} \times \$4.44\frac{4}{5} \times 1.35 \times 1.50 \times 1.25$ equals $\$9.701 +$

5. $\$200 (R^2 + R + 1) = \800
 $\therefore R = \frac{1}{2}(\sqrt{13} - 1)$
 $\therefore r = \frac{1}{2}(\sqrt{13} - 3) = .302776$ equals $30.27.6 \%$

6. $100 \{ (1.04^2 - 1) \times \frac{98\frac{3}{4}}{112} \} = 7.2 -$
 $\therefore 7.2 \%$

7. Sterling cost equals $\frac{\$4.44}{\$20 \times 1.85} \times 1s. = 12s.$

$$\text{Total cost} = \frac{125}{\text{£}^1} \times 1.09\frac{5}{8} \times \$4.44\frac{4}{5} +$$

$$\$.75 = \$3.67\frac{1}{2}$$

$$\text{Net gain equals } \$4.44 - \$3.67\frac{1}{2} \text{ equals } \$.76\frac{2}{3}$$

$$\text{Profit} = 100 \times \frac{76\frac{2}{3}}{367\frac{1}{3}} \text{ equals } 20.87 \text{ p.c.}$$

8. A invests \$8 during 7 mos. and \$6 during 5 months

for B's \$12 during 9 mos. and \$9 during 3 months.

A's investment is equal to \$56 + \$30 equals \$86, for 1 month.

B's investment is equal to \$108 + \$27 equals \$135, for 1 month.

A should receive $\frac{86}{86 + 135}$ of \$663 equals \$258;

B should receive $\frac{135}{86 + 135}$ of \$663 = \$405.

9. 44 yds. in 3 sec. equals 30 miles an hour,

44 yds. in $2\frac{1}{2}$ sec. equals 43.2 miles an hour;

∴ A and B approach each other at the rate of 13.2 miles an hour.

On meeting B, the train was one-half hour (15 miles) ahead of A who had advanced one-half hour (3 miles) from where the train left him; hence from that point to where A and B

will meet equals $(\frac{6}{13.2})$ of $15 + 3$

miles equals $9\frac{9}{11}$ miles.

10. (a) Of all plane quadrilateral figures of equal perimeter the square has the greatest area,

$$\sqrt{424836} \times .520 \text{ equals } \$130.358.$$

(b) Spheres are to each other as the cubes of their radii,

Let R be the external and r the internal radius of the shell

$$R^3 - r^3 = r^3 \quad \therefore R - r = r(\sqrt[3]{2 - 1}) \text{ equals } .259921 r.$$

CREATION.

BY WILL H. GANE.

Hail, glorious morn that saw creation's dawn
 Bursting like light on eyes that had been blind,
 Filling all nature full, until behind
 The silvery surplus, like a sportive fawn,
 Danced, till it died away in shadows long.
 Hail, new born light, in thy primeval play,
 Kissing, in smiling infancy, the day,
 And tuning warblers for their sweetest song;
 Tipping the flowers with crimson hues, and gold,
 That close their eyes when thou art gone from view;
 As roses mourn the loss of twilight's dew
 So mourneth all that mortals can behold,
 As light and life twin sisters be that climb
 Where both are lost in brilliancy sublime.

Ingersoll, Ont.

EXAMINATION QUESTIONS,

AT THE RECENT EXAMINATIONS.

First Class.

ARITHMETIC AND MENSURATION.

1. On May the 1st, 1875, a banker discounts a note of \$600 at 8 per cent., and by so doing receives $8\frac{1}{2}$ per cent. on his money. Find when the note was payable.
2. In an election of a member of parliament 10 per cent. of the constituency refused to vote: of two candidates, one received 41 per cent. votes of the whole constituency, and was elected by a majority of 80; find the number of votes cast for each.
3. A and B are employed upon a job for which they are to receive \$4. A begins work in the morning half an hour before B; and at noon the amount of work he has accomplished is greater than that of B by $\frac{1}{20}$ th of the whole work to be done. They rest at noon for an hour. On resuming their labor, B works with diminished energy, while A goes on with the same efficiency as before. A stops working at 6 p.m.; and B, continuing to work alone, finishes the work at 7 p.m. If paid in proportion to the quantity of work each has done, how much do they severally receive?
4. Bought in London 2,000 yards of broadcloth at 15s. 9d. sterling a yard, and paid for it by bill of exchange. After paying 50 per cent. ad valorem duty, at what price per yard in currency must it be sold in New York to make 25 per cent. currency on the purchase, exchange on London being $9\frac{1}{2}$ per cent. and gold at a premium of 35 per cent.
5. A person invests \$200 at the end of each year, and at the end of the third year finds he is worth \$800; find the rate per cent. interest compounded.
6. A person sells \$12,000 Canadian bank stock which pays half-yearly dividends at 4 per cent. at 112, and invests in American Railway stock at 98 $\frac{3}{4}$ currency. Gold being quoted at 112 $\frac{3}{4}$, (and Canadian currency considered equal to gold) what yearly dividend should the latter stock pay in order that the person's income may be unchanged?
7. A Canadian retail dealer buys from a Toronto wholesale merchant at an advance of 85 per cent on the latter's sterling cost, the English currency, after such advance, being converted into Canadian at 20 cents to the shilling. The retail dealer pays \$4.44 for a certain article; determine the wholesale merchant's gain per cent., allowing 75 cents for insurance, freight and customs, and taking exchange at 109 $\frac{1}{2}$, brokerage $\frac{1}{8}$ per cent.
8. A and B invest a certain sum of money in a business. A invests $66\frac{2}{3}$ of what B invests. At the end of seven months A withdraws 25 per cent. of his capital, and at the end of nine months B withdraws 25 per cent. of his. The profits at the end of the year are \$663; how should this sum be divided?
9. A railway train 44 yards long passes a man (A) travelling (in the same direction) at the rate of 6 miles an hour in 3 seconds. Half an hour after leaving A it meets another traveller (B) and passes him in 2 $\frac{1}{12}$ th seconds. Determine the distance from the point where the train leaves A, at which A and B will meet.
10. (a) Fencing is worth 20 cents a yard, and the greatest amount of land that can be enclosed in rectangular form for a certain sum of money is 52 acres 173,156 yards. Find the cost of the fencing.
(b) If a spherical shell when formed into a solid sphere be equal in volume to its own cavity, find the thickness of the shell.

EDUCATION.

1. "In order to the perfection of an art, it must be founded on a corresponding

science; of nothing is this more true than Education." What sciences underlie the art of education? Show that the teacher, to be successful, must have some knowledge of them.

2. What are the conditions essential to the proper teaching of Arithmetic?
3. Describe your method of teaching
 - (a) The Fourth Reader.
 - (b) History, to an advanced class.
 - (c) English Composition.
4. "The matter of *the happiness of the young* has not yet received the attention it deserves in schemes of education." Discuss this statement.
5. Show how to organize a village school of 150 pupils; describe the accommodations, teaching staff, and appliances necessary under the Law and Regulations.
6. Of the six hours daily devoted to school work, much is commonly wasted. Show how this waste of time may be reduced to a minimum.
7. What is discipline? Mention motives which you would think it right to cultivate in a child in order to secure his obedience.

SCHOOL-LAW.

1. Enumerate and describe the different kinds of schools that may be established by Boards of Trustees.
2. Give a summary of the powers of Boards of Trustees in regard to the site and school house.
3. Specify the duties of the Public School Inspector as to
 - (a) Apportioning and paying the School Fund.
 - (b) Suspending a Teacher's Certificate.
 - (c) Attending arbitrations.
4. Distinguish the functions of County and Township Councils, respectively, in relation to Public Schools.
5. What advantages are expected to be derived from the substitution of Township for Section Boards.
6. Under what circumstances are Trustees bound to convene a meeting of the ratepayers?
7. What are the Regulations with regard to the Teacher's absenting himself from his School?

8. What protection does the law of Ontario give to parents in regard to the religious training of their children?

ENGLISH GRAMMAR AND ETYMOLOGY.

"The fault, dear Brutus, is not in our stars, But in ourselves, that we are underlings, Brutus and Cæsar: What should be in that Cæsar?"

Why should that name be sounded more than yours?

Write them together, yours is as fair a name: Sound them, it does become the mouth as well;

Weigh them, it is as heavy; conjure with them,

Brutus will start a spirit as soon as Cæsar. Now in the names of all the gods at once, Upon what meat does this our Cæsar feed, That he has grown so great? Age, thou art shamed!

Rome, thou has lost the breed of noble bloods!

When went there by an age since the great flood,

But it was famed with more than with one man?

When could they say, till now, that talked of Rome,

That her wide walks encompassed but one man.

Now it is Rome indeed and room enough, When there is in it but one only man.

O! you and I have heard our fathers say, There was a Brutus once that would have brooked

The eternal devil to keep his state in Rome As easily as a king."

Shakespeare: Julius Cæsar, Act I. sc. 2.

1. Point out all the subordinate sentences, and explain their relations.
2. Parse 'Brutus,' in l. 3; 'now,' 'in,' 'at,' and 'once,' in l. 9; 'great,' in l. 11; 'there,' and 'by,' in l. 13; 'now,' in l. 15; 'room,' and 'enough,' in l. 17; 'but,' and 'only,' in l. 18; 'fathers,' in l. 19; and 'king,' in l. 22.
3. Give the derivation of 'fault,' 'but,' 'that,' 'underling,' 'sound,' 'conjure,' 'spirit,' 'once,' 'age,' 'noble,' 'there,' 'fame,' 'than,' 'encompass,' 'indeed,' 'only,' and 'easily,' and trace the history of the meaning where you can.
4. Enumerate the meanings of 'dear,' 'fair,' 'sound,' 'become,' 'spirit,' and 'brook.'

5. 'But it was famed,' l. 14. Change the construction.
6. Scan the first line of the extract.
7. Name the other plays of Shakespeare founded on subjects taken from Roman History.
8. Some grammarians consider the article and the participle distinct parts of speech. State your own views, with reasons.

9. Discuss the grammar of these sentences:

"O thou my voice inspire,
Who touched Isaiah's hallowed lips with fire."

"Ellipsis is when one or more words are wanting to complete the sense."

"Let us take care how we sin."

"This blunder is said actually to have occurred."

"An example or two are sufficient to illustrate the general principle."

"There is more than one fashionable dealer in old furniture in the west of London who habitually sells as old furniture, a great part of which is new."

10. "Orthographical expedients are resorted to on account of the imperfections of the English alphabet, which may be characterized as deficient, redundant, and ambiguous.—*Authorized Spelling Book.*

Clearly explain the meaning of the term 'orthographical expedient,' and show in what respects the English alphabet is 'deficient, redundant and ambiguous.'

GEOGRAPHY.

1. In what different ways have mountains been formed? Give examples.
2. Describe the principal plateaux of Asia.
3. What are Cyclones? Give their characteristics.
4. How do you account for the difference of temperature in the N. and S. hemispheres?
5. Describe the physical features of Nova Scotia.
6. Enumerate the chief functions of the atmosphere.
7. Describe as fully as you can, *one* of the following: Palestine, Greece, Brazil.

8. Draw a map of Europe, marking the political divisions and their capitals; also, the chief mountain ranges and rivers.
9. Where, and how politically related, are Cyprus, Aleppo, Curacoa, Lombardy, Trinidad, Nippon, Bulgaria, Formosa, Zanzibar, Juan Fernandez?
10. Name the principal rivers of Ontario, and the counties watered by them.

ENGLISH LITERATURE.

1. Sketch the life and give an account of the literary work of Edmund Spenser, and of Francis Bacon.
2. Give a general view of the state of literature in the reign of Queen Anne, and point out the influences which gave that epoch its peculiar character.
3. Tell what you know about the letters of Junius, the Task, the Excursion, and the Rime of the Ancient Mariner.

EUCLID.

1. If two triangles have two angles of the one equal to two angles of the other each to each, and one side equal to one side, namely the sides adjacent to the equal angles in each, then shall the other sides be equal each to each.
2. From a given circle to cut off a segment, which shall contain an angle equal to a given rectilinear angle.
3. If the angle of a triangle be divided into two equal angles by a straight line which also cuts the base, the segments of the base shall have the same ratio which the other sides of the triangles have to one another.
4. The sides about the equal angles of equiangular triangles are proportionals; and those which are opposite to the equal angles are homologous sides.
5. If the similar rectilineal figures similarly described upon four straight lines be proportionals, those straight lines shall be proportionals.
6. Any rectangle is half the rectangle contained by the diameters of the squares on its adjacent sides.
7. Through a given point within a given circle, to draw a straight line such that one of the parts of it intercepted be-

tween that point and the circumference shall be double of the other.

8. If, from any point in a circular arc, perpendiculars be let fall on its bounding radii, the distance of their feet is invariable.

HISTORY.

1. Briefly narrate the circumstances which led to the union of the Canadas in 1840, and state the most important results of that measure.
2. Name the Sovereigns who were reigning in England at the close of each century, from the ninth to the eighteenth, successively.
3. Sketch the people of England under the Tudor Sovereigns.
4. Give some account of *one* of the following: The Declaration of Rights, the British Constitution, the Trial of the Seven Bishops.
5. Specify the most important reforms which have taken place in the administration of public justice in Great Britain since the time of the Normans. Give examples.
6. Sketch the *characters* of Charles I. and George III.
7. Write brief explanatory historical notes on the Abdication of Napoleon I., the War of Greek Independence, the Abolition of Slavery.
8. When did these persons live, and for what are they remarkable: Zenghis Khan, the Emperor Charles the V., Charles the Bold, Richard Cromwell?
9. Give a short account of the battle of Thermopylæ.
10. Where and for what famous are Cunaxa, Mantinea, Zama, Pydna, Chaeronea, Pharsalia?
11. Describe concisely any *one* of the Expeditions of Alexander the Great.

ENGLISH COMPOSITION.

NOTE.—Each candidate may choose any of the following subjects.

1. Napoleon the Third.
2. The Newspaper.
3. "Life is but thought."

ALGEBRA.

1. Of the three equations

$$x^2 + mx + a^2 = 0$$

$$x^2 + mx + b^2 = 0$$

$$x^2 + mx + c^2 = 0$$

the first has its roots real and equal, the second has its roots real and unequal, the third has its roots imaginary. Inquire what is the order of magnitude of the expressions, a^2 , b^2 , c^2 .

2. Extract the square root of $a + \sqrt{(a^2 - b^2 - c^2 + 2bc)}$.
3. Solve the simultaneous equations,

$$xy = \frac{36}{7} \left(\frac{1}{xy} - 1 \right)$$

$$x - y = 5.$$
4. Solve the simultaneous equations,

$$x^2 + y^2 + x + y = 42$$

$$xy = 15.$$

5. Find the roots of the equation, $x^4 + 1 = 0$, in the form, $a + b \sqrt{-1}$.
6. A, B, C, whose rates of walking are as m, n, p , set out from a place at equal intervals of time after each other, A being first and C last. After a time, they are observed to be at the same distances as when C started, but in reverse order, A being now last, and C first. Show that n is the Harmonical mean between m and p .
7. Enquire whether the number of positive integral solutions of the equation $ax + by = c$, is limited, or not, a, b , and c being positive.

Find the least number, which, when divided by 14 and 5, will leave remainders 1 and 3 respectively.

8. Investigate a method for finding the sum of an Arithmetical series, when the first term, the common difference, and the number of the terms, are known.

If a, b, c , be the $(2r-n)$ th, the m th, and the $(m+n)$ th terms of an Arithmetical progression, prove that

$$\frac{b^2}{b^2 - ac} = \frac{a + c^2}{a - c}$$

9. Two travellers P and Q, set out at noon, the former to go from A to C, the latter to go from C to A. The road passes through a village B. Owing to an accident, P, a short time after start-

ing, suffers a detention of an hour and a half, then going forwards at the same rate as before, he passed through D, a station between A and B, at the same time that Q, who also travels at a uniform rate, different from that of P, passes through E, a station between C and B; and both travellers arrive together at B at 3 o'clock p.m. The distances CE, EB, BD, are in Harmonical Progression; while DA is a fourth proportional to them. Prove that 2EB equals 3BD.

CHEMISTRY.

1. A watch spring is burned in a closed vessel of Oxygen, state—
 (1) Whether the weight of the bottle and its contents is affected by the combustion?
 (2) What is the nature of the products formed by the combustion?
 (3) Whether the whole of the oxygen originally present filling the bottle, is still present, and if so in what form?
2. Flint is said to be a compound of silic, which, although it has no acid or sour taste, is also called silicic acid; why is it so called?
3. Under what conditions is carbonic oxide converted into carbonic acid, and carbonic acid into carbonic oxide? explain the action of carbonic acid on plants in daytime and at night.
4. I pour hydrochloric acid upon some marble, iron and lime, each placed in a separate vessel with a little water. I perform a similar experiment with sulphuric acid and with nitric acid; describe the result produced in each case.
5. Give some account of the manufacture of coal gas, mentioning the useful, the useless, and the hurtful products; and the methods of removing the last.
6. How would you prove that the red substance produced by heating phosphorus in an atmosphere of carbonic acid at 240° c. is an allotropic modification of this element?
7. Describe how Sir Humphrey Davy prepared the metals potassium and sodium. How would you distinguish a piece of barium from one of strontium. The

atomic weight of potassium is 6.2, what is its specific heat?

8. A solution of potassium chlorate was reduced to chloride and then precipitated by an excess of silver nitrate; 7.275 grammes of silver chloride were obtained: what was the weight of the chlorate in the solution?
9. A body yields by analysis 43.75 per cent. of nitrogen, 6.25 per cent. of hydrogen, and 50 per cent. of oxygen: what is its formula, name and use?

BOOK-KEEPING.

1. What is the difference between Double Entry and Single Entry? "The opening or not opening of the Real accounts in the Ledger constitutes the principal difference between the two systems."—Explain.
2. Apply Single Entry book-keeping to the following transactions:

Jan. 1st.	I have on hand	Cash		
		\$1019.50,	Goods	
		\$4878.45		
" 1	Recd. from Jno. Black & Co., goods as per invoice		\$470 75	
" 1	Recd. Cash sales this day		52 87	
" 2	Paid Jas. White on ac.		80 00	
" 2	Recd. the late Mr. Gordon's Legacy		74 50	
" 2	Recd. Cash Sales this day		54 85	
" 3	Recd. from Jas. White Edition of Euclid's Elements, per invoice		300 65	
" 3	Recd. for Cash Sales this day		45 48	
" 4	Sold A. Macarthur, Goods		24 50	
" 4	Paid Jas. White, on ac.		160 00	
" 4	Paid Clerk's Salary 1/2 year ending this day		150 00	
" 4	Received for this day's shop sale		20 45	
" 5	Remitted Jno. Black & Co., on account		400 00	
" 5	Recd. from Jas. White, Books per invoice		11 20	
" 5	Shop Sales this day		61 50	
" 6	Recd. Jno. Black & Co., goods, per invoice		213 60	
" 6	Sold A. Macarthur, goods		72 40	

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" 6	Paid Jas. White on ac.	71	85
" 6	Paid half-year's rent of warehouse	200	00
" 6	Bot. a house and received for my bargain	80	00
" 6	Cash Sales this day..	31	64
" 8	Received from A. Macarthur on account..	80	00
" 8	Sold A. Macarthur goods.	10	80
" 8	Remitted Jno. Black & Co., on account..	240	00
" 8	Cash sales this day..	48	87
" 9	Lost a Bank Note, value	40	00
" 9	Took Stock and found in my possession—		
	Cash.	\$ 227	81
	Goods	5594	50
	Debts due me	27	70
			<u>\$585.01</u>

Debts due by me \$44 35

BOTANY AND AGRICULTURE.

1. Name the three classes of Flowerless Plants, and give an example of each.
2. Explain the terms Spore, Capsule, Bract, Stipule, Albumen, and Epiphyte.
3. What are Tendrils, and of what organs are they supposed to be modifications?
4. Give the characters of the Cress Family and name as many plants belonging to it as you can.
5. Name the family described below :—
" Herbs with square stems and opposite aromatic leaves, a 2-lipped (or rather irregular) corolla, stamens in pairs (2 long and 2 shorter), or else only 2 stamens, and a 4-parted ovary, in fruit making 4 akenes around the base of the single style."
6. Tell what you know about the minute structure and the chemical composition of vegetable tissue.
7. Explain the value of ashes as a manure.
8. Write notes on the cultivation of Broom Corn, Potatoes and Beans.
9. Explain the difference between the chemical constitution of fertile and that of barren soils.

ZOOLOGY.

1. What are the characters which distinguish the higher animals from the higher vegetables? Explain the nature of

the difficulties encountered in discriminating between the lower animals and the lower vegetables.

2. With what limitations must the statement that vertebrate animals are distinguished by possessing a back-bone, be understood?
3. Give the characters of the Cephalopods, the Fishes, and the Amphibia.
4. Name the class and order to which the following animals belong :—The Duck, the Owl, the Squirrel, the Rhinoceros, the Deer, the Cuttle-fish, the Ant, and the Bee.

DRAWING.

Draw a common chair standing on the level; eye of spectator 2 ft. above the seat, front of seat at an angle of 45° from spectator. Drawing to be 4 inches high. Construction and vanishing lines may be ruled and dotted.

The same subject should then be copied from the drawing, on the black board. Construction lines should not be required in this performance.

HUMAN PHYSIOLOGY.

1. Describe the larynx, and explain the production of vocal sounds.
2. Give an account of the anatomy of the nervous system, distinguish the functions of its different parts, and tell what you know about its modes of action, and its methods of performing its work.
3. Explain the uses to which the various constituents of food are put in the body.
4. Tell what you know about the structure of the tissues.

MUSIC.

1. Give the formation of the Major and Minor Diatonic Scale, and the reason for changing the Minor in ascending.
2. Describe single and compound times with the ordinary signs for each.
3. Write one bar of each kind of note in ordinary use in $\frac{3}{8}$, $\frac{2}{4}$ and $\frac{3}{4}$ time.
4. What is the signature of the key of A Flat Major—and E. Minor?
5. Give the sharps and flats in their regular order.
6. What is the use of clefs, and how many

are in general use, stating the proper position of each on the staff, and write the notes, with their names, on the treble and bass staves.

7. Write and sing a scale of two Flats Major and minor, by intervals of thirds and fourths, ascending and descending.
8. Sing at sight a melody selected for the occasion, describing the time and key in which it is written.

PHYSICS.

1. A given liquid is found to boil and distil at 200°C . at the ordinary atmospheric pressure, undergoing at the same time partial decomposition; how could you cause the liquid to boil at a lower temperature?
2. Account for the following:
 - (a) Water boils sooner in metal than in earthen vessels.
 - (b) We can place our hand in a jet of high pressure steam escaping from a boiler; but placing it in a jet from a kettle where the steam is low pressure, we should be scalded.
 - (c) A severe wetting may cause death.
3. You are required to test the relative conducting powers for heat of two metal bars: how would you proceed? Give a few of the best conductors and a few of the worst, and state any practical applications you could make of this knowledge.
4. Describe the method of mixtures for determining the specific heat of substances. 160 grains of mercury at 300°C . are mixed with 20 grains of ice at 0° , and when the mixture is at 0° , the ice is just melted: the latent heat of ice being taken at 80, determine the specific heat of mercury.
5. A lamp and a taper are at a distance of 4.15 m. m. from each other, and it is known that their illuminating powers are as 6 to 1: at what distance from the lamp, in the straight line joining the flames, must a screen be placed that it may be equally illuminated by both?
6. A candle flame is placed at a distance of 3 feet from a concave mirror formed of a portion of a sphere the diameter of which is 3 feet, determine

the nature and position of the image of the candle flame produced by the mirror.

7. Explain the principle of the Kaleidoscope. If there are two plane mirrors inclined at an angle of an equilateral triangle, show by a sketch how many images of a point may be seen, and how they will be situated.
8. I rub a glass rod with silk and bring it near an ordinary gold-leaf electroscope—the leaves diverge, and on the removal of the rod collapse again; what kind of electricity causes them to diverge, and why do they collapse? While the leaves are in a state of divergency, I touch the knob of the instrument with my hand and the leaves instantly collapse; I now withdraw my hand, and afterwards the glass rod, and the leaves diverge again: explain the various steps of the process here indicated.
9. Describe a cell of Grove's battery and explain the change which takes place in the cell when the poles are joined by a copper wire. Compare Grove's, Daniell's and Buesen's batteries, pointing out the advantages and disadvantages of each.
10. What is an electro-magnet, and in what important points does it differ from an ordinary magnet?

NATURAL PHILOSOPHY.

1. A particle at A, a point in the straight line FAE, is at rest under the influence of three forces, namely, a force of one lb. acting in the direction AC, which makes the angle FAC equal to one-third of a right angle; a force of m lbs., in the direction AB, which is at right angles to AC, and makes BAE two-thirds of a right angle; and a force of n lbs., in the direction AD, making the angle DAE one-half of a right angle. Find the relation between m and n .
2. Let AB be a uniform heavy beam, resting with one end B against a wall, and the other end A on the ground. If the reaction of the wall on the beam, and the friction at B, be together equal

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- to the reaction of the ground on the beam at A, compare the distance of A from the wall with the height of B above the ground.
- Let ABC be a uniform straight rod, in a horizontal position; AB being $6\frac{3}{8}$ feet; and BC, $3\frac{3}{8}$ feet. In DB, a straight line drawn at right angles to AC in a vertical plane, take the point D above the rod, and let DB be $4\frac{1}{2}$ feet. Suppose the rod to be acted on by two forces besides its own weight, namely, a force of 6 lbs. acting at A in the direction AD, and one of 8 lbs. acting at C in the direction CD. If the rod weigh 10 lbs., enquire whether it be in equilibrium. If it be not in equilibrium, specify any force or forces, which, in conjunction with those acting on it, will produce equilibrium. (*It may be assumed that ADC is a right angle.*)
 - From a point A on the earth's surface a particle P is projected upwards in the vertical line ABC, with an initial velocity of 128 feet in the second; sometime afterwards, when P has reached the point B, a particle Q begins to fall from C, a point whose height above A is 304 feet; and in one second more, the distance between the two particles is equal to one-half of BC. Find the time P took to reach B.
 - A and B are two points on a horizontal plane. From A a particle is projected in the direction AC with a velocity of $300\sqrt{2}$ feet in the second, C being a point in the vertical plane passing through AB; and at the same instant as particle is projected from B in the direction BC, with such velocity, that, after 10 seconds the particles came into collision. If CAB be two-thirds of a right angle, and CBA be one-half of a right angle, find the distance between A and B.
 - Two closed hollow cylinders, P and Q, contain the same quantity of air; P is 4 feet in height, and has the radius of its base equal to $\frac{1}{4}$ of a foot; while Q is 3 feet in height, and has the radius of its base equal to $\frac{1}{2}$ of a foot. Compare the entire pressure of the air on the interior surface of P, with the entire pressure on the interior surface of Q.
 - Three cubical bodies, A, B, C, each one cubic foot in volume, are connected together; one of the faces of A exactly coinciding with F, a face of B; and one of the faces of C, exactly coinciding with F, a face of B; and one of the faces of C, exactly coinciding with the face of B opposite F. When the compound body is immersed in water, with the line that passes through the centres of the constituent cubes vertical, it is found that exactly one-half of A is above water. If the sp. gr. of C exceed that of A by $\frac{1}{2}$, the sp. gr. of water being 1, find the depth of the centre of gravity of the united mass, below the surface of the water.
 - Let ABC be a horizontal line; and BE and BD represent two smooth inclined planes lying towards opposite sides, the angle ABE being two-thirds of a right angle, and the angle CBD being one-third of a right angle. Prove, that, if a uniform heavy rod FG, lying on the planes, the extremity F on BD, and G on BE, be in equilibrium, BF is half the length of the rod.

SELECTIONS.

CORPORAL PUNISHMENT IN SCHOOLS.

The people who hold and express opinions upon this much vexed question are quite accurately divided into three classes, viz:

- 1st. Those who consider it entirely wrong.

2. Those who resort to it as one means of correcting evils.
 3. Those who make it the only punishment, and resort to it on all occasions.
- By "corporal punishment" I mean now *whipping*. Other methods of corporal pun-

ishment, far more reprehensible than this will form the subject of a future article. The third class of persons above referred to was the most numerous fifty years ago, while the first class had, at that time but here and there an exponent of its principles either among parents or teachers. At present the ratio is an inverse one.

We will next consider the second division. "Those who resort to it as one means of correcting evils." Many of the advocates of this doctrine talk as if they were bound to excuse themselves to the first class. They say, "We know we ought to do without it, but we cannot," thus intrenching themselves behind the weak defence of expediency, so that their opponents certainly seem to have the right to consider them cowards.

"The best teachers strive most earnestly to banish it from the school-room, and succeed the best in doing so," is a perfectly true statement, only let the advocates of its use append to this dictum this other no less true one; "We deplore the state of society that makes such a means of discipline necessary, but while it exists, we must suppress evil by the most efficient means at our command, and to us whipping seems the appointed means."

So far from being a "great evil," punishment may not be an evil at all—much less need it be "brutal," as it is so often stigmatized, if properly managed. If punishment, however severe, be administered only when deserved, only when it is the best thing to be done, only when the unruly member is infecting the whole body and the necessity is forced upon us to save the rest, "so as by fire" the justice and wisdom of it cannot admit of a doubt. The careful surgeon will decline to cut off one of your limbs if he can save it to usefulness by any other means, and he will be very glad to be able to state, that in the whole course of his practice, he has not been obliged to resort once to this means of removing disease, because of his skill in using milder measures; but he will nowhere state that he thinks it *wrong* to cut off a diseased member, that is, gradually, but surely affecting the whole body; much less will he utter such a confession of weakness as this. "I sent him from the hospital because I would not use such harsh means for his recovery, and now he is turned out with no chance for

recovery, because I had not the nerve to do my whole duty."

There are many cases which come up in a school-room where a perfectly fearless deportment on the part of the teacher, and a determination that instantaneous obedience shall be obtained, are the only means of preventing anarchy at the time, and imperfect obedience in the future. If the teacher yields in these critical moments there is an end to his influence, morally, in that school. Now if his power is limited in any way, if the belligerent thinks there is a point beyond which the teacher cannot go, will not go, he will, most surely go to that point for the sake of victory. The question is usually treated as it has so far been treated in this article, as if it began in the school-room; while in reality it begins far back of the school age of the child—in the cradle even. Its true form is;

"Shall corporal punishment be abolished at home."

When parents succeed in training their children to prompt and unquestioning obedience to the God-instituted authority of a parent, then, and not till then, can the teacher hope, in his delegated authority to attain to the same success. But parents cannot hope to reach that point as they manage the matter at present, in too many, dare I say in nearly all families? Some people never whip their children, I am told, but then my informant forgets that some people never expect their children to obey them except where it is perfectly agreeable for them to do so. Let us look for a moment at punishment as it is administered in many families—not those of the "lower classes," not among the "godless" ones—but among those who maintain a good standing in church and society.

So many children receive punishment because the parent who inflicts it is angry at something, and vents his anger, as is the custom of the noblest animals, man, upon the weakest object. So many are punished because their wishes, often reasonable enough in themselves, conflict with those of the stronger party. So many are punished because their deeds have brought some evil results, and not because they were evil in themselves. These children at least, with their sense of right and wrong sadly perverted and their conscience warped cannot "discern" good from evil, and their only

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aim becomes to outwit their tyrants. They learn to think it no harm to do wrong if not detected in it.

How often are witnessed scenes like the following: "Johnny don't roll that marble on the table." Presently, Johnny not having heeded the mandate, "Don't," (in a little higher key), "don't roll that marble, you will knock down the vase." Johnny does not yet heed, and after the marble has made several safe journeys across the table, at last in an unlucky moment the vase tumbles down and is broken. Johnny is forthwith seized and violently punished, not for the *disobedience* as he clearly observes, but for its results.

"Mary, so much noise will wake the baby" (at first spoken in a mild enough tone) is unheeded. "Mary," (a little more sharply) "put up those playthings; they will waken baby?" Mary calmly proceeds with the railway train she is making with her building blocks, laughing in uproarious glee, when over they tumble with an extraordinary crash. Finally baby is wakened and Mary is punished because her mother is inconvenienced. Does not the child soon learn to understand that *revenge* is the motive?

Now, if the small glimmering of reason with which the little ones are endowed at the very first stage of their existence, were appealed to in all things, punishments included, they would, sooner than we are apt to think, be in a condition to be governed by it entirely. A child who thoroughly respects his parents will not always require a reason to be given him for any action of the parent, but "father says so" will be

all potent with him, because father has never required anything of him that did not prove to be right.

Instant and unquestioning obedience to the voice of authority at home; would be the best preparation for the exercise of the same at school.

The classes of disobedience to which children are addicted at school, differ essentially from those which assail them at home. The whole nature of the little one rebels at the requirements to maintain certain attitudes, and attend to certain forms. He wants to talk to his neighbor, and thinks it hard that he must not. His new ball or the bag of marbles will not stay in his pocket. The flies sprawling upon his desk tempt his nimble fingers sorely. The teacher does make such a funny face when he talks that the caricature "draws itself" upon the slate, and (unofficially) we do not blame the little fellow for having his own fun out of it. So it follows, that unless he has been carefully instructed in the principles of true obedience, he surely comes to grief. If he has been rightly taught at home, the statement made in the teacher's ordinary tone, without the inflection of command, "Jamie you must not do that," will be all sufficient. But who can blame the ordinary child, coming from the ordinary home, for experimenting upon the teacher? I fear poor Jamie will need many lessons in moral philosophy, receive more applications of Solomon's much abused rule, before he learns that he means what he says if his parents do not.—*Emma Wygant, Kingston, N. Y., in New York State Educational Journal.*

EVOLUTION OF GENIUS.

BY J. R. BUCHANAN.

(From *Home and School.*)

Our problem then is how to make men think for themselves—think boldly, clearly, grandly, and beneficially; think for their own welfare and for the welfare of mankind; think the bright thoughts that have never been thought before; which glitter as new

coin from the treasury of heaven; think the thoughts which the age demands, by which great mysteries are illuminated, and the problems of science, government, and sociology resolved.

If you ask how this is to be done, do not

smile if I say the way to do it is—to do it; for there is no mystery or complication about it. The way to learn to walk is to begin walking, with help at hand. The way to acquire originality is to begin being original, and continue until originality became a second nature. There is no difficulty in starting children or youth in the path of originality. They should never start their education in any other way, unless we wish them parrots.

Instead of making the child a passive recipient of knowledge, he should be made, as far as possible to find out everything for himself. Teachers of natural science have found out the value of this method in their department, and I think Professor Agassiz rather carried it to excess. He would put a young man, without books, alone for a whole week with a fish, that he might find out everything about it for himself. I have been accustomed to deny the indispensable necessity of books, but still I have a better opinion of their availability than Agassiz expressed, and I do not agree with him at all in dispensing with the teacher.

This method of teaching science has not, so far as I know, been adopted by any body except Mr. Ellis, of London, in teaching political economy; and his results were so remarkable in making boys superior political economists that I can refer proudly to his demonstration.

The principle of the method is that the pupil shall do for himself and depend upon himself in every case in which it is possible. I would have him construct his own arithmetic and his own geometry as far as possible, and with as little help as possible, and the function of the teacher should be to stimulate him by asking questions, and to help him on in those questions which he could answer, or show him how to find an answer when he is at a loss.

Thus I would begin in arithmetic, when he has learned to count, by counting in concert, looking at the numbers all the while, and learning to judge of their appearance; and my first step would be to ask him to add together 2's with the balls before him and determine the product. Two and two more make four, and two more make six, etc. Then he should add by 3's, by 4's, by 5's, and so on, as high as necessary, going over it every day, until he could add the largest sums he could recollect with

facility, always determining the matter for himself. Then he should, by a trifling variation, commence multiplying; and after growing familiar with multiplication, having worked it all out for himself, I would ask him to make a correct multiplication-table, never helping him except to correct his mistakes, and keep him repeating until he can multiply together any two numbers not exceeding a thousand.

In like manner I would lead him through geometry, teaching him by suggestive questions to find out every demonstration for himself as far as possible. This method is peculiarly applicable in the study of physics or natural philosophy. As a specimen of the method I would show how to present the steam-engine.

I would not begin by describing it, or by asking him to read a description which he could not understand. I would make him go to work and invent a steam-engine himself, under the stimulus of question; thus: Would it not be a lucky thing, my son, if we could find something more powerful than horses and cheaper also, to do all our hard work? Yes. Do you know anything in nature that is more powerful than horses that could be used? One suggests thunder, another the cataract of Niagara, another a blast of gunpowder, another a swift river. I reply that lightning has been used, but it was found too expensive when made artificially. Gunpowder has been used, but could we afford to use that? Do you know what a pound of gunpowder costs? We agree then that gunpowder is too expensive. We agree also that a cataract of water is a very cheap power, and they have heard of water-mills. But I reply we want to use a power all over the country where there is no strong current of water. What can we use?

If they have never heard of the power of steam, I would perform a little experiment, putting a small kettle on a hot fire, with some water in it and a tight lid. The water whizzes through the spout in steam; I cork the spout firmly, and soon the steam blows off the top and makes a sensation. Then I catechise them till they explain that the fire turned the water into steam, and the steam displayed its expansive powers. I try it again, put a heavy weight on the lid, and have it blown off. Then I say, Measure the lid and tell me how much

force or pressure there must have been on each square inch of that lid to throw off this ten-pound weight. We make other experiments. A metallic flask of water has a ten-pound weight on its stopper, and we heat it by a gaslight until the weight is blown off. But in all these cases I make the boys suggest the form of experiment themselves.

I then ask them how we can conduct that steam into some kind of machine and make it work. They soon suggest a cylinder and a piston, and the steam to be let in under the piston so as to do lifting work. But if you lift the handle of a pump with your piston, I say, how will you pull it down? They will then propose to close both ends of the cylinder and let in the steam through a pipe at each end alternately. Next they propose to fix a stop-cock on each tube and let in the steam on each side successively. If we have not an apparatus to show it, we draw it on a blackboard as we progress. We have now a cylinder and piston, with scape-valves, and two steam-pipes to supply them, and one boy at each end to let on and let off the steam. They go through the working

of it for a while, until they are familiar with the working and the handling of the valves. I ask them if they could not manage to save the trouble of two boys working the valves by being as smart as the boy who first found a substitute for his own work by making the engine work its own valves. After many suggestions we agree on a plan for valve rods to be worked by the piston. Then we discover that the engine is rather an irregular rattle-trap, and after a little catechising they propose a fly-wheel to make it steady.

After a full course of such practice they will become independent of the teacher, and will learn to do their own catechising. The teacher need only give them the problem, and leave them to catechise themselves into the solution as they had been doing before.

In such education the reasoning and inventive powers have their best possible training, developing an inventive fertility which would advance the arts in our country more in ten years than they usually advance in a century.

EDUCATIONAL INTELLIGENCE.

CANADA.

--Notice is given that the Ontario Normal Schools at Toronto and Ottawa will open on Sept. 15th. The session will continue until the 15th July, 1876, with the usual vacations at Christmas and Easter.

--Dr. Wilson has been re-elected representative of the High School Masters; and David Mills, M.P., for Bothwell, to represent the Public School Inspectors, in the place of Hon. S. C. Wood, who lately resigned the position. The number of ballots for Mr. Wilson was 57 out of a possible total of 225, and for Mr. Mills 39 out of 76, one Inspector having voted for Mr. H. Macdonald.

--The Perth *Courier* gives an elaborate report of the recent Teachers' examination for the County of Lanark, held in that town, which is described as the largest, most interesting, and most successful examination

of candidates for teachers' certificates ever held in the county. As there had not been any examination since July 1874, it was necessary for all teachers whose certificates expired at either December, 1874, or July of this year, to present themselves for re-examination, and these, together with the annually increasing number of new applicants, swelled the total to 129, viz: For 3rd Class, 123; for 2nd, 5; and for 1st, one. Second Class Certificates were granted to all who applied, and 87 out of 123 succeeded in carrying away Thirds.

--Mr. Thomas Byrne, the school teacher and Postmaster at Uptergrove, died on the 6th August. The announcement of his death will be read with regret by many, for he made friends of all with whom he came in contact. He was born at Shillelah, in the romantic county of Wicklow, Ireland, and at the time of his decease he was sixty-four years of age. At a meeting of the

ratepayers of School Section 4, held on the 10th Aug., the Trustees were authorized to erect a headstone to the memory of the late Thomas Byrne, at the expense of the section. This is a fitting tribute to the memory of one who had conducted the school, in a way that gave general satisfaction, during fifteen years, and whose connection with the section was than severed by the hand of death. It was also resolved to have the school house put in thorough repair. Another teacher, well recommended has been engaged—duties to commence in January—at a salary of \$500, and a free house.—*Ouillia Packet.*

—A very successful examination of schools, for the village of Wyoming and township of Plympton, was held at Wyoming on Wednesday, July 14th. Eleven sections sent teams, aggregating 62 pupils. The examination was conducted by Geo. W. Ross, Esq., Public School Inspector for East Lambton, assisted by John Brebner, Esq., Inspector for West Lambton, and Messrs. Barnes, Shepherd, Mitchell, Neelands, McRobbie, Fydell, Donald, Dale, Robertson, and others. The total number of marks attainable was 550 for the fourth and fifth classes, and 400 for the third. Candidates obtaining over fifty per cent. being entitled to a prize according to their standing. The marks were apportioned as follows: Grammar, 100; Geography, 100; Arithmetic, 100; Dictation, 200; Reading, 50. The total number of marks attainable by the third class was 409, apportioned as follows: Grammar, 60; Geography, 29; Arithmetic, 70; Dictation 200; Reading 50. A dinner, in pic-nic style, had been arranged for, and a very pleasant time was spent by pupils and friends, who rallied to the number of over 100.

—The educational Report for the Province of Quebec for the year 1872-73, and part of 1874, has only now come to hand. It shows progress, but not so much as could be desired. The number of schools in 1858 was 3,053; in 1868, 2,968; and in 1873, 3,381. The increase of 1873, over the preceding year was 94 educational establishments, 2,579 scholars, and \$86,677 in contributions. In 1855, only 55,033 pupils were being taught writing; in 1873 the number had risen to 127,159. In other branches the advance had been in about the same proportion. In 1856 the

total School income from all sources, was \$406,765; in 1873, \$1,171,856. In 1857, the pupils attending the three Normal Schools numbered 70. In 1875 they had risen to 254. The salaries of teachers are small. The large proportion of those teachers are females. While there are 999 males, there were 107 who received less than \$100; 351 who received more than \$100, but less than \$200; 442 who received more than \$200, but less than \$400; and 99 who received more than \$400. The highest given was \$2,000. Of the lady teachers 1,650 received less than \$100; 2,142 more than \$100, but less than \$200; 213 from \$200 to \$400; and 12 upwards of \$400. The lowest salary to any female teacher was \$20—in addition, let us hope, to board. The very highest salary, of any lady teacher was \$500.—*Globe.*

—A meeting of the teachers attending the examination in St. Thomas was held in the High School on Thursday evening July 22; Mr. Thomas Leitch presided. Messrs. J. Miller, S. McColl, and others delivered brief addresses on the importance to all concerned of maintaining in a thoroughly efficient working a Teachers' Association, and of obtaining the services of Professor Goldwin Smith to conduct Teachers' Institutes from time to time. Resolutions were then passed adopting the title "The Elgin Teachers' Association," and electing the following staff of officers, councillors, and honorary members:—Thos. Leitch, of St. Thomas High School, President; Mr. Osborne, of Fingal, 1st Vice-President; C. D. Burdick, 2nd Vice-President; S. Woodworth, 3rd Vice-President; W. Graham, Recording Secretary; A. McCrimmon, Cor. Secretary; S. Williams, Treasurer; Councillors—Messrs. J. Miller, Head Master of St. Thomas High School; E. M. Begg, of Vienna High School; — Noble, of Aylmer High School; S. McColl, A. F. Butler, Inspector; C. W. Stafford and Geo. Duncan. Honorary members—Messrs. C. Macdougall, M.P., A. McLachin, A. Blue, E. Sheppard, Rev. George Cuthbertson, and Dr. Schultz. It was also resolved that the Corresponding Secretary communicate with Prof. Smith, in order to obtain his services at an early date, and that Mr. Miller be delegated to attend the ensuing Provincial Association at Toronto in behalf of the teachers of Elgin county.

—The annual meeting of the Ontario Teachers' Association was held in the Theatre of the Normal School, commencing on Tuesday, August 10th. There were about fifty inspectors and teachers present. Prof. Golwin Smith took the chair. Rev. Mr. Grant opened the proceeding with reading and prayer. Mr. McMurchy stated the arrangements made with the railways. The treasurer reported a balance in hand of \$94.91. Messrs. Hughes, Dearness and Dickenson were appointed auditors. Mr. Macallum read his paper on "Compulsory Education," which was afterwards discussed by Messrs. Magann, Boyle, McIntosh, Glashan, Hughes, Platt and Johnston. In the evening Prof. Smith delivered his annual address, and Rev. Dr. Ryerson made a few remarks to the assembled teachers, criticizing many of Mr. Smith's statements. The Association met the second day at 2 p.m. The President made some explanations in regard to the remarks of Dr. Ryerson on the previous evening. A vote of thanks was tendered to Prof. Smith for his address. Mr. J. Thorburn, M.A., read a paper on "Certificates to Public School teachers, how and by whom granted?" Dr. Crowle moved "That this Convention deems it desirable that in order to secure a third-class certificate a candidate should obtain $33\frac{1}{2}$ per cent. of the marks for each paper, and 50 per cent. of the aggregate number." He alleged that it was much more difficult for a pupil to obtain entrance into a High School than for his teacher to obtain a certificate. Mr. W. McIntosh moved in amendment, "That in the opinion of this Association the Council of Public Instruction should issue a regulation definitely giving Local Boards of Examiners the power of exacting a minimum of not less than 50 per cent. of the aggregate number of marks in the subjects of arithmetic and grammar." The amendment was carried, and a vote of thanks was tendered to Mr. Thorburn, on motion of Dr. Kelly. Mr. D. J. McKinnon introduced the subject of "School Taxation" in a speech, as he had not been able to prepare a paper on the subject. A vote of thanks was tendered to him. Mr. McKinnon moved, "That the Municipal Council of each township should be required to levy upon all the rateable property of the municipality an equal rate from which to pay to the local trustees of each school

section a sum equal to two-thirds of the average salaries of teachers in such section during the the year then last past." Carried. Mr. McIntosh moved, "That in the opinion of this Association the Public School Fund, Legislative and municipal, should be distributed among school sections as follows:—Half according to average attendance, and half in proportion to the rates of school taxation in the various sections." Mr. Little moved in amendment, "That the Legislative and municipal grants be apportioned on the percentage of the average attendance compared with the number of enrolled pupils." The amendment was lost, and the resolution carried. At the evening Session Principal Cavan gave an able address, subject, "The Teacher's love of his profession." A vote of thanks was passed to him, and a few remarks were made by Archbishop Lynch. The Public School Section met in the morning. Mr. R. McQueen, in the absence of the Chairman, presided. Mr. Dickenson acted as secretary. A discussion took place on the programme for Public Schools, in which Messrs. Campbell, Irwin, Dickenson, Beaty, Johnson, Boyle, Moran, Kemine, Coates, and McLean took part. Mr. Campbell moved, seconded by Mr. Coates, "That in the opinion of this branch of the Association, the Council of Public Instruction would act in the interests of education by curtailing the subjects taught in the Public Schools, and also improving and modifying the limit table so that it may become practicable to in classes grade schools in cities, towns, and rural districts." Mr. Dickenson moved in amendment, seconded by Mr. Boyle, "That we think the Council of Public Instruction should prescribe the subjects of study and the amount of work to be done in each, and that a little more discretion should be allowed teachers, especially in rural schools, as regards the subjects to be taken up; also, in the amount of time to be devoted to each subject in each session according to the varying circumstances of the schools." Mr. S. McAllister moved in amendment to the amendment, seconded by Mr. Moran, "That the subjects of Chemistry and Christian Morals be left out of the Fourth-class programme, and that the time be given to book-keeping, grammar, and spelling; that the subjects of Civil government and Agriculture be left out of the Fifth-class

programme, and that the time be given to spelling, composition, and grammar." These motions were severally voted down, and the following one carried:—Moved by Mr. J. Irwin, seconded by Mr. Beaty, "That Messrs. McAllister, Campbell, Dickenson, Johnson, Moran, Boyle, and Irwin be a committee to consider the programme, and to report needed changes at to-morrow morning's session." The meeting then adjourned. The association met again, Aug. 12th. A motion was made to have the next annual meeting at Ottawa, but Toronto was selected by a vote of 35 to 25. Dr. Ryerson was elected President; A. McMurchy, Secretary; Mr. Kirkland, Cor. Secretary, and Mr. McAllister, Treasurer. Messrs. McQueen, Hughes, and Seath were made vice-presidents. Mr. Dickenson read a paper on the relation between High and Public Schools, and a brief discussion followed. Prof. Smith and Mr. Buchan were the principal speakers. Reports of various committees were received and votes of thanks were tendered to the railway companies, the chief Superintendent and the reporters. A complimentary resolution was passed to the retiring President, Prof. Smith, also several votes of thanks and the Association adjourned.

—On Saturday the 23rd ult., the Warwick and Brocke Teachers' Association was held in the School House, Watford. The President Mr. John Tullock in the chair. The attendance was very small, only 17 teachers putting in an appearance. The minutes of previous meeting were read and confirmed, after which Mr. W. G. Shaw showed his method of teaching local geography which was highly approved of. The meeting then adjourned until after dinner. At the afternoon session, Miss Carroll showed her method of conducting a second reading class which was generally approved of. Mr. Bodaly's mode of teaching general geography was endorsed by the Association. The following officers were elected for the coming year: Pres. G. W. Ross, M. P.; 1st Vice-Pres., John Tulloch; 2nd Vice-Pres., Miss Carroll; Sec. and Treas., Robt. Tanner; Librarian, Miss Lamb.

The business report of last year was read by the Secretary and approved of. It was then moved, seconded and carried, that the next meeting of the association be held in the Watford School house on the second Saturday in November.—*Guide.*

CHOICE MISCELLANY.

—The family circle is the best place for educating: the mother's book is the best school-book.

—Modern education too often covers the fingers with rings, and at the same time cuts the sinews at the wrists.

—The German scholars have been recasting the standard estimates of the world's population, and conclude that the present sum total is 1,391,030,000.

—It has been widely noticed how a recent eloquent oration of John Bright's abounds in monosyllables, and suggested that the schools should specially teach this element.

—There is a sacredness in individuality of character. Each one born into this world is a fresh, new soul, intended by its Maker to develop itself in a new, fresh way.

—Robertson.

—A negro woman thus describes her child's education: "How I teach him! I jis mek him tek de book an' set down on de flo, an' den I say, 'Jonus, yo tek yo eye from dat book, much less leggo him, an' I skins yo alive!'"

—Life is a school, and it is only through its mishaps and disappointments that we learn human nature, ourselves, and our fellow men. It is only through repeated falls that the child learns to stand alone and walk.—Dr. Arnold.

—The teacher should cherish for his pupils a sentiment of profound respect, for the moral sublimity of the child is often greater than that of the man. A spirit at once childlike, patient, watchful, vigorous, and devout, is the great desideratum and the great want of our teachers.

—The best teacher is not one who helps his pupils, but one who helps them help themselves. The mind can be filled from without, but it can only *grow* from within. That only is effective teaching which suggests, prompts, inspires.—Penn. Sch. Jour.

—The variety of modern education encourages a scattered dilettantism. It is only in professional life that the energies of young men are powerfully concentrated. There is a steadying effect in thorough professional education which school education does not supply. Our boys receive praise and prizes for doing many things imperfectly, and it is not their fault if they remain ignorant of what perfection really is, and of the immensity of labor which it costs.—Philip Gilbert Hamerton.

—That only can be called mental food which becomes assimilated with the mind, and thus constitutes part of the mind itself. The food received into the stomach is not nourishing unless its constituent parts are changed into nerve and muscle and bone. If not so changed, then it is not food in the true sense of the term. Nor do the words and definitions constitute any part of true education unless changed into thought and its explanation in the deeper social change.—Supt. W. T. Harris.

EXERCISES IN PRONUNCIATION.—A courier from St. Louis, an Italian with italics, began an address or recitative as to the mischievous national finances. His dolorous progress was demonstrated by a demonstration, and the preface to his sacerdotal profile gave his opponents an irreparable wound. He was deaf and isolated, and the envelope on the furniture at the depot was a covert for leisure and reticence from the first grasp of the dancing legislature of France. The dilation of the chasm or trough made the servile satyr and virile optimist vehemently panegyrize the lenient God. He was an aspirant after the vagaries of the exorcists, and an inexorable coadjutor of the irrefragable yet exquisite farrago, on the subsidence of the despicable finale, and the recognition of the recognizance.

—Of all the intellectual gifts bestowed on man, the most intoxicating is readiness—the power of calling all the resources of the mind into simultaneous action at a moment's notice. Nothing strikes the unready

as so miraculous as this promptitude in others: nothing impresses him with so dull and envious a sense of contrast in his own person. To want readiness is to be laid on the shelf, to creep where others fly, to fall into permanent discouragement. To be ready is to have the mind's intellectual property put out at fifty to a hundred per cent: to be unready at the moment of trial is to be dimly conscious of faculties tied up somewhere in a napkin. What an engine—we are speaking of "the commerce of mankind"—is a memory ready with its stores at the first question, words that come at your call, thoughts that follow in unbroken sequence, reason quick at retort!—Chr. Union.

LEARNING TO SPEAK.—A correspondent of *The Nation* gives his most excellent plan of educating boys in thinking and speaking on their legs, instead of drilling in the spread-eagle style of oratory which is commonly taught, with little good result. He says:—"The boys are all assembled in a proper place, when several of them, who have been designated the week before, stand up and expound in turn some subject on which they have thought and studied. They are required to make the argument or explanation logically, to express themselves in good language and clearly, and are never allowed to talk on any subject beyond their comprehension. It is all done in a conversational way, soberly and carefully. For instance, to-day their subjects are the difference between the polar and equatorial diameters of the earth, the construction and use of the thermometer, the construction and use of the barometer, and how it differs from the thermometer; and some of the more advanced boys talk on more speculative subjects."

A LITTLE HERO.—That was a sad story told by the newspapers last winter. Two little children, a boy and a girl, wandered from home, were caught in a snow-storm and lost their way. The distracted parents, accompanied by kind neighbors, go out to search for them. After a long, weary search the two children were found lying side by side, on a snowy slope, their slender forms rigid and their young faces fixed by the frost in the repose of death. The girl was wrapped in the boy's coat, but the pitiless wind pierced her breast as well as the generous heart of the little hero who strove to shield her from its fury. The winter's

cold took many a life, but the noblest soul of them all was that of this boy. The coat folded carefully about the girl he loved so tenderly, and his own breast bare to the bitter blast told of the courage, the generosity, the self-sacrifice, the loving solicitude of the heroic youth.—(From May "Home and School" Louisville, Ky.

NEVER TO OLD TO LEARN.—Socrates, at an extreme age, learned to play on musical instruments.

Cato, at eighty years of age, thought proper to learn the Greek language.

Plutarch, when between seventy and eighty, commenced the study of Latin.

Boccaccio was thirty five years of age when he commenced the study of polite literature; yet he became one of the three great masters of the Tuscan dialect, Dante and Petrarch being the other two.

Sir Henry Spellman neglected the sciences in his youth, but commenced the study of them when he was between fifty and sixty years of age. After this time he became a most learned antiquarian and lawyer.

Colber, the famous French minister, at sixty years of age returned to his Latin and law studies.

Ludovico, at the age of 115, wrote the memoirs of his own times. A singular exertion, noticed by Voltaire, who was himself one of the most remarkable instances of the progress of the age in new studies.

Ogilby, the translator of Homer and Virgil, was unacquainted with Latin and Greek till he was past the age of fifty.

Franklin did not fully commence his philosophical pursuits till he had reached his fiftieth year.

Accorso, a great lawyer, being asked why he began the study of law so late, answered that indeed he began it late, but he should therefore master it the sooner.

Dryden, in his sixty-eighth year commenced the translation of the *Iliad*: and his most pleasing productions were written in his old age.

PHYSICAL CULTURE.—In the learned professions, a good constitution is doubly indispensable. There is nothing else which so taxes, tries and exhausts the life-force as mental effort. Instead of being pale, delicate, feeble and sickly, the thinker, whether in the law-office, the pulpit, the editorial room, the counting-room, or the hall of legislation, needs to be stalwart and hardy.

He should have tougher thews, and stronger sinews and a more vigorous pulse than the man who holds the plough or shoves the foreplane. It has been said, with not a little truth, that a small body has comparatively small chances of success; "people will yield that to mere physical largeness which they will refuse to, or at least dispute with, littleness of body and self distrust." No matter how true the rifle or the aim, a light ball will not carry far; heavy men like heavy bullets, do the most execution, and win the battle at long range. See Palmerston at fourscore still handling the helm of the empire with the firm grasp of thirty! Look at Lord Brougham! That the king never dies, and that Brougham never sleeps, used to be the two leading features of English constitutional doctrine. One would think from his toughness, when almost ninety, that he was a son of old McDonald of Keppoch, the Scotch chieftain of whom it is told that, camping out one night with a portion of his clan, he went and kicked the snow from under his son's head—which the youth had piled together so as to form a sort of pillow—declaring that "the young rascal, by his degenerate effeminacy, would bring disgrace on the clan." The life of Brougham was a perpetual series of mental feats and triumphs over the frail *physique* of humanity. It is told that he once worked six days on a stretch, one hundred and forty-four hours, without sleep; than ran down from London into the country, slept from Saturday night till Monday morning, and returned and buckled to his work again, as fresh and elastic as ever. Is it not an immense advantage to have such a working constitution as this?—to be able, if a professional man, to endure for a whole week a perpetual strain on your brain, and amid confinement and close air, with heaps of confused papers, law books, and books of reference to get through, to go on daily and nightly extracting therefrom liquid and transparent results, and find yourself, when you rise from your task, as elastic as a rubber ball? Is not a lawyer doubly sure of success who, after a fortnight's laborious attention to a suit, can rise up to address a jury with all his faculties as vigorous and eager for the contest as on the first day of the term, while his wilted and exhausted opponent has hardly more vitality than a bag of sand?—*Prof. Mathews.*

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FEMALE EDUCATION.—A writer in *Blackwood's* says: The subject of female education has brought out with special force of acclamation the superiority of the present day over the past in the thoroughness of instruction imparted. The slipshod teaching of girls in former days, its miserable pretence and hollowness, is an inexhaustible theme; and, indeed there is not much to be said for it. Compare the school-books of the past with any paper on teaching addressed to young women of the present—compare what they are expected to know, the subjects they are to be interested in, the intricacies of grammar and construction, which are to be at their fingers ends, with the ignorance or accidental picking up of knowledge which was once the woman's main chance of acquirement, and our expectations are not unreasonably raised. The pupils of the new school ought to be more compassionate than their predecessors; they ought to talk better, more correctly, more elegantly; and, as their subjects of interest become more profound, as science and art open their stores to them, their vocabulary should meet the need at once more accurate, more copious, more felicitous. We put it to our world of readers—is it so? Do our young ladies talk better than their mothers? Do they express their meaning with greater nicety? nay, do they speak better grammar? Moreover, is this an aim? Are they taught to do this by the writers of their own sex, who profess to portray the girlhood of our day? Is it not an understood thing that three or four epithets are to do duty for all the definition the female mind has need of, and that solecisms, which would have shocked the ears of an earlier generation, pass unreviewed? The present *regime* not only does not

teach people to talk, it does not—to judge by appearances—even inspire the wish or prompt the attempt to clothe thought in exact wording. The best education can only help toward clear thinking; but fit words and plenty of them it ought to put at its pupil's command. Do the boasted systems of our day succeed in this? In the most careful and elaborately trained girl of eighteen we do not look for more than the promise; but we reasonably expect promise. Taste, careful not to offend, we might calculate on, and a sensitiveness easily offended. Newly freed from the seclusion of the school-room, the great interests that agitate the intellect of the world will impress her with awe as well as an eager curiosity, held in check by modest grace—the natural attitude of an intelligent listener: and by the difficulty of finding fitting words to express dawning thought. This is no unreasonable ideal of youthful culture feeling its way: We approach the object of, so many cares; she is not listening, but talking with rapidity and dash. What are the words that first greet our ears? Two or three hackneyed epithets, which we had supposed mere school-boy slang, and perhaps a word or a phrase which, so widely separate is the vernacular becoming from our written language—we hesitate to expose to the ordeal of print. What promise for the future is there in this? How is it to develop into the conversation of the gifted woman? She is a good girl, we have reason to believe, and we take it on trust that she knows a vast deal of history, many languages, and some science; but what is the good of it all if she has no adjective at command, but nice, jolly, horrid, awful, disgusting and tremendous? How can she keep what she has got? how can it fructify?

LITERARY NOTICES.

—The CANADIAN MONTHLY for August opens with the concluding portion of Mr. John Mathews' article upon "The Political Future of Canada," principally devoted to elaborating his scheme for Imperial Federation.

Rev. G. M. Grant's biographical sketch of Hon. Joseph Howe is concluded. A

timely article on "The Situation—Commercial and Financial," from the pen of Mr. James Young, M.P., Galt deals with the causes of the present business stagnation.

Mr. Thomas Hodgins' "Legends of the Deluge" are interesting, as showing the universality of the belief in the story of the

Flood. "Prayer and modern thought," by Mr. W. D. Le Sueur, Ottawa, takes the rationalistic view of the subject in reply to a recent article by "Fidelis." "The new Canada," by Mr. Charles Mair, of Manitoba, is concluded.

"Current Events" is well-written as usual, and the other departments are all well up to the mark.

THE LEGAL PREVENTION OF ILLITERACY BY D. G. LOTHROP, LL.D., SECRETARY CONNECTICUT BOARD OF EDUCATION, is on our table. It is a valuable, well-written pamphlet of 26 pages, and includes arguments in favor of compulsory attendance, a *resumé* of the methods employed and results secured in Massachusetts and other New England States, and a sketch of the progress of public sentiment in European

countries in the direction of compulsory attendance.

THE SCHOOL BULLETIN, Syracuse, N.Y. is received. The *N. Y. State Educational Journal* is now consolidated with it, and it certainly makes a very handsome magazine, well freighted with matter of interest to all friends of education.

THE RAPID WRITER, for July, a journal devoted to language, short hand writing, and a reform in spelling is on our table. Chicago: published by the Rapid Writer Association.

THE WESTERN JOURNAL OF EDUCATION is the name of a new monthly, resulting from a consolidation of the *Minnesota Teacher* with the *Chicago Teacher*, and very similar to the latter in style and appearance. It is conducted with care and ability.

TEACHERS' DESK.

J. C. GLASHAN, ESQ., EDITOR.

Contributors to the 'Desk' will oblige by observing the following rules:

1. To send questions for insertion on separate sheets from those containing answers to questions already proposed.
2. To write on one side of the paper.
3. To write their names on every sheet.

CORRECT ANSWERS RECEIVED.

- M. FERGUSON, Florence; 110.
- E. T. HEWSON, Garnet; 111.
- LEVI PALMER, Bothwell; 111, 112.
- ALONZO SLITER, Lynn; 111, 112.
- S. G. GILFILLAN, Kirkton; 111, 112.
- HENRY GRAY, Sombra; 110, 111, 112.
- OSCCR DODGE, Mt. Brydges; 103, 105, 106, 111, 112.
- DAVID REID, Troy; 105, 106, 107, 108, 109, 110, 112.

ANSWERS.

(For the sake of new subscribers we shall restate our problems.)

95. Pigs are worth \$5 per head; a drove of 100 pigs and sheep are worth \$360, but if the number of

pigs and sheep were interchanged the drove would be worth \$440. Find the price of a sheep and the number of pigs and sheep.

J. S. CARSON, Strathroy.

The two droves taken together would be worth \$800 and would consist of 100 pigs and 100 sheep. Now the pigs would be worth \$500 leaving \$300 for the value of the 100 sheep, giving an average of \$3 per sheep.

(In teaching, in order to get pupils to see that adding two complementary droves gives a total of half pigs and half sheep, begin with small droves. Thus for 10, putting *p* for pig and *s* for sheep,

- 1^o drove *p, p, p, p, p, p, s, s, s, s,*
- 2^o " *s, s, s, s, s, s, p, p, p, p,*

Give two or three other examples, then require each pupil to construct several for himself *and by himself*. Train "the scientific imagination."

96. A man paid \$165 to 55 laborers consisting of men, women, and boys, men at \$5, women at \$1, boys at $\frac{1}{2}$ each? How many of each?

DITTO.

\$165 to 55 laborers gives an average of \$3 each

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$$\begin{array}{r} \$5-2 \quad - \quad - \quad \$3 \quad - \quad - \quad 2+1 \\ \$5-2 \quad - \quad - \quad - \quad - \quad 2\frac{1}{2}+\frac{1}{2} \end{array}$$

Taking smallest gangs from each equation gives
 1 man at \$5 to 1 woman at \$1, gang of 2,
 5 men do 4 boys $\$ \frac{1}{2}$ do 9.

In what ways can 55 be made of twos and nines ?

$$\begin{array}{l} 1^{\circ} \quad 5 \text{ twos } + 5 \text{ nines} \\ 2^{\circ} \quad 14 \quad " \quad + 3 \quad " \\ 3^{\circ} \quad 23 \quad " \quad + 1 \quad " \end{array}$$

\therefore 1° gives 30 men, 5 women, 20 boys ;
 2° " 29 " 14 " 12 "
 3° " 28 " 23 " 4 "

103. A drover paid the sum of £100 for 100 head, consisting of oxen, pigs and geese, he was to pay for each ox £4, for each sheep £1, each goose 1s, how many of each did he buy ?

R. M. WHITE, Northport.

£100 for 100 head gives an average of 20 shillings each.

$$20s.$$

$$80-60 \quad - \quad - \quad - \quad - \quad 19+1$$

$$20.$$

\therefore 19 at 80s. 60 at 1s. and 21 at 20s.

We purpose taking up the subject of Alligation as soon as our official duties allow us time.

101. A uniformly flat triangular stone whose sides are 25 inches, 30 inches, and 40 inches, is carried by three men, each supporting a corner. Compare the weights supported by the men.

H. A. JAMESON, Glenmorris.

The stone being 'uniformly flat' each will carry one-third of its weight provided it be held horizontal. The centre of gravity of a triangle coincides with the centre of gravity of three equal heavy particles at the angular points of the triangle. (See Todhunter's Mechanics for Beginners § 134, or any good elementary text-book on Statics.)

102. The slant side of a roof is 18ft. and its edge is 37ft. from the ground. A boy starts his ball down the roof with a velocity which would just carry it from the side to the edge in one second of time. The ball is caught by a second boy whose hand is 3ft. from the ground. How far is the second boy from the side of the house, the roof making an angle of 30° with a horizontal line. (Answer must not contain surds.)

DITTO,

With regard to the roof, let A be the angle of elevation, s the slant width, v the initial velocity down, V the velocity on leaving, f the gravity acceleration along, and t the time on. Let T be the time of falling from the eaves, h their height above the second boy's hand, and d his distance from the side of the house.

$$f = g \sin A ;$$

$$vt = s - \frac{1}{2}ft^2 ;$$

$$V = v + ft ;$$

$$\frac{1}{2}gT^2 + VT \sin A = h ;$$

$$d = VT \cos A,$$

Substituting the given values

$$f = 16 ; v = 18 - 8 = 10 ;$$

$$V = 10 + 16 = 26$$

$$16 T^2 + 13 T = 34 \text{ or } T = 1.10704$$

$$d = 1.10704 \times 13 \sqrt{3} = 24.9268.$$

BOOK NOTES,

Exercises in Algebra to Simple Equations inclusive. With an introductory lesson on Negative Numbers. By W. A. Whitmore. London : Philip and Son. An excellent little work. Algebra grew out of arithmetic and was long in adopting letter-symbols. Why not in our teaching follow the track of growth ?

On Sound. By J. Tyndall, London : Longmans & Co. \$3. 75. This edition, the third, contains valuable additions on the refraction of sound and on acoustic reversibility. No teacher who would study Natural Philosophy should be without Tyndall's works.

On the Sensations of Tone. by H. T. F. Helmholtz. Translated by A. J. Ellis, London : Longmans & Co. \$10.80. To the powers of exposition of a Tyndall, Helmholtz adds the mathematical ability of a W. Thomson. The work is too well known in the original for its translation by such a man as A. J. Ellis, to need recommending.

Handbook of the English Language. By R. G. Latham. Ninth Edition, London : Longmans & Co. \$1.80. This edition of the pioneer of our new style of grammars proves its author has not stood still during the progress he so much helped to initiate.

Principles of Greek Etymology. By George Curtius. Translated by A. S. Wilkins and E. B. England, Vol. I. London : Murray, \$4.50. The German original of this work is well known. The translation is worthy of that original.

General History of Rome. By the Very Rev. C. Merivale, London : Longmans & Co., \$1.25. It is enough to say the work is by the author of "History of the Romans under the Empire."

Stanford's Elementary Atlases. I. Physical Atlas, (sixth edition); II. Outline Atlas; III. Projection Atlas; IV. Blank sheets for Maps. By Rev. J. P. Faunthorpe, London : Ed. Stanford. An admirable apparatus for teaching map-drawing and at the same time of giving a thorough knowledge of physical geography so far as it can be

learned from maps. Every teacher knows or ought to know what is implied in the power to draw a good map from memory.

Health in the House. By Catherine Buckton, London: Longmans & Co. \$1.50. We hope this work will freely find its way into our Canadian

homes, and willingly we would add, schools. (Not as a text-book.) Too many subjects are now untaught because we have text-books on them and because to cram from these text-books seems the easiest thing to do.

EDITOR'S DRAWER.

—Mr. Glashan gives in this No. solutions to all the Arithmetic questions at the recent County Board Examinations. It will be seen that a number of the answers, as given by the Central Board, were wrong, Mr. Glashan purposes giving solutions of the Algebra and Natural Philosophy questions, and also taking up the First and Second Class Grammar papers.

—We have received from J. R. Miller, Esq., of Goderich, copies of questions prepared by him for the West Huron Competitive Examination, and also the questions for the Examination at the Goderich Central Schools. Mr. Miller is one of the most earnest and diligent Inspectors in the Province, and the questions have evidently been prepared with great care.

—Subscribers remitting money to agents should inclose a stamp for prepayment of postage, or they may remit directly to this office, stating to whose club they belong.

—We would call special attention to the announcement of the Medical Department of Trinity College, Toronto, on outside page of cover. This College has been very successful, and occupies a deservedly high position.

—We are requested by Mr. Mills, M.P. to convey to the Inspectors who supported him in the recent election to the Council of Public Instruction, his sincere and hearty thanks for the high honor they have done him, and also to assure them that he will give his best energies to the interests of education, so far as the same come under the control of the Council.

—We are pleased to notice that Dr. Ryerson, Chief Superintendent of Education, was elected

President of the Ontario Teachers' Association. It is a deserving tribute to his long career of unsparing devotion to the interests of education in this Province.

—The question of compulsory attendance at school is attracting considerable attention just now in the City of Toronto. From the report of Mr. Hughes, Inspector of the city schools, it appears that the attendance is exceedingly low as compared with the number of pupils registered, and that as a matter of course, but a fraction of the children of school age derive any benefit from the educational facilities afforded by the school authorities. This deplorable state of affairs is not confined alone to the City of Toronto. In rural districts the same negligence prevails, and a vigorous enforcement of the compulsory clauses of our School Act would have a very beneficial effect.

—It is expected that the summer vacations next year will be extended to six weeks instead of four, as prevails at present. If the summer holidays are extended we believe it would be prudent to curtail existing holidays somewhat. The Easter holidays might very well be abolished, and the schools might open on the 2nd of January instead of the 7th. This would be a compromise that would suit the profession, and at the same time subserve the interests of education.

—We have on hand a few extra copies of the August and September No.'s of the TEACHER, containing all the First, Second, and Third Class Examination papers, at the recent Examination, and will send a copy of each post paid to any address on receipt of 25 cents.