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### OPENING OF THE OTTAWA NORMAL SCHOOL.

An event of great interest and importance took place in Ottawa on the 22nd inst., when the new and handsome Normal School for that section of the Province was formally opened. We quote from the report given in the *Times* :—

Rev. Dr. Ryerson moved that the Lieutenant-Governor take the Chair, and in doing so said His Honor's kind consent to act had been obtained. This he was sure would be gratifying to the citizens and the various gentlemen present, especially when it was remembered that he had been second to none in his commercial and manufacturing connections in promoting the interests of education and progress. Now he stood at the head of the Government of the great Province of Ontario, a position he occupied worthily. (Cheers.)

Mayor Featherston, in seconding the resolution, reviewed briefly the history of the movement in favour of the institution of a Normal School at this point, so far as the citizens were concerned, and he congratulated the city and the Provincial Government that now they had approached this important stage in the matter and were about to witness the formal opening of the Normal School. He welcomed the Lieutenant-Governor to the city, who during his stay amongst us had endeared himself to all by his princely generosity and kindness of heart, and had besides taken a deep interest in Ottawa and the surrounding district as a public man. He also welcomed the Premier of the Provincial Government and the other gentlemen who did them the honour of being present upon the occasion. (Cheers.)

His Honor the Lieutenant-Governor, on taking the chair, expressed the pleasure he had in being present to witness such an auspicious event. Both as the head of the Executive of Ontario, and as a native Canadian hailing from the eastern portion of the Province, he was much pleased at having the opportunity of being present at the opening of a Normal School located in the east. The population of the peninsula, the educational interests of which would be served by this institution, numbered, if he recollected rightly, from 160,000 to 175,000, and from its central position and the facilities of communication by rail and water from every side, he really thought that no better location could have been selected for it. There was a very large population in this very vicinity to reap the benefits. There were Ottawa with its 25,000 or over, the flourishing villages of Rochester and New Edinburgh on each side of and almost forming part of it, and the City of Hull adjoining, with its 8,000 or 10,000; indeed, there was, ac-

ording to his calculation, a population of some 40,000 within a radius of three miles, having the Normal School as a centre. These things formed a very strong inducement to the Government to locate the School at this point, enhanced as its position was by two railway lines giving it communication with the interior, and the great river Ottawa connecting it with the east and west. He remarked that, in addition to what he had already said as to the sources from which the Normal School might expect students, there were the Counties of Ottawa and Pontiac lying immediately in front and to the west, each with a population of 30,000; and although they lay within the Province of Quebec, he felt assured the people of Ontario and of this vicinity would willingly extend to them the advantages offered by the Ottawa Normal School. He was pleased with the location of the school for another reason. He was aware, from a knowledge gained by a residence of two years in their midst that the people of Ottawa were remarkable for their intelligence, their industry, their frugality, their sobriety and general uprightness of conduct and propriety of behaviour, and he knew of no place in this country or elsewhere that was more noticeable for its maintenance of public order and its respect for the authority of the law. (Loud cheers.)

Hon. Mr. Mackenzie, who was received with cheers, prefaced his remarks by a facetious assurance that he was always willing to submit to authority, and of course would obey the Lieutenant-Governor when called upon. He was happy to respond to the invitation accorded him by the Chief Superintendent to be present and witness the opening of the Normal School. Dr. Ryerson had recently recited the fact, in a letter to the public press, that he had been somewhat unwillingly induced by him (Mr. Mackenzie) to commit his ideas regarding the establishment of additional Normal Schools to paper. This was at the time he (Mr. Mackenzie) was acting as Premier of Ontario. The necessity of having at least three additional Normal Schools had frequently pressed itself upon his attention, and he thought then, as he was strongly of opinion yet, that they should be located at Ottawa, Kingston and London respectively. He found himself in accord with the views of the Chief Superintendent of Education upon this subject, and although he left the Government of Ontario a few days after the occurrence referred to by Dr. Ryerson, he had the pleasure, as one of his last executive acts, of drafting an Order in Council embodying his opinions. He did not then expect to become a citizen of Ottawa, but in that capacity he now took the opportunity of congratulating the people, the Government, and the Chief Superintendent upon the fulfilment of at least one part of the programme, and to express the earnest desire that the Premier of Ontario would soon be able to carry out the rest of it. An examination had shown him, while interesting himself in this matter as a member of the Ontario Government, that the Normal School at Toronto, while very efficiently conducted—perhaps, indeed, all that could be desired in a Normal School—was limited in its operations to a somewhat small portion of the country, and if memory served him right, the record showed that the County of York furnished as many of its students as the whole of the rest of the Province combined, thus making it very much more of a local institution than seemed to him desirable in the interests of education. Our Normal School accommodation, he also remarked, was small as compared to the States of the American Republic, which lay close to us, and there was too little desire among teachers to make their calling a profession. It was too frequently a make-shift with both ladies and gentlemen, who merely used it as a means of obtaining other situations, and it was not regarded in the light of an employment which was to be permanent, and which in itself offered all the opportunity for promotion which was to be desired. The remuneration for teaching was not yet

generally what it ought to be, but if the profession itself were elevated more in the persons of those who followed it, better salaries would follow, and could be insisted upon. He recited some very interesting experiences of Mr. Horace Mann in regard to the schools of Massachusetts, which went to show that the greater the ignorance of the people and the school trustees, the less respect was paid and the less encouragement offered to a really competent teacher. It was the interest of parents and instructors alike to elevate the standing of the teaching profession and to make it an occupation that would be at once honourable and remunerative, and the best way to forward this object was to increase as far as practicable the means of imparting a higher education. He felt grateful as a citizen of Ottawa that such means had been afforded to the people of this section of Ontario, and he trusted the same privilege would soon be extended to the other portions to which references had been made. He believed that on the education of the people depended in a large measure the greatness of a country in a mercantile and commercial respect. In proportion as our educational institutions are sustained, so, he contended, will our political institutions be perfected, and good and equitable Government ensured. He had taken great pride and pains to point out to the people of Great Britain, during his recent visit, what he regarded as the superiority of our system of education, and how peculiarly gratified he was that the system was harmoniously carried out as between all classes and creeds of our population. (Loud and prolonged cheering.)

Hon. Mr. Mowat said he had attended the meeting more with the intention of being a listener and a witness of the proceedings than of making a speech. His desire was more especially that his friend and colleague, Mr. Crooks, should say whatever it was fitting should be said on the part of the Government, inasmuch as it was extremely likely that he would be our first Minister of Education for the Province of Ontario. (Loud Cheers.) It was probably well known that the propriety of having a member of the Administration at the head of the Education Department instead of a Chief Superintendent outside of the Government, was a subject which had occupied public attention occasionally for some time, and the Chief Superintendent, under whose fostering care our educational system had been for the last thirty or forty years, had expressed himself very strongly in its favour. The opportunity would soon be offered him of having it tried and tested. As there were in other countries Ministers of Education, it was probably but right that we should have one in Ontario. (Hear, hear.) He (Mr. Mowat) rejoiced to find himself in accord with his predecessors in the Government of Ontario in regard to this matter of the Ottawa Normal School. He entirely agreed with the opinion expressed by Mr. Mackenzie that additional Normal Schools were necessary, and that Ottawa was the place where it was appropriate the first movement in that direction should be inaugurated. As Ontario was the leading Province in the Dominion, it was only fitting that she should take a leading stand in regard to education. Than the subject of education there was none to which our public men could with better advantage give their attention, and none in which he personally felt a greater interest. The time was fortunately long past when it was necessary to press the advantages of education upon the people of Upper Canada, nor was it necessary to tell them that the perfection of our system was an object to which all their energies should be bent. He dwelt with great emphasis upon the happiness and concord, and all the other blessings which flow from the existence amongst the people of sound information and broad views, which could only be imparted by a system of public instruction which includes all, and he also pointed out how close the connection between a sufficient supply of institutions for the training of teachers and the success of education. A considerable number of Normal Schools were in operation in several countries in Europe, and in the United States they were very plentiful. In the latter, indeed, the number of them was very much greater in proportion to the population than in Ontario, and the schools themselves were generally, in all essential elements, found to be most flourishing and progressive. He happened to be present at the opening of the Normal School at Toronto in 1847, and he remembered the Chief Superintendent upon that occasion pointed out that we were ahead of the State of New York in that respect. Now, he (Mr. Mowat) was sorry to say we were very much behind that State, and it was because he did not intend this state of things should continue, that he had determined this Normal School should be proceeded with. He had experienced considerable difficulty, he said, in getting the Legislature to agree to the appropriation, and he recounted the already well-known steps which were taken by the opponents of the Government to defeat the scheme. The fact that Ottawa was the Capital of the Dominion made it of the utmost importance that the people should be well forward in the matter of education, but he would also be frank enough to state, while aware of the good school accommodation afforded in the city, and the high standing of the city schools and

teachers, that the most pressing reason was the too wide existence of an opposite state of things in some of the country districts. He had been informed only this morning that in ten years this eastern district had sent but twenty successful students to the Toronto Normal School. He was afraid that in many cases the schools, school-houses and teachers were not exactly what they ought to be, but he hoped this fault would soon be remedied. He remarked that in outward appearance and internal arrangement the Ottawa building was far superior to that of Toronto, and he was glad to know that as many as thirty-eight matriculants had already passed the entrance examination—a number which would very probably be added to in the near future. He would look to the success of the institution with considerable interest, and he hoped every effort would be made to second the efforts of the Government in that direction. He was glad to know there was such an interest felt in our schools in this Province, and he regarded it as the most hopeful proof of the depth and sincerity of that interest that the ratepayers were willing to submit to such heavy taxation on its account. He remarked upon the vastly greater amount of money contributed towards educational purposes from local taxation than was spent by the Government in that way, and he asserted it was positively the best investment which it was possible for them to make, not only as to its direct returns, but in its prospective advantages. After a few other remarks in a similar spirit, the hon. gentleman retired amid loud applause.

Hon. Mr. Crooks said he scarcely expected to receive upon this occasion the announcement that upon his shoulders would be placed the responsibility of a department which had been for so many years presided over by the respected Chief Superintendent. He had attended chiefly for the purpose of expressing in his own person how much the progress of the people of Ottawa was watched and made a matter of regard by the Government of Ontario. It was the fact that this city had looked more to the Federal than the Provincial Government as to the source of its advancement and prosperity, but he desired to remind them that there were interests affecting them very closely which were within the jurisdiction of the Local Administration and Legislature. Of these interests, education was one, and the lumber trade another, both of them of very great importance to the city of Ottawa. He reminded them of the impetus which had been afforded to the latter by the policy inaugurated by the present Government, the effects of which had been felt from the Ottawa to the Detroit River. He spoke in enthusiastic terms of the prominent position our system of education had attained, and eulogized Dr. Ryerson in that connection. Only recently, he remarked, the United States were looked to for an educational model, but latterly the Canadian system was more highly regarded, and we had placed ourselves in a position to show an example of a character even better adapted to the necessities of a country than the States. Ours had many features borrowed from the American system, indeed, it seemed to be a combination of the experience of all other countries. We had at last found a system national in its characteristics, and yet depending upon the voluntary action of the taxpayers. We had also been able to overcome those difficulties as between denominations, which had caused so many heart burnings in other places. To show how popular our system of education is, he stated that the rate-payers tax themselves at the rate of \$3,000,000 per annum, while the Government contributed only about one tithe of that amount, or some \$300,000. He insisted upon the necessity which existed for raising the standard of the profession, and the increase of salaries of teachers; as well as the establishment of other than the existing schools for their training. He remarked upon the effects of public school education on the people, and gave the success of Scotchmen in business and other circles, arising from their parochial schools, and the triumph of the Germans in their war with France, as very striking evidence of the fact. Education was one of those things in which there was no resting point, but progress must be continually going on. Teaching was like anything else, it required an apprenticeship on the part of him who would make it his profession. The Normal School was the place where the apprenticeship must be served, and it had been clearly shewn that the establishment at Toronto was insufficient for the requirements of the country. There could not be a higher duty than that of the teacher, upon whose exertions and capacity the future of the youth of the country depended, and in whose hands to all intents and purposes the fate of the nation was thrown. (Cheers.)

The Rev. D. M. Gordon said he willingly acceded to the request of the Rev. Dr. Ryerson, to take part in this meeting, not because he had anything of interest or importance to say, but because, in common with his fellow-citizens, he rejoiced at the opening of a Normal School in Ottawa. There were many proofs of the prosperity and progress of our city; but perhaps in no respect had that progress been more marked during the past eight years than in the matter of education. If cities were like individuals, in that

"some achieve greatness, and others have greatness thrust upon them;" and if, as the residents of older cities often reminded us, Ottawa has had greatness thrust upon it by its having been made the capital of the Dominion, it has made a vigorous and successful effort to be worthy of that distinction; and it was one of the most hopeful signs of prosperity when our educational institutions flourish and multiply. The demand for trained and capable teachers for this part of the Province had been so steadily increasing, that it called for the establishment of a training school in this city. A manufacturing centre like Ottawa required not only a great deal of machinery, but establishments, also, for the special purpose of manufacturing machinery. So, too, having come to require a good deal of educational machinery, the time had arrived for us to have an establishment for producing that machinery; and now that we had the Normal School erected and equipped, he was sure we united in the hope that it might take as high rank, and do as valuable service as any of the Normal Schools of the country. But while the erection of the Normal School marked one stage of our progress in educational work, it might not be out of place, he thought, to express the hope that before many years another stage of that progress would be marked by the equipment of a college at which a thorough literary and scientific education could be had. A university might embrace and control a number of colleges; these colleges might be situated in different parts of the country, but so connected, and so governed by the central power of the university as that the examinations for degrees might be the same for all, and as men graduating at any one of these colleges would carry with him the stamp and recognition of the university. By such a system many young men living in the neighbourhood of any such college might avail themselves of the advantages it afforded them, though they might not be able to go away from home to pursue their studies; and so the benefits of higher education would be placed within the reach of a greater number. There were some who desired to see some such university system in Ontario, not confining to Toronto the expenditure of public money for higher education, but having several colleges throughout the Province, that would both rank beside University College, Toronto, doing similar work, and connected with it as integral parts of what might be the University of Ontario. If such a system were ever carried out, perhaps we might hope to have one of the colleges established in Ottawa. While we were extending our Normal School system, it would surely be wise, if not absolutely necessary to extend also our University system. It might, he thought, be fairly questioned whether the mere training of a Normal School was sufficient to produce a first-rate teacher without any University education. The art of teaching must, of course, be acquired, and for imparting that our Normal Schools were indispensable, but those teachers who had themselves enjoyed a university training would probably be the first to admit that, while they were chiefly indebted to the Normal School for their proficiency in the art of teaching, they are indebted to the University for the scholarship, the breadth of view, the balance of judgment, and the habit of clear thinking which were among the chief requisites of the successful educator. For the sake, therefore, of perfecting our teachers, as well as for the sake of placing within the reach of a larger number the facilities for obtaining a higher education, he hoped that we might at some future date rejoice at the opening in Ottawa of a college where a thorough literary and scientific training could be had, as we this day rejoiced at the opening of our Normal School. (Loud cheers.)

Rev. Mr. Dawson expressed his delight at being present on this occasion, and remarked upon the illustrious company in which he found himself, the gentlemen upon the platform being among the most distinguished in the Dominion of Canada. He spoke of his own interest in the cause, and the joy he felt at the expressions of deep and heartfelt solicitation on its behalf expressed by the gentlemen who had spoken, all of whom had it in their power to do so much for its advancement. We were advancing in material prosperity—and there was no man of observation who did not see that we were going forward in mighty strides, and while we were almost surpassing the older nations of the world, there were some of these unfortunately some of the greatest of them—engaged in the most miserable political quarrels, and in their damnable persecutions which ought to have passed away in this age. It was therefore a cause of true joy in addition that our public men were so thoroughly in earnest about the moral and intellectual improvement of the people. In many respects we were greater even than the ancient nations of illustrious history, and only a few years would elapse ere we should eclipse them in every way; this noble zeal in the cause of education would lift us beyond them all. So far as teachers were concerned, he deprecated the custom so prevalent of regarding them as mere servants—on a par with the man who dug your potatoes or held your plough—and he advocated the payment of such reasonable salaries to highly qualified teachers as would enable them to make and

maintain their proper rank in society. Let Canada be the first to award to the teacher and his profession, that high and honourable place which rightfully belongs to them. So long as people were ignorant themselves, so long would they continue to treat with indignant persons who are more enlightened than themselves—those who have to instruct and enlighten their children. (Hear Hear.) Let the people be educated, however, and this would be no longer possible. The coming generation was that to which we might reasonably look with hope, but even in the present day salaries might and ought to be increased, and much would thus be done to elevate the status of the teacher. (Cheers.)

Rev. Dr. Ryerson complimented the city of Ottawa upon the establishment and completion of the Normal School, which he had regarded as of the greatest importance to this part of the country, which was in many respects isolated, and connected with Eastern Canada more intimately, commercially and otherwise, than with the west. When called upon by Mr. Mackenzie to express an opinion upon the subject, although unwilling to add to the responsibility he was bearing, he was in favour of Ottawa as the first place where a school should be established. The prospects of success were much greater than he had anticipated, and he pointed out that while there were only 63 students entered the Toronto Normal School the first session, representing though it did the whole Province, there were already two-thirds of that number for this district alone. He dwelt with emphasis upon the necessity of having well-trained teachers, who were cheap at any price as compared to a poorly informed and untrained class. He touched upon the efforts he had made in establishing the existing system of education, asserting that he had learned some most useful lessons from the people and educational system of Holland. He remarked that New York State, which had three millions and over of a population, had now nine Normal Schools, although it was behind Ontario in establishing the first one; and Pennsylvania had twelve. We ought to have six in Ontario if we maintained the proportion. He also recounted the number in several other States of the Union. He advocated the addition of a Model School to the Normal School here, at the expense of the city of Ottawa, at whose door he contended that duty properly lay. The Normal School accommodation of the Province was only for 300, which he held to be altogether too little for the population, and felt sure the Government must be impelled to build more schools in view of these facts. He advocated the erection, by local authorities generally, of Model Schools, and expressed himself gratified by the offer made by the Collegiate Institute Trustees and the Central School East, of their willingness to give facilities for having a model class in connection with their operations for the benefit of Normal School students. He complimented Ottawa upon the high standing of all the teachers engaged in its schools of every grade, and he was especially glad that in the matter of salaries we were ahead of Toronto, for good salaries would always bring the best of men. He remarked that he was now in the seventy-third year of his age, and had been for nearly thirty-seven of these at the head of the educational affairs of the Province. Mistakes he no doubt had made, as who that was human did not, but this he was able to assert without fear of successful contradiction, that he had sought the good of his country with all his heart, and had endeavoured to do his duty honestly and fairly, without respect to denomination. The time had arrived that some other arrangement should be made, and Parliamentary responsibility established in connection with the administration of the Department. He could scarcely be expected to speak on the subject without emotion, but the course was one he had long favoured. He had made the proposal in 1868 to the late Sandfield Macdonald, who did not favour it, and again to the new government in 1872. Since then he had never ceased to urge it. Speaking as he did entirely free from party predilection, he was able to say that he was heartily glad that the Hon. Mr. Crooks had been selected for the position. A scholar and a Canadian, there was no one in Upper Canada better adapted to the position than was he. All the influence of which he (Dr. Ryerson) was possessed would be exercised in his behalf. He wished him God speed in the mission confided to him, and whatever time might be allotted to him (Dr. Ryerson) here below would be devoted to the hon. gentleman's service. He had the most perfect faith in our educational future, and he believed we should soon stand in the front rank of the civilized countries of North America.

His Honor the Lieutenant-Governor then said: I now declare that the Normal School of Ottawa is open from this time forth, and from my heart I wish it all success and prosperity.

Mayor Featherston proposed a vote of thanks to the Lieut.-Governor, The Hon. Messrs. Mowat, Mackenzie and Crooks, the Rev. Dr. Ryerson and the other gentlemen who had taken part in the proceedings, and he took the opportunity to say that Ottawa had

done more in the erection and improvement of its public schools in recent years than any city in the Dominion.

Rev. Dr. O'Connor seconded the motion, which was agreed to by acclamation.

The proceedings, which had been of the most harmonious and happy order, were then brought to a close, and the company separated.

## I. Papers Relating to Teachers' Certificates.

### FIRST CLASS CERTIFICATES.

SUBJECTS OF EXAMINATION IN ENGLISH LITERATURE.—

JULY, 1876.

The following Report from the Central Committee of Examiners, communicated in a letter from the Rev. Professor Young, the Chairman, has been concurred in by the Chief Superintendent of Education, and is published for the information of all parties concerned.

"In re-arranging the programme for the Normal Schools, so as to adapt it to the new system of annual sessions, the Council of Public Instruction decided, in accordance with a recommendation of the Central Committee, that *English Literature, with its History*, should be substituted for the *History of English Literature*; but, as it is neither possible nor desirable to make a survey of the whole field of English Literature, during a single session, the Normal School course was to consist of a sketch of the literature of particular eras, with critical examination of one or more works in Prose and Verse.

"The Central Committee, though they have received no express instructions on the subject, understand that it is their duty, in their Examination of Candidates for First Class Certificates, to meet the wishes of the Council in this matter, and accordingly they now request that the Chief Superintendent would, for the information of those who intend to compete for First Class Certificates, give public notice of the special eras in the History of English Literature, and of the works in prose and verse, which they intend to make the subjects of examination next July.

"They have selected a part of the works of four eminent authors, each of whom represents a different period in the literary history of England, and they purpose examining candidates for First Class Certificates on these selections, as well as on the lives of the authors, and on the literary history of the period in which each author lived, with the causes to which the several periods owed their peculiar literary character.

"The following are the works selected:—

- I. The Tragedy of Macbeth—*Shakespeare*.
- II. Il Penseroso—*Milton*.
- III. Ten Essays from the Spectator—*Addison*.
  - (i.) No. 18. History of the Italian Opera.
  - (ii.) No. 21. Divinity, Law and Physic, overburdened with Practitioners.
  - (iii.) No. 68. On Friendship.
  - (iv.) No. 69. The Royal Exchange—Benefit of extensive Commerce.
  - (v.) No. 81. Female Party-Spirit discovered by Patches.
  - (vi.) No. 112. A Sunday in the Country—Sir Roger at Church.
  - (vii.) No. 159. The Vision of Mirza.
  - (viii.) No. 239. Various ways of Managing a Debate.
  - (ix.) No. 281. Dissection of a Coquette's Heart.
  - (x.) No. 287. On the Civil Constitution of Great Britain.
- IV. The Lives of Milton and Addison—*Samuel Johnson*.

"While the Committee will attach due weight to a close study of these selections, they will consider it of far greater consequence that candidates should show themselves able to enter into the spirit of the authors read, and to appreciate the beauty of their style. They will prefer a knowledge of important facts and general features to the most minute acquaintance with details, if unaccompanied by an ability to distinguish what is important from what is not. Further, in order to impart a stimulus to the study of English Literature, and to improve the teaching

of English throughout the Province, the Central Committee—acting, as they believe, in harmony with the spirit of the regulations of the Council—purpose increasing the relative number of marks assigned, in the Examination of Candidates for First Class Certificates, in what may be termed the English branches. In future the number of marks allowed for Algebra, Geometry and Natural Philosophy, will be 675 in all; and exactly the same number will be allowed for English Grammar and Etymology, English Literature and Composition."

### THIRD-CLASS CERTIFICATES.

In a recent official letter of the Chief Superintendent of Education, he thus refers to the subject of Third Class Certificates:—

I have no objections to extending the period, or rather giving a permit to the third-class teachers to whom you refer, for a period not exceeding twelve months, upon two conditions; first, that you are personally satisfied of their qualifications; secondly, that there are not a sufficient number of first and second-class teachers in the County to supply the Schools.

The express object of limiting third class certificates to three years, was to prompt teachers to improve themselves, so as to obtain second-class or life certificates, and, at the same time to prevent such a multiplication of third-class teachers as to drive out of the profession, or prevent the employment at a fair remuneration, those who have qualified themselves for teaching all the subjects of the public school programme, by obtaining first or second-class life certificates. This great object of advancing the Schools, and the teaching profession is defeated by unduly multiplying (in the way of perpetuating) third-class certificates, the subjects embraced in which do not cover more than half the ground of that public school education for which every man in the community is taxed according to his property, and which he has a right to have provided for his children in the public school.

There is no authority in the law to prolong a third-class certificate; but on the expiration of it, the Inspector may give a permit to the holder of such certificate for one year, on the recommendation of the Board of Examiners, and at the unanimous request of the Trustees of the School for which the third-class teacher is desired, and to which school his or her certificate should be limited, as well as limited to twelve months, or to the next meeting of his County Board of Examiners.

Certificates which expire in December next, if granted before 24th March, 1874, will be held as valid till the next July Examination, as there will be no opportunity of undergoing examination in December.

Doubts having been expressed as to the power of local boards to exact fifty per cent. of the marks assigned to the subjects of Arithmetic and Grammar from Candidates for Third-Class Certificates, notice is hereby given, that County and City Boards of Examiners may exercise their discretion in that matter.

The Regulation provides that:—"In order to obtain a Third-Class Certificate, the marks must be not less than one half of the aggregate value of all the papers for certificates of that rank." Again, in the Qualifications required for Certificates, the minimum is stated. The Boards may, in their discretion, increase the stringency of these examinations, but they should give due notice of their intention to require more than the legal minimum.

### EXAMINATION PAPERS.

The sets of Examination Papers used in the Normal School during the 20th, 21st, 22nd, 23rd and 24th Sessions can be sent from the People's Depository free of postage on receipt of 30 cents each. Those of the 25th, 26th, 27th, 28th, 31st, 33rd, 36th, 38th, 39th, 40th, 41st, 42nd, 43rd and 44th Sessions, at 40 cents each, and those of the 45th, 47th and 48th Sessions, at 50 cents each.

The entire sets of Examination Papers for First, Second and Third Class Teachers for July 1871, July 1873, or December, 1873, neatly stitched, can be sent free of postage on receipt of 60 cents per set. Those used at the County Examinations for Second and Third Class Teachers for July 1871, July 1872, December 1872, July 1873, or December, 1873, can also be sent, free of postage, on receipt of 50 cents per set.

LIST OF TEACHERS' CERTIFICATES AWARDED BY THE COUNCIL OF PUBLIC INSTRUCTION, AND BY THE COUNTY AND CITY BOARDS OF EXAMINERS, AT THE JULY EXAMINATIONS, 1875.

1. By the Council of Public Instruction.

MALE.

FIRST CLASS.

A.

	<i>Counties.</i>
*Dorland, Solomon M. (GOLD MEDAL)	Prince Edward.
O'Connor, William (First Silver Medal)	Middlesex.
*McArdle, David (Second Silver Medal)	Ottawa.
*Sprague, William E. (First Bronze Medal)	Hastings.
Martin, Joseph (Second Bronze Medal)	Carleton.

B.

*Barnes, Charles Andrew	Lambton.
Bruce, James	Wentworth.
Cook, John Wesley	Wentworth.
*Duncan, William A.	Ottawa.
Harvey, William B.	Simcoe.
*Lee, Archibald	Ottawa.
*McAllister, Samuel	Toronto.
*McKenzie, James	Hastings.
*McLurg, James	Perth.

C.

*Campbell, Cassius	York.
*Clark, William	Grey.
Cushnie, John	Grey.
Petrie, Alexander	Wellington.
*Pyne, Albert R.	York.
Robertson, Neil	Lanark.

2. By the County and City Boards of Examiners.

MALE.

SECOND CLASS.

A.

Atkin, Welbern	Elgin.
Bannerman, William	Grey.
Black, Hugh	Wellington.
Brents, Ira D.	York.
Carleton, William H.	Simcoe.
Carwell, Thomas B.	Lanark.
Caverhill, Arthur	Middlesex.
Cook, Edgar M.	Lennox and Addington.
Cushnie, John	Grey.
Darrach, John	Middlesex.
Davis, Flavel	Wentworth.
Edgar, Thomas A.	Hamilton.
Gale, John H.	Hamilton.
Gorham, Thomas A.	Simcoe.
Haight, Franklin	York.
Huff, Samuel	Simcoe.
Hutt, Erastus R.	Lincoln.
Jacques, Alfred	York.
Leonard, William H.	Ontario.
Malcolm, John Mc. N.	Peel.
Marshall, Donald	York.
Morgan, James W.	Bruce.
Morton, William C.	Wentworth.
McKay, Donald	Ontario.
McLain, George	Hamilton.
McMillan, Alexander	Middlesex.
Palmer, Levi	Elgin.
Patterson, Alexander	Lincoln.
Powell, Francis	Carleton.
Robinson, Edward	Ontario.
Robinson, Thomas H.	York.
Sandsbury, Robert	Middlesex.
Seldon, Richard	Ontario.
Slater, Joseph	Ontario.
Smyth, Elijah J.	York.
Sowerby, John	Ontario.
Squair, John	Durham.
Stafford, Henry E.	Elgin.

Normal School Students.

*Counties.*

Strang, Peter	Huron.
Young, James	Ontario.
Wallace, David	Carleton.
Weir, Archibald	Huron.

  

	<b>B.</b>
Allan, Thomas	Bruce.
Anderson, John	Perth.
Armistead, Samuel	Toronto.
Armour, John	Huron.
Atton, William M.	Bruce.
Attridge, Samuel	Perth.
Bellamy, T A	Simcoe.
Bennett, George J.	Leeds and Grenville.
Blackstock, Joseph	Simcoe.
Booth, William B.	York.
Brown, E. R.	Huron.
Cameron, Alexander	Ontario.
Cameron, Henry	Huron.
Cameron, Malcolm L.	Kent.
Clarke, James A. P.	York.
Coates, Robert	Halton.
Craig, Robert	Huron.
Cull, Frederick A.	Wellington.
Cundal, John	Victoria.
Currie, Malcolm	Simcoe.
Day, Alfred T.	Wellington.
Decow, James	Kent.
Dobbin, Robert O.	Waterloo.
Dolbear, Ransom	Elgin.
Donahue, Dennis	Elgin.
Douglas, John	Halton.
Drummond, John	York.
Duff, James	Grey.
Duff, Samuel J.	Peterboro'.
Dulmage, Daniel	Huron.
Duncan, Edward	Carleton.
Eby, Saruch	Waterloo.
Evans, Cornelius F.	Norfolk.
Ferguson, Alexander	Grey.
Fryer, John P.	Lambton.
Fulton, James	Brent.
Gerard, Irene	Essex.
Girdwood, Joseph H.	Leeds and Grenville.
Glass, Matthew	Middlesex.
Graham, Marmaduke	Peel.
Graham, William	Elgin.
Grandy, Thomas	Durham.
Gray, Henry	Lambton.
Green, Thomas S.	Ontario.
Hagan, Thomas	Ontario.
Hamilton, M. T.	Huron.
Hartley, James	Wellington.
Harvey, William A.	York.
Henderson, Thomas	Grey.
Herrington, W. J.	Hastings.
Higly, Edward	Elgin.
Hill, John H.	Carleton.
Hoover, Jacob	York.
Irvine, Charles R.	Hastings.
Irwin, George A.	Durham.
Irwin, Joseph	Perth.
Jones, Robert W.	Prince Edward.
Johnston, James McC.	Bruce.
Johnston, Robert W.	York.
Kemp, John H.	Waterloo.
Kennedy, Thomas	Durham.
Lamoreaux, Wilmot	Ontario.
Lett, Francis G.	Renfrew.
Lockert, Matthew	Huron.
Ludlow, Richard	York.
Markle, Vining A.	Wentworth.
Martin, Robert S.	York.
May, Playter	Simcoe.
Ming, Charles S.	Peterboro.
Moore, James K.	Kent.
Munro, William	Grey.
Mustard, Thomas	Huron.
Mutch, John	Hamilton.
MacKenzie, William A.	Leeds and Grenville.
MacKenzie, William F.	Wellington.
McAntee, James	Ontario.

	<i>Counties.</i>
McBride, John .....	Grey.
McCabe, Charles J. ....	Wellington
McCamus, David N. ....	Peterboro.
McCracken, Thomas .....	Simcoe.
McGowan, W. R. ....	Huron.
McHugh, Michael .....	Essex.
McIlwain, John .....	Middlesex.
McKay, William .....	Huron.
McLoughlin, John .....	Middlesex.
McLean, Allan .....	Ontario.
McMurchie, Peter .....	Wellington.
McPhail, Archibald A. ....	York.
McPherson, David .....	Bruce.
Nash, William H. ....	Lincoln.
Odlum, Edward .....	Northumberland.
O'Shea, James F. ....	Peterboro.
Park, Henry G. ....	Ontario.
Patterson, Robert .....	Northumberland.
Pearse, George .....	Essex.
Perry, Samuel T. ....	Wellington.
Phelan, M. J. J. ....	Perth.
Pike, Isaac .....	York.
Porter, Robert .....	Perth.
Pounder, Peter .....	Renfrew.
Rabb, John .....	Leeds and Grenville.
Rae, James W. ....	Durham.
Reddick, David .....	Brant.
Redmond, James K. ....	Lanark.
Ritchie, John, Senr. ....	Grey.
Ruby, Emanuel .....	Waterloo.
Rymal, Marshal B. ....	Wentworth.
Shaw, Alexander .....	Huron.
Shaw, William .....	Huron.
Shaw, Frank W. ....	Brant.
Shaw, William G. ....	Lambton.
Sheehan, John .....	Hamilton.
Sheppard, B. S. ....	Elgin.
Sherk, Levi .....	Welland.
Shinay, William .....	Huron.
Simpson, John .....	Wellington.
Sinclair, Franklin .....	Elgin.
Skelton, Jeremiah .....	Peel.
Smith, A. G. ....	Huron.
Smith, Arthur H. ....	Bruce.
Smith, James C. ....	Ontario.
Smith, Robert H. ....	Middlesex.
Spillett, Stanley .....	Simcoe.
Stephen, Adam H. ....	Grey.
Stones, George .....	Victoria.
Sutherland, Jeffrey T. ....	Elgin.
Symons, William H. ....	Durham.
Tait, Leonard .....	Wellington.
Taylor, James T. ....	Wentworth.
Thompson, William .....	Leeds and Grenville.
Tovel, John .....	Wellington.
Trueman, Thomas .....	Simcoe.
Vanderburg, Harvey .....	Norfolk.
Waddell, William .....	Perth.
Wallace, Michael .....	Carleton.
Walls, William A. ....	Oxford.
Wardrop, Alexander B. ....	Waterloo.
Warren, Edward .....	Lanark.
Waterson, John A. ....	Leeds and Grenville.
White, Thomas .....	Lambton.
Willmot, John W. ....	York.
Wright, Arthur W. ....	Wellington.
Wright, Justus .....	Middlesex.
Wright, Maurice .....	Kent.

## FEMALE.

## A.

Adair, Margaret .....	Bruce.
Armstrong, Mary .....	Ontario.
Ballantyne, Maria .....	Wentworth.
Beall, Laura .....	Ontario.
Beatty, Bessie .....	Leeds and Grenville.
Beith, Frances .....	Grey.
Creasor, Mary .....	Grey.
Darche, Louise .....	Lincoln.
Forgie, Agnes .....	Lanark.
McMaster, Isabella .....	Ottawa.

	<i>Counties.</i>
Ramsay, Mary .....	Ontario.
Scales, Hannah .....	Frontenac.
Westman, Mary A. ....	Toronto.
Livingston, Ellen .....	Elgin.
Mahaffey, Mary S. ....	Grey.
Malcamson, Maria .....	Hamilton.
Marshall, Margaret A. ....	Durham.
Martin, Victoria .....	Hamilton.
Mustard, Christina .....	Huron.
McColl, Bella .....	Middlesex.
McCormack, Louise .....	Perth.
McGarvey, Josephine .....	Simcoe.
McGeary, Rachel .....	Simcoe.
McKenzie, Margaret .....	Welland.
McMenemy, Annie .....	Hamilton.
Neill, O. Maggie .....	Huron.
Oliver, Marion .....	Perth.
Richardson, Jemima .....	Stormont.
Robinson, M. Jane .....	Hamilton.
Sims, Bertha .....	Toronto.
Sims, Florence .....	Toronto.
Sinclair, Margaret .....	Brant.
Slider, Ella .....	Leeds and Grenville.
Smith, Annie P. ....	Grey.
Smith, Jennie E. ....	Wellington.
Smith, Minnie .....	Grey.
Smith, M. E. ....	Elgin.
Smyth, Margaret .....	Ontario.
Stuart, Lizzie .....	Middlesex.
Stewart, Sarah .....	Ottawa.
Tandy, Harriet .....	Frontenac.
Taylor, Agnes .....	Lambton.
Taylor, S. Louisa .....	Huron.
Thompson, Sarah A. ....	Durham.
Thomson, Helen .....	Huron.
Todd, Janet .....	Lanark.

## B.

Baldwin, Jennie .....	Elgin.
Ballantyne, Kate .....	Kent.
Batty, Isabel .....	Grey.
Baxter, Sophia .....	Ontario.
Bennitto, Ellen .....	Hamilton.
Bissell, Elizabeth .....	Frontenac.
Bissell, Lydia J. ....	Frontenac.
Bollard, Susan A. ....	Frontenac.
Boon, Isabella C. ....	Middlesex.
Boyle, Jennie .....	Peel.
Brown, Alice L. ....	Elgin.
Browne, Elizabeth .....	Durham.
Cheney, Frances A. ....	Prescott.
Church, Eliza J. ....	Toronto.
Clarke, Laura .....	Lincoln.
Coburn, Mary .....	Lennox and Addington.
Comfort, Etoile .....	Elgin.
Comfort, Emma .....	Elgin.
Cook, Athelia J. ....	Stormont.
Cowie, Agnes .....	Wentworth.
Crozier, Mary .....	Middlesex.
Flett, Minnie .....	Hamilton.
Foote, Annie G. ....	Wellington.
Fulton, Amorette .....	Dundas.
Gardiner, Lucy W. ....	Hamilton.
Grant, Georgina .....	Frontenac.
Gross, Lucetta J. ....	Lincoln.
Hall, Lizzie .....	Elgin.
Hall, Aggie .....	London.
Halligan, Mary A. ....	Brant.
Harrison, Maria .....	London.
Head, Martha .....	Brant.
Hetherington, Eunice E. ....	Durham.
Hortin, Annie .....	Brant.
Howard, Abbie .....	Middlesex.
Jessop, Annetta .....	Ontario.
Laird, Annie M. ....	Lennox and Addington.
McPhail, Sarah .....	Ontario.
Tomlinson, Susie .....	Ontario.
Trainor, Matilda .....	Huron.
Utter, Edith .....	Hamilton.
VanCamp, Lauretta .....	Middlesex.
Watson, Jane .....	York.
Young, Frances E. ....	Frontenac.

NUMBER OF CERTIFICATES.

Awarded by the Council of Public Instruction, and by the County and City Boards of Examiners, at the July Examinations, 1875.

COUNTIES AND CITIES.	Number who applied for			Total.	Who Received.				Total.	
	1st Class.	2nd Class.	3rd Class.		1st Class.	2nd Class.		3rd Class.		
						Male.	Female.	Male.		Female.
Glengarry	—	—	38	38	—	—	—	2	14	16
Stormont	—	5	50	55	—	—	2	2	12	16
Dundas	—	2	42	44	—	—	1	6	—	7
Prescott	—	4	29	33	—	—	1	3	15	19
Russell	—	—	27	27	—	—	—	2	9	11
Carleton	2	—	62	73	1	5	—	22	11	39
Leeds and Grenville	—	18	147	165	—	6	2	15	88	111
Lanark	1	6	124	131	1	3	2	20	68	94
Renfrew	—	2	54	56	—	2	—	3	8	13
Frontenac	—	19	63	82	—	—	7	7	13	27
Lennox and Addington	—	3	28	31	—	1	2	7	21	31
Prince Edward	1	15	44	60	1	1	—	12	8	22
Hastings	2	10	131	143	2	2	—	25	41	70
Northumberland	—	14	40	54	—	2	—	16	24	42
Durham	1	21	47	69	—	6	4	7	22	39
Peterborough	—	9	69	78	—	4	—	8	16	28
Haliburton	—	—	9	9	—	—	—	2	7	9
Victoria	—	10	69	79	—	2	—	15	21	38
Ontario	2	38	91	131	—	15	8	25	35	83
York	3	38	107	148	2	17	1	47	32	99
Peel	—	13	48	61	—	3	1	8	7	19
Simcoe	1	27	122	150	1	10	2	52	41	106
Halton	—	11	31	42	—	2	—	12	14	28
Wentworth	4	11	48	63	2	5	2	14	25	48
Brant	—	27	45	72	—	3	4	8	15	30
Lincoln	—	18	43	61	—	3	3	12	9	27
Welland	3	2	38	43	—	1	1	8	11	21
Haldimand	—	7	29	36	—	—	—	7	15	22
Norfolk	—	8	56	64	—	2	—	14	20	36
Oxford	1	10	77	88	—	1	—	5	7	13
Waterloo	2	12	74	88	—	5	—	24	17	46
Wellington	2	53	151	206	1	12	2	30	26	71
Grey	3	42	138	183	2	9	6	40	45	102
Perth	2	29	116	147	1	6	2	18	18	45
Huron	2	39	97	138	—	16	5	22	29	72
Bruce	—	8	116	124	—	6	1	40	29	76
Middlesex	3	40	192	235	1	9	6	23	25	64
Elgin	—	35	119	154	—	10	7	26	32	75
Kent	—	15	82	97	—	4	1	13	23	41
Lambton	3	17	90	110	1	4	1	13	34	53
Essex	—	5	41	46	—	3	—	11	16	30
Hamilton	2	20	37	59	—	5	—	8	2	31
Ottawa	—	13	17	30	3	—	2	—	15	20
London	4	12	18	34	—	—	2	2	19	23
Toronto	2	12	7	21	1	1	4	3	4	13
Kingston	—	—	6	6	—	—	—	1	2	3
Total	46	709	3109	2864	20	186	90	654	979	1929

II. Papers on Text Book Revision.

REVISION OF TEXT BOOKS BY TEACHERS.

In a recent letter from the Chief Superintendent of Education, in the public papers, he proposes a plan for the revision of the Canadian series of text-books, which seems to meet with general favour. We insert it below, together with a letter from G. W. Ross, Esq., M. P., Inspector of Public Schools in the County of Lambton, strongly endorsing the Chief Superintendent's views on the subject, as embodying the "true plan" for settling this difficult and perplexing question. The Chief Superintendent says:—"It is obvious that a school text-book publisher, like every other bookseller, publishes for his own interest and at his own convenience; and if the copyright of a school text-book is the property of a private individual, that individual can publish it in any form and at any price that may best suit his purpose, and revise it or not, as will best promote his interests. If the copyright of a public school book is profitable to an individual, why not to the public, through its trustees or agents? If the copyright of such a book is the property of the public, then the public have complete control over it, and by throwing its printing and sale open to public competition, secure the best guarantee for the lowest price, and best quality of the book for the public schools. This is so self-evident as not to need a word more of illustration. The only remaining, but chief question is, how shall the text-

books—thus in their copyright held and controlled as public property for public schools—be compiled and revised, so as to be adapted to the schools and kept abreast of the times? \* \* \* \* My plan of proceeding is, for the Chief Superintendent to invite some five or more of the most experienced and skilled of the best teachers to Toronto, making to each the same allowance per day as is made to each member of the Legislative Assembly—and in Council each day determine the revision necessary for each text-books and revise it forthwith—submitting the result to the Council of Public Instruction for approval, giving a copy of the books revised and sanctioned to each publisher of the book for his use, and deciding when the book thus revised shall come into use in the schools. In this way the whole series of the Readers might probably be revised in a week or less. And in order that the teaching profession might be most fairly and efficiently represented in this its appropriate work, let the Inspectors' and Teachers' Association in each county select such of their members as they may deem most competent to revise the text-books in each of the subjects taught in the schools, whether of readers, arithmetics, algebras, &c., or of different subjects of science; and let the selection of school book revisers on each subject be made from the members of the profession thus chosen. Honour and justice have been done to the profession by ceding to its first class members the inspection of the schools, and examination of candidates as in the professions of law and medicine; I propose to make the profession, in the same way, the compiler and reviser of the text-books used by it throughout the land, as occasion may require from time to time, and that at a



cost of less than one thousand dollars a year, to the saving to the country of more than fifty thousand dollars a year in the prices of the books alone, apart from their uniformity and best adaptation to the schools."

As a first response to this proposition, the Chief Superintendent has received the following from G. W. Ross, Esq., M.P., Public School Inspector for No. 1 Lambton:—

"NAPANEE, September 10th, 1875.

"MY DEAR SIR:—I read your letter in this morning's *Mail* on my way to Ottawa. While not venturing an opinion on the general question in dispute, I would like to say that your suggestion about submitting text-books to a committee of teachers and inspectors for revision is, in my opinion, the *true one*. I would like very much that this suggestion of yours would prevail. Nothing would satisfy the teachers and inspectors so well. It would be both practical and popular, and you will get my cordial support, as well as all the assistance I can render you through the *Ontario Teacher* in carrying out that idea. Excuse me for troubling you, but I considered your plan so reasonable and so *good*, that I could not refrain from writing.

"Yours truly,

"GEO. W. ROSS,

"Inspector, Div. No. 1, Lambton.

"The Rev. E. Ryerson, D.D., Toronto."

The following proceedings of the Council of Public Instruction also relate to the revision of the Canadian Series of text-books:

According to the printed minutes of the Council of Public Instruction, on the 16th of October.

The Chief Superintendent requested the Committee to consider the mode of applying the grant of \$1,000 for revising text-books.

*Ordered*,—That the attention of the Committee on School Regulations and Text-Books be called to the existence of the grant, and that the letters relating to the subject be referred to them.

Subsequently, in December, the following resolutions were proposed by the Chief Superintendent:

"1. That the Legislature of this country, by successive Acts of Parliament, and under successive administrations of government, has sanctioned and provided for the application of the principle of uniformity of text-books in our public schools, a principle which is sanctioned by all countries, both in Europe and America, where systems are established for the education of the mass of the people in public schools.

"2. That when the present system of public education was established, more than twenty-five years since, a great variety of text-books were found in the schools then existing, to the acknowledged injury of the schools, and the great expense of parents of pupils.

"3. That the Council of Public Instruction adopted a prudent and patriotic course of proceeding, by gradually lessening the variety of text-books in the schools, and at length adopting from the Irish National Board of Education a uniform series of text-books most extensively approved and used in both England and Scotland, as well as in Ireland, translated into continental languages and an edition of them printed in the United States.

"4. That since the introduction of a uniform series of text-books in our public schools, leaving the printing and sale of them open to the competition of free trade, the prices of books to parents have been greatly reduced and the efficiency of the schools greatly promoted, parents being relieved from the expense of buying new books on removing their children from one school to another, their children from the loss of time, and the burden of learning in new text books; and teachers from the labour and perplexity of using new text-books after having familiarized themselves with one series of approved books.

"5. That our own Legislature, as in the case of other educating countries has prescribed the subjects to be taught in the public schools; but it does not follow that, because all youth are required to be taught the same subjects, or that a uniform series of text-books is used in teaching those subjects, that therefore the minds of either teacher or youth are thereby cramped or cast in the same mould, as is manifest in our colleges, where prescribed text-books are used by both professors and students, and as is manifest in such cities as Philadelphia, New York, Boston, &c., as well as in European educating countries, and where uniform series of books are used in all their public schools.

"6. That no author has any pecuniary interest whatever in any text books sanctioned by the Council of Public Instruction; that

the copyright of these text-books is exclusively the property of the Province, that the Legislature recognising the provincial character and ownership of these text-books has provided both in 1874 and 1875 for their thorough revision under the direction of the Council, so that anything found to be objectionable in them may be removed, and that their defects may be remedied, and that the intentions of the Legislature should be fairly and honestly carried into effect by this Council in the revision of those text-books.

"7. That as in the High Schools and Collegiate Institutes the greater part of the books used in teaching the classics of ancient and foreign modern languages, and the higher subjects of English Education which are not published in this country, but must be imported from abroad, option as to the text-books may be allowed to a considerable extent, without materially interfering with the efficiency of the schools or causing great additional expense to parents.

"8. That in regard to the Public Schools, strong objection is entertained by the local school authorities generally, to changes of text-books, as appears by correspondence on the part of Public School Inspectors and Teachers addressed to this Council by its invitation in public advertisement, but a desire is expressed that the books in use should be carefully revised.

"9. That in view of the experience of the past, and the general wish of local school authorities, the authorized series of text-books for the public schools be carefully revised as far as may be found expedient; that any one or more of them which may have been found unacceptable or defective may be dropped from the authorized list, after due notice, so as to protect the interests of publishers and parents, and others substituted for them; or that the option of two books specified may be authorized, so that the less acceptable or less suitable book may generally fall into disuse and be superseded by the better book without causing disorder in the classes of the school, or needless expense to parents.

"10. That to encourage Canadian authorship and the interests of Canadian publishers, prizes be offered for the best revision of text-books, and for any new text-books required, according to specifications laid down by the Council."

After discussion of the subject the following resolution, moved by Rev. Bishop Canavan, was unanimously adopted:

"*Ordered*.—That the report of the Committee on Text Books be recommended for their consideration and subsequent report; also that the Chief Superintendent be requested to furnish the Committee with the resolutions prepared by him as a substitute: that it be an instruction to the Committee to provide for the admission of a choice of text-books, under due restrictions, as well as for the revision of the present series."

#### THE BATTLE OF THE BOOKS IN CALIFORNIA.

Probably few of our readers have an idea of the rivalry and competition existing among school-book publishers, and of the varied resources and appliances which they bring into play to accomplish their aims and purposes. The entire country, from the Atlantic to the Pacific, constitutes one vast battle-ground upon which they contend and wrestle, with ever-varying results; and what is worse than a real conflict of arms, the struggle is never ended. Every inch of vantage ground has to be hotly contested for, and then when gained, no amount of intrenching will insure its retention. The victor to-day becomes the vanquished to-morrow. All the fruits of one day's hard fighting are lost by a flank movement or a night surprise. Instead of having one foe to watch and contend with, a score of opposing forces are constantly bearing down front and rear, ready to join hands for the time being, and make common cause against the common enemy: to wit, the victor in the last struggle.

California has just been the arena of one of the hottest of engagements between these publishers. The agents or generals of the respective houses suddenly swooped down upon us like a thief in the night; they came from New York, they came from Boston, and they came from Chicago and other points, snuffing the battle from afar, and all eager for the fray. The State Board was to select school-books for a period of five years, and each one of the contestants arrived in fighting trim. There was the festive Soper, small of stature, but quick and wiry in his movements, and a firm believer in the old proverb that more flies are to be caught with molasses than with vinegar. Wm. M. has established quite a reputation out here as a story-teller. If you ever fall in his company, get him to tell you how he subjugated South Carolina and took captive her dusky legislators. Soper had had the advantage of real military service, and he unfurled the banner of the Appletons with

a flourish and bravado which must have struck terror among some of the antagonists. T. W. Conway represented Harper & Brothers. He had been a military general and a preacher, and if I remember rightly, was at one time Superintendent of Education in a reconstructed State. These diversified experiences had given him a rough and ready manner; and he was always glad to take a hand in anything that came up during the intervals in the battle of the books, whether it was a culinary set-to or an investigation of the Chinese question. He believes in exterminating the children of the flowery kingdom.

A. S. Barnes & Co., New York, were represented by A. P. Flint, the veteran agent, who, like the Rocky Mountain "Pathfinder," parts his golden hair in the middle and ever keeps an eye to windward. He fought long and fought hard, giving himself no respite except to attend Church, or to investigate the Chinese question.

C. L. King carried the standards of Ivison, Blakeman, Taylor & Co., New York. He was nervous, frisky and active, and resorted to various stratagems for furthering his cause, among others, Gen. Scott's old campaign-dodge of kissing the babies. That may do very well in a political contest, but something more than winning the women is required to win a book fight. W. M. Scribner, familiarly known as "Old Scrib," was on hand for Potter, Ainsworth & Co., New York. What Scribner doesn't know about penmanship isn't worth knowing, but we grieve to say that his copybooks went by the board. Isaac Upham mingled in the fray for Wilson, Hinkle & Co., of Cincinnati and New York. He dealt good blows, never lost his temper, and invariably came up smiling. He made a good many friends and few enemies while here.

D. A. Learned, local, represented Ginn & Co., of Boston. His forte was his big discounts and familiarity with the school law. He invariably signed himself the Granger Agent, *pro tem.* D. Libby, who represented A. L. Bancroft & Co., of San Francisco, was one of your rapid men; you saw him, and tried to put your finger on him, but like the Irishman's flea, he was gone. He was backed by a large lobby and assisted by everybody of influence hereabouts. Very different from him was a Rev. Mr. Whittemore, who did battle for the University Publishing Company of New York. He was a quiet, gentlemanly man in his bearing, and clearly showed by his general manner that he thought he was dealing with honest men. May he never have reason to think otherwise, as he gains experience in the business.

We have thus briefly described the main actors in the exciting contest which has been fought here by the publishers. Early last summer the book men began to agitate their various claims. This agitation, mild at first, increased as the days wore on. The last four weeks of the contest grew very warm, and day after day the respective belligerents were seemingly "nip and tuck," none knowing how the others stood. All the papers of California, particularly those of Sacramento and San Francisco, participated in the contest, doing good service for their respective favourites. Repeated efforts were made to enlist Gov. Booth, Ex-officio President of the Board of Education, but he declined to be interviewed or to commit himself in advance. The State Board met recently, when the final discussion and presentation of claims began. The result has been announced.

The University Publishing Company made bids for the whole list, but received no votes.

The Ginn Brothers, of Boston, desired to have their Geographies introduced into the schools, but received no votes.

Harper & Brothers wanted Swinton's Grammar and United States Readers put on the list. Though they failed in this, they succeeded in having a copy of the Grammar placed in each school-house, and in each school-teacher's hands, in the State, which, considering the author's Eastern Antecedents, and the reputation he left in this State, was doing remarkably well. The Appletons supplanted Monteith's Geographies, published by A. S. Barnes & Co., with Cornell's Geographies. The fight on this part of the line was unusually severe, but the Appletons finally triumphed.

Ivison, Blakeman, Taylor & Co., supplanted Payson, Dunton & Scribner's Copy Books, published by Potter, Ainsworth & Co., with the Spencerian system. A. L. Bancroft & Co. supplanted McGuffey's Readers, published by Wilson, Hinkle & Co., with the Pacific Coast Readers. State Superintendent of Education Bolander was opposed to any change in readers, but what he said or recommended appeared to have little weight. He will not be the next Superintendent.

The books selected are to remain in use for five years, all over the State, except in San Francisco, which is exempted from the general law of the State. The battle ended, the agents fraternized, visiting the Chinese quarters, and paid their respects to the city generally.—*Am. Ed. Monthly.*

## CHANGE OF TEXT-BOOKS AND PROGRAMMES.

As already intimated in the May number of the *JOURNAL*, the Council of Public Instruction have *struck off* the list of approved books, the following:—

Peck Ganot's Natural Philosophy.  
Davidson's Animal Kingdom.  
Collier's English Literature.

The following books were at the same time *authorized*:—

English Grammar, Primer, by Rev. R. Morris.  
Lessons in Elementary Physics, by Balfour Stewart, LL.D.  
Physics, by Balfour Stewart, LL.D. (Science Primers.)  
Elementary Mechanics, including Statics and Dynamics, by J. B. Cherriman, M.A.  
Elementary Statics, by J. Hamblin Smith, M.A.  
Elementary Hydrostatics, by J. Hamblin Smith, M.A.  
Outlines of Natural History, by H. Alleyne Nicholson, M.D.  
Physiology (Science Primers) by M. Foster, M.A., M.D.  
Lessons in Elementary Physiology, by Professor Huxley.  
Physical Geography, by A. Geikie, LL.D. (Science Primers).  
Geology, by Archd. Geikie, LL.D. do.  
Introductory Text-Book of Physical Geography, by David Page, F.R.S.E. (for High Schools).  
Chemistry, by H. E. Roscoe (Science Primers).  
History of English Literature, by Wm. Spalding, A.M.  
Craik's English Language and Literature.  
Freeman's European History.

*Latin*.—Dr. Wm. Smith's Series, I., II., III., IV., and his smaller Grammar of the Latin language.

Arnold's First and Second Latin Books; the English editions, or revised and corrected, by J. A. Spencer.

Harkness' Introductory Latin Book.

do. Latin Reader.

do. Latin Grammar.

Bryce's Series of Reading Books.

J. Esmond Riddle's Latin Dictionary.

*Greek*.—Dr. Wm. Smith *Initia Græca*.

Curtius' Smaller Grammar.

Farrar's Greek Syntax.

Greek Lexicon, Liddell & Scott, smaller and larger editions.

Schmitz's Ancient History (retained at present).

Pillans' First Steps in Classical Geography.

Dr. W. Smith's Smaller Classical Dictionary of Biography, Mythology and Geography.

Dr. W. Smith's Dictionary of Greek and Roman Antiquities.

Mr. Vere Foster's two series of Drawing Books, but the Council desire to invite the attention of teachers to the great benefits recognised as resulting from teaching children at an early stage to draw from the objects themselves, instead of from drawings.

*Memorandum*.—If the substitution of new books for those *disallowed*, cannot at once be accomplished without great inconvenience, a reasonable time may be given, with the understanding that the changes will be made as speedily as they can, consistently with the welfare of the school. It is not intended to *enforce* the change of text-books either in High or Public Schools during the first year, or without the consent of the Trustees and of the Inspectors.

Where two books are allowed in the same subject, a discretion is permitted, which should be exercised by the Master, with the concurrence of the Trustees and of the Inspector, which will enable him to meet the complaints as to the cost of changing text-books.

The geographical text-books are undergoing revision, and no change is yet authorized in that subject, or in the French.

Due notice will be given as to the time when the new scheme of payment by results will come into operation in the High Schools, and the new programmes are as yet incomplete.

III. Monthly Report on Meteorology of the Province of Ontario.

ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for July, 1875.

OBSERVERS:—Pembroke—Archd. Thomson, Esq.; Cornwall—James Smith, Esq.; A. M.; Barrie—H. B. Spotton, Esq.; M. A.; Peterborough—J. B. Dixon, Esq.; M. A.; Belleville—R. Dawson, Esq.; B. A.; Goderich—Hugh J. Strang, Esq.; B. A.; Stratford—C. J. Macgregor, Esq.; M. A.; Hamilton—George Dickson, Esq.; M. A.; Simcoe—Rev. George Grant, B. A.; Windsor—A. Sinclair, Esq.; M. A.

Table with columns: STATION, ELEVATION, BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT, TEMPERATURE OF THE AIR, MONTHLY MEANS, RANGE, MONTHLY MEANS, DAILY RANGE, HIGHEST, LOWEST, WARM-EST DAY, COLDEST DAY, TENSION OF VAPOUR.

a Approximation. dOn Lake Simcoe. eNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. hOn Lake Ontario. iOn the Ottawa River. jClose to Lake Erie. k On the Detroit River. l Inland Towns.

Table with columns: STATION, HUMIDITY OF AIR, WINDS, SURFACE CURRENT, MOTION OF CLOUDS, ESTIMATED VELOCITY OF WIND, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS.

\* At Belleville, at 1 p.m., there were cross currents N. and S.W., the surface current at the time being N. [The upper current is usually entered where there are two cloud currents.]
a Where the clouds have contrary motions, the higher current is entered here.
b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.
REMARKS:—Pembroke.—Lightning and thunder with rain, 13th, 26th. Lightning, 20th, 27th. Fog (dense), 7th. Rain, 6th, 9th, 10th, 13th, 18th, 22nd, 26th.
CORNWALL.—Wind storm, 19th. Fog, 14th. Rain, 5th, 7th, 13th, 14th, 19th, 23rd, 26th.
BELLEVILLE.—Lightning and thunder with rain, 7th, 16th, 26th. Thunder with rain, 6th, 13th. Thunder, 10th, 26th. Wind storm, 7th, 10th, 26th, 30th. Rain, 4th, 7th, 13th, 16th, 18th, 26th.
PETERBOROUGH.—Lightning and thunder with rain, 13th, 16th, 26th.

Thunder with rain, 13th, at 11.15 a.m. Thunder, 10th. Frost, 18th. Wind storms, 11th, 13th, 21st, 22nd, 26th, 30th, 31st. Rain, 5th, 6th, 7th, (drops) 10th, 13th, 16th, 18th, 23rd, 26th. Variations of barometer very narrow. Nights nearly all cool.

GODERICH.—Lightning and thunder with rain, 15th. Fogs, 16th, 17th. Rain, 3rd—6th, 10th, 13th, 15th, 18th, 19th, 22nd, 26th, 27th.

STRATFORD.—Rain on 4th, 5th, 6th, 16th, 26th, 27th. Lightning, 15th. Thunder, 13th. Difference of Monthly Mean Temperature from average of fourteen years, — 1° 84.

HAMILTON.—Lightning and thunder with rain, 5th, 6th, 16th. Rain, 3rd, 5th, 6th, 16th, 18th, 26th.

SIMCOE.—Lightning and thunder with rain, 5th, 6th, 16th. Lightning, 10th. Rain, 4th, 5th, 6th, 16th, 18th, 25th, 26th. Solar halo, 1st, 31st.

WINDSOR.—Lightning and thunder with rain, 3rd, 5th, 15th. Thunder, 26th. Lightning, 4th. Wind storm, 5th. Fogs, 6th, 7th. Rain, 3rd, 5th, 15th, 17th, 27th. Solar halo, 1st, 31st. Meteor, N. 20th, and E. 29th.

IV. Papers Relating to Teachers.

RETIRED TEACHERS IN ONTARIO.

STATEMENT showing the Names of Teachers who have given notice of Retirement from the Profession, as provided by the School Law. (Continued from the January Number.)

Name.	County.	Subscriptions Returned, and When.
342 Asher, James.....	Lincoln.....	\$3 00 June, 1875.
343 Bowman, Geo. W.....	Waterloo.....	7 00 Jan., "
344 Brine, H. J.....	Welland.....	2 00 Feb., "
345 Blatchford, Thomas.....	Wentworth.....	7 00 March, "
346 Bell, Thomas J.....	Lincoln.....	7 00 " "
347 Boyd, James E.....	Waterloo.....	5 00 " "
348 Bradshaw, W. C.....	Simcoe.....	8 00 April, "
349 Balfour, Geo. A.....	Victoria.....	8 00 " "
350 Butler, B. F.....	Hastings.....	6 00 May, "
351 Bell, James.....	Carleton.....	7 00 June, "
352 Campbell, Archd. G.....	Wentworth.....	7 00 Jan., "
353 Carleton, Wm. H.....	York.....	5 00 March, "
354 Campbell, Peter.....	Huron.....	2 00 " "
355 Clarke, Thomas R.....	Wellington.....	2 00 April, "
356 Corner, Thomas.....	Halton.....	8 00 " "
357 Dulmage, R. W.....	Wellington.....	7 00 Jan., "
358 Duncan, Edmund J. H.....	Braut.....	5 00 " "
359 Duggan, Fred. J.....	York.....	3 00 Feb., "
360 Denby, Benjamin.....	Leeds.....	2 00 May, "
361 Doupe, Wm. H.....	Huron.....	7 00 " "
362 Evans, George T.....	Grey.....	3 00 March, "
363 Ferguson, Colin E.....	Middlesex.....	6 00 Jan., "
364 Froaty, Sylvester.....	Dundas.....	7 00 Feb., "
365 Franklin, R. M.....	Essex.....	7 00 " "
366 Furchamp, J. G. R.....	Middlesex.....	7 00 March, "
367 Fennell, James.....	Wellington.....	6 00 " "
368 Foster, Sydney.....	Essex.....	8 00 May, "
369 Graham, Joseph.....	York.....	7 00 Jan., "
370 Good, James W.....	".....	6 00 Feb., "
371 Glasgow, Sinclair H.....	".....	5 00 " "
372 Granby, Robert.....	Durham.....	5 00 April, "
373 Galbreath, W.....	Halton.....	7 00 May, "
374 Gilbert, Nelson R.....	Norfolk.....	5 00 June, "
375 Hopper, George H.....	Ontario.....	8 00 Jan., "
376 Haverson, James.....	Wellington.....	5 00 April, "
377 Harrison, Benj. H.....	Prince Edward.....	6 00 " "
378 Hodge, Samuel A.....	Durham.....	5 00 " "
379 Hill, J. A.....	Simcoe.....	1 00 May, "
380 Ibbister, Malcolm.....	Huron.....	5 00 Feb., "
381 Irwin, Archd.....	Perth.....	6 00 March, "
382 Jarvis, Nicholas.....	Middlesex.....	7 00 Jan., "
383 Jackson, J. B.....	Wentworth.....	7 00 April, "
384 Jamieson, Geo. M.....	Halton.....	8 00 May, "
385 Jones, James L.....	Victoria.....	7 00 June, "
386 Kerr, George J.....	Northumberland.....	6 00 April, "
387 Leavett, Thad. W. H.....	Leeds.....	6 00 Feb., "
388 Lean, J. U.....	Oxford.....	8 00 April, "
389 Mitchell, W. D.....	Perth.....	2 00 Jan., "
390 Miller, Andrew H.....	York.....	4 00 " "
391 Murphy, George E.....	Lambton.....	4 00 " "
392 Morrison, Arthur J.....	Peel.....	4 00 " "
393 Madge, Walter W.....	Addington.....	6 00 Feb., "
394 Miller, Walter.....	Prince Edward.....	6 00 March, "
395 Ming, C. F.....	Northumberland.....	7 00 " "
396 Markley, A. W. R.....	Dundas.....	3 00 May, "
397 Mathieson, Jas. G.....	Northumberland.....	6 00 " "
398 Morrison, Hector.....	Kent.....	6 00 " "
399 Mitchell, G. A.....	Peterboro'.....	8 00 June, "

Name.	County.	Subscriptions Returned and when.
400 McCanagher, Joseph.....	Prescott.....	5 00 Jan., 1875.
401 McDiarmid, P. A.....	Middlesex.....	6 00 " "
402 McDermid, Andrew.....	Haldimand.....	6 00 " "
403 Mackenzie, Wm.....	Perth.....	7 00 Feb., "
404 McHugh, Michael J.....	Essex.....	5 00 March, "
405 McCarty, Daniel.....	Ontario.....	6 00 " "
406 McEachern, Donald.....	Bruce.....	4 00 April, "
407 McKay, Hugh.....	Ontario.....	3 00 " "
408 McKinnon, A. H.....	Halton.....	5 00 " "
409 McKeown, Robert O.....	Peel.....	3 00 May, "
410 McCreary, James.....	Lanark.....	8 00 " "
411 O'Brien, William.....	Peterboro'.....	6 00 April, "
412 Parke, William P.....	York.....	5 00 Feb., "
413 Paterson, David.....	Perth.....	7 00 April, "
414 Patterson, Andrew.....	Wentworth.....	5 00 June, "
415 Robinson, Alex.....	York.....	8 00 Feb., "
416 Rutherford, Peter.....	Kent.....	7 00 " "
417 Shinn, Henry.....	Durham.....	7 00 " "
418 Soallion, J. W.....	Welland.....	5 00 " "
419 Stevenson, J. A.....	Ontario.....	6 00 March, "
420 Shupe, Charles.....	Welland.....	5 00 " "
421 Starret, Thos. Jas.....	Halton.....	3 00 " "
422 Stewart, James H.....	Lanark.....	6 00 April, "
423 Skolly, Dennis J.....	York.....	7 00 " "
424 Stewart, D. A.....	Lanark.....	5 00 March, "
425 Thomson, James.....	Bruce.....	3 00 " "
426 Torrance, William.....	York.....	2 00 April, "
427 Thompson, Alex.....	Elgin.....	8 00 June, "
428 VanVelsor, Henry V.....	Kent.....	6 00 May, "
429 Whitlock, Francis.....	Huron.....	5 00 Jan., "
430 Whitely, Thomas.....	".....	7 00 March, "
431 Watson, David.....	Brant.....	6 00 April, "
432 White, W. P.....	Elgin.....	5 00 June, "

STATEMENT Shewing Moneys Returned to Widows and Representatives of Deceased Teachers.

Name.	County.	Subscriptions Returned, and When.
433 Blanchard, Mrs. Perthe- na, Widow of Thomp- son Blanchard.....	Leeds.....	\$ 13 97 April, 1875.
434 Ferguson, Mrs. Margt., Widow of Jas. Fer- guson.....	Wellington.....	111 51 " "
435 Moir, Andrew, Repre- sentative of A. Moir, Jun.....	Huron.....	4 69 May, "
436 Ross, Mrs. Margt., Wi- dow of Wm. Ross.....	Victoria.....	15 84 June, "
437. Squier, Mrs. Flora J., Widow of Isaac C. Squier.....	Hastings.....	15 90 Feb., "
438 Yates, Mrs. Elizabeth Widow of Richard Yates.....	Wentworth.....	18 11 April, "

FEMALE TEACHERS.

Prof. Elliot, in the *Atlantic Monthly* for June, contributes a practical and highly useful article on "Wise and Unwise Economy in Schools," in which he trenchantly exposes some of the fallacies of the common school system of the United States. His observations are equally as applicable to Canada and could be read with profit by many who assume the responsible duties of teaching. Without attempting a reference to the different subjects he treats of, we take this sentence as expressing much that could be properly enforced;—"An experienced woman who has the required gifts and training is likely to be as good a teacher as an experienced man of like gifts and training." This, we think, has received the unqualified endorsement of the public, and, therefore, needs no argument to enforce it. Female teachers are to-day employed in preference to male teachers in nine-tenths of the public schools in the United States, and they are also steadily increasing in Canada. It may be that in some instances a mistaken idea of economy directs to the choice of a cheap teacher, and as women ordinarily estimate their labour at a lower figure than men they have the preference among this class. But if, as Prof. Elliot says, a woman of equal gifts and training will make as good a teacher as a man of similar qualifications, why should she not receive the same remuneration for accomplishing the same results? We are led more directly to ask this question by observing not long since where a Board of Education in

the western part of the Province had adopted a resolution declaring that the salaries of female teachers under their employ should be the same as those of male teachers of the same grade of certificate. This is only carrying out a self-evident principle in barter and sale. It is the scarcity of an article that gives it a value, and we do not think sex has anything to do with determining the rule or suggesting amendments. Female teachers of merit are just as scarce as male, and their value should be estimated on the same basis of calculation. A first or second class female teacher, capable of accomplishing the same results as a male teacher of equal grade, should be paid the same salary for her services. By discriminating in this rule we intimate as much as if it is a misfortune to be a woman, and adopt in a modified form the restrictive and oppressive customs of savage and half-civilized nations. Of course we do not lose sight of the fact that equal grades of scholastic training by no means constitute equal merit as a teacher. There are peculiar gifts and attainments which go far towards making a successful teacher, and our experience has taught us to believe that these qualifications are more generally possessed by women than men. If patience and the faculty to win and retain the affections are necessary adjuncts of a teacher's character, then by all means the advantage is with the women. We have not space for further remarks at this time, but leave the subject with the full conviction that we are on the right side of the question. If men claim a title of superiority, let them vindicate their right to it by something more convincing than the traditional one of wearing the breeches.—*Napanee Express*.

#### A TEACHER'S REVERIES.

The tasks were long but they now were o'er, the children away had gone,  
And in the school room by her desk the teacher sat alone.  
Wearied at heart and in limb she sat at the close of that summer day;  
She gazed around on the vacant seats but her thoughts were far away.  
Thoughts of her own school days of yore were passing through her mind,  
And tender memories of the past which seemed so far behind.  
She thought of the home where her youth was spent—the place of all others bright,  
Of the gay companion she had loved when her heart was free and light.  
Dear sunny days were the ones she spent, too happy indeed to last,  
One by one they had flitted by, till they all had faded past.  
She had none to love save the little ones that came to her school each day.  
Theirs were the arms that entwined her neck or courted her smile at play.  
Long had she taught in that little school, and well was her labour done;  
But weary was she with the daily care, for her race was nearly run.  
Well was she loved by her pupils there—she won them by simple truth,  
Gently she led them o'er rugged ways, so strange to the feet of youth,  
And to-night, among other things, she thought of the times that death had come,  
And robbed her school of a loved one dear or taken a scholar home.  
Many a gentle form had gone since she of the school had care,  
Many a prattling tongue was stilled; but the teacher still was there.  
Long on her cheek had a bright flush been that was not of a healthful glow,  
Long had it been since her sprightly step had become more feebly slow,  
And never before did she long for rest so much as she did to-night,  
Her limbs ached so, and a dulness too seemed gathering o'er her sight.  
She raised her hand to her weary head and breathed to Heaven a prayer,  
For tho' so lonely and unknown here, she was no stranger there.  
Thus soothed indeed with a heart outpoured, long burdened with yearnings deep,  
That resting her head as a weary child she sank into peaceful sleep.  
The morning came, and the school time too came round as it had each day,  
Some children were merrily tripping along—to school they were on their way.  
Gaily they prattled along the road till they came to a mossy stone,  
Where they sat them down to await their friend as before they had often done.  
Long they tarried, but came she not, they waited and lingered still,  
Looking in vain for their teacher dear, she came not over the hill;

Then thinking indeed as they saw her not, that perhaps she had gone before,  
They hurried them on to the well-known spot but closed was the school-house door.  
Wondering much at a thing so strange they entered on tiptoe there,  
Where they saw their friend with her head bowed down, so still in the old arm chair.  
Creeping closer they spoke to her—kissed her, she heeded not.  
Why was the cheek so strangely cold which often had been so hot?  
Frightened they hurried and brought their friends, who told them with bated breath,  
That their teacher had slept out the night before in the long long sleep of death.  
A sweet smile played round the pallid mouth, as tho' to her face was given  
A part of the light that had filled her soul on entering the joys of Heaven.  
Weeping the little ones mourned for her, they could not believe her dead,  
They followed her down to the new-made grave and bitter the tears they shed.  
Time has flown,—but her memory still is cherished by those she loved,  
And her loving words have been borne in mind tho' some of them far have roved.  
The Daisies grow o'er her quiet grave, her spirit is with the blest,  
Never again shall she weary grow or sigh for a time of rest.

R. M.,  
Teacher.

Bond Head, Ont.

#### V. Papers Relating to Education.

##### PUBLIC INSTRUCTION IN QUEBEC.

In the Report of the Minister of Public Instruction for the year 1872, and in part for 1873, which we have just received, we find some suggestions, as to methods of teaching and subjects taught in some of our schools which are worthy of the attention of all interested in the subject of education. The Report begins by a statement that the progress made, during the time specified, according to the reports of the inspectors has been satisfactory enough. The number of schools and the attendance of children have increased at least in the same ratio as the population. The schools also assume each year a character of more general efficiency. The number of model schools and mixed academies is augmenting considerably from year to year. On the whole, after careful examination, these were found satisfactory. Several of them, however, were not what they ought to be, and it was deemed necessary to strike some off the list of grants voted in favour of superior education, and to warn others that they would have to conform to the desired requirements in this respect. This question was also considered by the Council of Public Instruction, and a resolution was adopted, recommending the Lieutenant-Governor in Council to name a certain number of special visitors charged with the duty of carefully inspecting all the superior educational institutions and to return to the Department a detailed report of the results of their inspection, so that, in future, the allotment of the grant might be made on a more equitable basis than heretofore.

Among the branches which especially appear to have suffered from neglect are book-keeping, geography, and the history of Canada. On one of these subjects it is well remarked that to attach children to their native soil it is requisite to teach them its history, to let them know that, though still young and sparsely settled, Canada possesses a past record which might do honour to any nation, however old and populous. It is also desirable, as we have again and again inculcated in this journal, to give them an idea of the various phases through which the work of our organization has passed, and of the constitution under which we live. In a constitutional country it is well that each individual should know something of the operations of the Government by which he and his fellow-citizens are ruled, and it is at school that he ought to acquire these elementary notions, which, later on, will arouse in him the desire of gaining further knowledge of his rights and duties as a citizen.

\* Another defect noticed in the majority of the schools of the Province of Quebec is the complete absence of all agricultural instruction. Although it is impossible, in ordinary schools, that a regular course should be followed in connection with this important study, it is still possible to impress children with the truth that agriculture is an art, a real science, and that it is through ignorance of this science that our farmers have been obliged to

witness their once fertile lands languishing year after year and rapidly becoming unproductive. By this means there could be awakened a desire in the minds of the taught to learn something more about this science so as to do better than their predecessors—a desire which might produce important results on the whole country.

In connection with educational institutions for young girls, it is observed in the Report that, according to the opinion of many, the system of teaching pursued is open to objection and does not respond to our present state of society. While giving all credit where it is due, the Report goes on to say that the instruction imparted in the conventual communities is not sufficiently practical. Too much stress is laid on the teaching of what is merely ornamental to injury of useful knowledge. Young girls thus often acquire tastes and habits, above their social condition, which they cannot afterwards satisfy. It is therefore suggested that this system of teaching is susceptible of improvement, and certain subjects are mentioned, which might, with advantage, receive more attention than what has hitherto been bestowed on them. Among these are domestic economy, sewing and enough of book-keeping, to enable the girl, become wife, to keep an account of her household affairs. Woman, throughout all time, has played an important role in society by the influence she exercises on the family circle. It is, therefore, essential that the chief teacher of the family should, herself, cultivate a life of order and economy, indispensable in everything, of whatever nature.—*Montreal Gazette.*

### THE PEDANT AMONG COLONISTS.

I met him last winter, a book on legs, rather low of stature, but with a lofty idea of his own inexpressible importance. As he does not get into the usual newspapers, seeing that the reporters find it hard to make a paragraph out of him, perhaps it will interest you to study him a little. He enjoyed the immense advantage of being born in an ancient town of one of the famous islands of Western Europe. He also inherits fair natural abilities, and as he was able to run his own "coach" (private tutor) at Cambridge, and did not give more than two wine parties a week, he gained one of the many scholarships attached to that old and richly endowed University. Thenceforth he flourishes as "*Scholar*" of his college, and is very careful never to omit the *Sch.* at the end of his signature. Though his general outward appearance is not prepossessing, and his clothing not what the pawnbroker would most desire, yet he blandly condescends to shake hands with us Provincials and "mere Colonists,"—

The man on horseback he,  
The humble footmen we,—

and says he is really surprised to find so many signs of civilization in this new country: he had not really expected so much. His pleasure overflows in fine patronizing phrases. He has less than a hundred dollars in his pocket, and spends twenty-five of it to send a cable despatch to his mother to say that he is "doing Ontario". As to his education, he has studied one subject, and one only, in his University career; and in this he professes to "give in to no man." He is a mathematical all-in-all. If you are interested in the Calculus, he can shew you the latest methods of the best men at Cambridge. Hemming, Hymer, Gregory, Godfrey, Frost, Sandeman, Salmon, Newton and the rest, he has at his finger ends, and will quote page and paragraph, chapter and section, through the Cambridge course of pure mathematics. Beyond this orbit however all is to him silence, darkness, and mystery. Outside that gin-horse track he does not move, nor care to move. History, Poetry, Psychology, Natural Science, are dead and buried and forgotten as far as he is concerned.

But here is his cousin-german, the classical all-in-all, who has quite as one-sided an intellectual development. He never wearies of the praises of Greek and Latin literature, and of the superiority of the ancient pagan writers over the Christian moderns. No such writer, he says, as Plato, Aristotle, Demosthenes, Cæsar, Tacitus and Horace now grace the stage of human action. No logic like Aristotle's; no mental science like Plato's. Kant and Hamillike are mere moderns; Treudenburg, Whewell, and Mill are not like the ancients, though it is difficult to understand on what grounds he rests these sweeping conclusions, seeing that he knows little more than the names of the writers whose merits he values so lightly. He will quote parallel passages from any common classical writer you choose to select, and could compose a Greek ode more easily than he could give an intelligent account of the air he breathes, or describe the construction and use of a common thermometer. He would scorn to use even a Greek lexicon, how much more an English Dictionary.

One subject each knows—"only this and nothing more." Shall we call the result of such a training liberal education? Should

we call that a liberal muscular education of the athlete which developed his legs and made him a famous runner, while his arms were powerless and weak as a child's? This plan may produce a self-complacent pedant, who ever thinks "he has not so very much to learn;" it can never produce a well-educated, properly furnished man, ready to grapple with the numerous many-sided questions sure to present themselves in his day and generation.—C. CLARKTON, in "*New Dominion Monthly*," for October.

### THE EDUCATIONAL MUSEUM AT TORONTO.

The Rev. Dr. Henderson, Superintendent of Public Instruction in Kentucky, recently paid a visit to Toronto. He thus states the impression of his visit to the principal Educational Institution:—

"I stood for fully fifteen minutes in awe, before the buttressed and towered grandeur of the Toronto University buildings. The magnitude of the structure, the mingled solidity and beauty of the architecture, the stained glass windows, the carved doors, the *tout ensemble*, made me to realize the idea of cathedral and abbey grandeur, which has impressed so many American tourists to insular and continental Europe. This is a provincial institution. It is located in a magnificent park of about 60 acres, the care of which, under a long lease, is relegated to the municipal authorities of Toronto. The buildings are quadrangular, the interval square being 200 feet to a side. The front toward the lake measures 300 feet, with a tower in the centre (Norman style) 120 feet high. This building cost \$500,000. A similar edifice among us would cost a million.

"Among other educational institutions I visited were Trinity College (Episcopalian) and the Normal and Model Schools and Educational Offices. These latter buildings are located upon the centre of an open square of seven and one half acres. The site is elevated, and a commanding view is had, from the top, of the bay. The grounds are laid out after the most approved principles of landscape gardening. The Educational Museum is a collection of the fauna and flora and minerals of Canada, a general cabinet, and an immense collection of philosophical and chemical apparatus, school furniture, maps, charts, diagrams, etc. In addition to this, there are splendid collections of copies of the great masters—Italian, Dutch, and Flemish schools—and plaster casts of the great statues (ancient and modern), and of the discoveries at Nineveh, in Egypt, &c., including the celebrated Rosetta stone. Here also may be seen copies of the seals of all the English sovereigns, from the time of William the Conqueror down, specimen of all coins, ancient and modern, and the armour worn by the mailed knights. In the midst of all this, with a retinue of scholarly aids and clerks, is the office of Rev. Dr. Egerton Ryerson, the Chief Superintendent of Public Instruction, who has held the office, deservedly, for thirty years, with no idle clamours about rotation, and who will go to his grave with the blessings of the Canadian people. I found, however, that the Doctor's position was not all as sweet and fragrant repose upon a bed of roses. That 'infernal' text-book question is a disturbing agent there as elsewhere. That terrible spook that haunts the Superintendent everywhere and whither, materializes in Canada as in the States. Is there in any clime anything more appalling than a book-agent? I have travelled far and wide, but he waits on my track. But for him, it seems to me, I could be happy.

"While looking through the spacious halls and magnificent museums, cabinets, etc., of the University and Normal Schools, supported by a province of less wealth than our Commonwealth, I acknowledge I could but bemoan that sentiment painfully apparent among a large class of our people, that beholds the ghost of State ruin in a Normal School; that would cashier a man who, under the pretence of education, would propose the purchase of a picture or a statue; and that would go into hysterics over a scheme for the establishment of a State University. But this is the glorious land of liberty, and that is a down-trodden province of Victoria. Don't, if you please, talk about Kentucky being ruled by petticoat sovereignty!

"And yet the day is coming when there will be State museums, cabinets, picture and statue galleries, and academies of music supported by the State. The prophet who dares predict it may die a martyr, and yet the aftertime may build and garnish his sepulchre.

### THE SOUTH KENSINGTON MUSEUM.

To study it with care, and then stand in it intelligently, must, one would say, convey to any man a sense of his own eternity. Vista upon vista! The eye never reaches the farthest end in the past from which humanity has toiled upward, its steps traced in fair victories over chaos, nor does it alight on any historic epoch not related to itself; the artist, artisan, scholar, each finds himself gathering out of the dust of ages successive chapters of his own

spiritual biography. And even as he so lives, the Past from which he came over again, he finds at the converging point of these manifold lines of development, wings for his imagination, by which he passes on the aerial track of tendency, stretching his hours to ages, living already in the Golden Year. There is no other institution in which an hour seems at once so brief and so long. A few other European museums may surpass this in other specialities than its own; though when the natural-history collections of the British Museum have been transferred to their new abode, one will find at his door a collection of that kind not inferior to the best with which Agassiz and others have enriched the Swiss establishments; but no other museum has so well classified and so well lighted an equal variety and number of departments and objects representing that which is its own speciality—Man as expressed in the works that embody his heart and genius.

The museum has been in existence about eighteen years. Its building and contents have cost the nation about one million pounds; an auction held on the premises to-day could not bring less than ten millions. Such a disproportion between outlay and outcome has led some to regard South Kensington as a peculiarly fortunate institution; but there has been no luck in its history. Success, as Friar Bacon reminds us, is a flower that implies a soil of many virtues. If magnificent collections and invaluable separate donations have steadily streamed to this museum, so that its buildings are unceasingly expanding for their reception, it is because the law of such things is to seek such protection and fulfil such uses as individuals can rarely provide for them.—*M. D. Conway in Harper's Magazine for September.*

## VI. Papers Relating to Practical Education.

### SUCCESS IN TEACHING.

Every teacher desires success. It can be had. Will you try to deserve it? If so, decide in your own mind what success is, then how to seek it, and lastly, work for it. Success is obtaining the right results. In teaching it consists in making the pupils know—in leading them to love study, in training them to right methods of study, in forming right habits, in cultivating their tastes and talents judiciously.

To obtain success one needs knowledge and skill. He needs to know the right methods of work, and to have skill in the same.

Avoid all common errors, make a list of such errors as you know other teachers have, make a list of your own, and avoid them all. Seek perfection. The requisites of a good school are: a good school-house, a good teacher, and good scholars.

You can keep your house neat, quiet and well ventilated. The house has an influence on the school; keep the air pure and the rooms neat.

You can be a good teacher. Success depends not upon one great effort, but upon regular, patient, and faithful work. Keep at it—"with time and patience the mulberry-leaf becomes satin."

Go to school in season. Call school at the right time. Have the pupils come in promptly and quietly. Write out your order of exercises. Arrange your programme as well as you can. Carry it out to the minute. Consider it as necessary for you to follow it as for the children to follow it. Provide enough work for every pupil. Suppress whispering. Secure the co-operation of your pupils. Lead them to see that it is for their interest to have good order and a good school. Require hard study from the pupils. Lead them to love study. Give short lessons. Assign them so plainly that none of them may mistake them. Have the lessons well studied. Require clearness, promptness, and accuracy in recitation. A little well known is of great value. Let not "how much, but how well," be your motto. Do not assist the pupils much at recitation. Cultivate their self-reliance. Self-help is their best help. Do not let them help each other. Excite an interest in study. Be enthusiastic yourself, and you will make your pupils enthusiastic. Encourage those who need encouragement. Review often. Talk but little. Be quiet yourself. Speak kindly and mildly. Be firm. If you love the pupils they will love you. Keep good order. Government is the main thing. Have order and good order, whatever you lack.

A good teacher can become better. Be not satisfied with your present skill. Seek to improve yourself as a teacher. Study hard yourself, and study daily. Try to learn more each day than you learned the day before. Have a fixed time for your own study. Use that in study. If you do not love learning, why should your pupils?

Talk with parents about their children. Many parents can give you useful hints about teaching. Urge the parents to send their children to school regularly, and to talk to them about their studies.

Mark down your errors, their causes and effects—shun them in future.

Keep a list of your plans, your difficulties, and your methods of meeting them. Look at the list often, and see if you are carrying out your plans.

Read up on teaching. Read for improvement. Adopt new methods with caution. Hold fast the good, reach after the better. See if you can give a reason for your methods of teaching. Write. Make a list of the marks of a good teacher. Attempt to make these your own. Be not satisfied with doing as well as others—surpass them. Surpass yourself daily.

Study and practise these directions. Failure will be impossible.—*American Journal of Education.*

### RULES OF DISCIPLINE SHOULD BE FEW AND SIMPLE.

There is too much tendency in large, well classified schools and colleges to make the machinery of government cumbersome, so that the rules become such a weight upon the students as to depress the mind and repress that spontaneity of individual action so essential to the healthy growth and development of the intellect. Just as soon as a student feels that instead of being dealt with personally, he is only part of a great machine, that is controlled and worked as a whole, much of his individual responsibility is lost, except to do his part in the machine. Personal responsibility, constant, as though no other student were associated with him, is the true condition of development; and, unless you secure that condition fully, much of the student's time and strength is wasted, and your own strength is wasted in managing the machine, which when the school dissolves, is worthless. Machinery is as essential in a school as in a cotton-mill, but the simplest machinery possible that will accomplish the work is best in both. Simplicity and directness are doubly essential in a school, because you are dealing with living beings, and it is the contact of the living teacher with the pupil, in the whole process of education, that arouses activity, and makes every germ of knowledge quicken to the fullest development. This is no plea for lax government; for the teacher who cannot govern promptly and perfectly wastes a large portion of his time and strength directly, and does mischief enough to the character of his pupils to overbalance any learning he may impart to them.—*President Chubbourn in Circular No. 4, 1875, Bureau of Education.*

## VII. Papers on Scientific Subjects.

### SCIENTIFIC INSTRUCTION.

Below will be found a brief synopsis of the eighth report of the Royal Commission on Scientific Instruction and Advancement of Science. We notice it here for two special reasons: First, the report sets forth what scientists have been urging for years, that the Government should encourage original investigations by providing materials, apparatus, rooms, etc., for the use of those devoted to such researches, and, that even when such investigations have no direct reference to Government purposes. The report goes further and recommends that these persons should be paid. The subject is surrounded with a good deal of difficulty. But no valid reason can be given why a body of men properly qualified, and selected by competent authority, should not be recognised and recommended by Government for the highly important work of original discovery. The second point we would refer to here is the opinion of the Royal Commissioners formally put on record—"That the creation of a special Ministry dealing with science and education is a necessity of the public service." The composition of the proposed Ministry can be seen in the synopsis which we quote. It is not unlike that of our own Council of Public Instruction with a Minister on the floor of the House of Assembly.—*Mail.*

The Royal Commission on Scientific Instruction and the Advancement of Science analyse at considerable length the evidence bearing on the questions as to the central organization best calculated to enable the Government to determine its action on all questions affecting science, and they arrive at the conclusion that "the creation of a special Ministry, dealing with science and education, is a necessity of the public service."

I. The assistance given by the State for the promotion of scientific research is inadequate, and it does not appear that the concession or refusal of assistance takes place upon sufficiently well defined principles.

II. More complete means are urgently required for scientific investigations in connection with certain Government departments; and physical as well as other laboratories and apparatus for such investigations ought to be provided.

III. Important classes of phenomena relating to physical

meteorology, and to terrestrial and astronomical physics, require observations of such a character that they cannot be advantageously carried on otherwise than under the direction of the Government.

Institutions for the study of such phenomena should be maintained by the Government; and, in particular, an observatory should be found specially devoted to astronomical physics, and an organization should be established for the more complete observation of tidal phenomena, and for the reduction of the observations.

IV. We have stated in a previous report that the national collections of natural history are accessible to private investigators, and that it is desirable that they should be made still more useful for purposes of research than they are at present. We would now express the opinion that corresponding aid ought to be afforded to persons engaged in important physical and chemical investigations; and that whenever practicable such persons should be allowed access, under proper limitations, to such laboratories as may be established or aided by the State.

V. It has been the practice to restrict grants of money made to private investigators for purposes of research to the expenditure actually incurred by them. We think that such grants might be considerably increased. We are of opinion that the restriction to which we have referred, however desirable as a general rule, should not be maintained in all cases, but that under certain circumstances, and with proper safeguards, investigators should be remunerated for their time and labour.

VI. The grant of £1,000 administered by the Royal Society, has contributed greatly to the promotion of research, and the amount of this grant may with advantage be considerably increased.

In the case of researches which involve, and are of sufficient importance to deserve exceptional expenditure, direct grants in addition to the annual grant made to the Royal Society should be made in aid of the investigations.

VII. The proper allocation of funds for research; the establishment and extension of laboratories and observatories; and, generally, the advancement of science and the promotion of scientific instruction as an essential part of public education, would be most effectually dealt with by a Minister of Science and Education. And we consider the creation of such a Ministry to be of primary importance.

VIII. The various departments of the Government have from time to time referred scientific questions to the Council of the Royal Society for its advice; and we believe that the work of a Minister of Science, even if aided by a well organized scientific staff, and also the work of the other departments, would be materially assisted if they were able to obtain, in all cases of exceptional importance or difficulty, the advice of a Council representing the scientific knowledge of the nation.

IX. This Council should represent the chief scientific bodies in the United Kingdom. With this view its composition need not differ very greatly from that of the present Government Grant Committee of the Royal Society. It might consist of men of science selected by the Council of the Royal Society, together with representatives of other important scientific societies, and a certain number of persons nominated by the Government. We think that the functions at present exercised by the Government Grant Committee might be advantageously transferred to the proposed Council.

THE SIGNAL SERVICE.

A report of the meteorological and magnetic observations of the Dominion for the year ending the 31st December, 1874, has been issued as a supplement to the seventh annual report of the Department of Marine and Fisheries, though the means of taking observations are yet, in many respects, deficient, the reports furnished to the Department, have been found of great importance to the interests of navigation. The stations from which these reports are received at the central office are thirty-five in number. Storm warnings were issued in fifty-five different days during the past year, the total number of warnings being five hundred and forty-four. To Quebec and points westward two hundred and twenty-two warnings were issued in twenty-nine days. To points below Quebec and throughout the maritime Provinces the days of warning were thirty-four, and the number three hundred and twenty-two. The warnings distributed in the several months were in January, 8; in February, 42; March, 4; April, 51; May, 44; June, 64; July, 0; August, 16; September, 70; October, 99; November, 104; December, 42. The Superintendent of the Central Office, Mr. G. T. Kingston, M. A., points out the necessity of a more skilful and experienced corps of observers, especially at those stations from whence regular and trustworthy observations are looked for, and unless the reports are such as can be relied on, they are worthless for the purpose contemplated in obtaining them. It is suggested that a special staff of properly qualified observers should be organized in addition to

the existing corps, and supplied with scientific instruments requisite for the most efficient duty. The maritime interests of the Dominion are now large, and rapidly growing, already standing fifth among the nations of the world; but the efficiency of the signal service has not been allowed to keep in time with their advancement. It is no small reproach to the Government that the only station possessing self-recording apparatus similar to that used in Edgland, and without which much of the time expended is thrown away, is that of St. John's College in Manitoba, and there only supplied by the private munificence of the Bishop of Rupert's Land. We believe the intelligence of the country will heartily second the Government in any reasonable expenditure for the better equipment of the Signal corps.

VIII. Mathematical Department.

SOLUTIONS OF QUESTIONS IN THE JOURNAL FOR JUNE, 1875.

1. Multiply by  $\sqrt{11} + \sqrt{7} + \sqrt{5} + \sqrt{3}$ ; multiply the product by  $6 + 2\sqrt{55} + 2\sqrt{21}$ ; again, multiply the last product by  $172 - 24\sqrt{55}$ , and the result is a rational quantity.

2. Answered as follows by the "Shepherd of Touraine": He sells the first portion at a profit of 25 per cent, and the last at 175 per cent, and gains 60 per cent on the whole. The first profit is less than the mean profit by 35 per cent, and the second is greater by 115 per cent; he has, therefore, sold 115 parts of the first against 35 of the second, that is, the first portion sold was  $\frac{115}{150}$  of the whole cost; and the last  $\frac{35}{150}$ ; but the first portion was  $\frac{3}{4}$  of the cask and two gallons more; and the difference between  $\frac{115}{150}$  and  $\frac{3}{4}$ , is  $\frac{1}{30}$ .  $\therefore 2 \text{ gls.} = \frac{1}{30}$  of the cask, and the whole cask contained 120 gallons.

The 35 per cent. mentioned in the question should have been 25.

3. The formula is  $f = m(s - s')$ ;  $\therefore 12(932 - 8) \times 62\frac{1}{2} = 991\text{bs.}$

4. Let  $l =$  length, and  $n =$  the No. of divisions; then  $\frac{l}{n} \sqrt{n}$ ,  $\frac{l}{n} \sqrt{2n}$ ,  $\frac{l}{n} \sqrt{3n}$ , &c, represent the distances of the points from the upper extremity of the divided length.

- $\frac{l}{n}(\sqrt{n}) = 8.1649.$
- $\frac{l}{n}(\sqrt{2n} - \sqrt{n}) = 3.3821.$
- $\frac{l}{n}(\sqrt{3n} - \sqrt{2n}) = 2.5950.$
- $\frac{l}{n}(\sqrt{4n} - \sqrt{3n}) = 2.1878.$
- $\frac{l}{n}(\sqrt{5n} - \sqrt{4n}) = 1.9274.$
- $\frac{l}{n}(\sqrt{6n} - \sqrt{5n}) = 1.7426.$

5. The extreme segments are  $7\frac{1}{5}$  and 3, and the middle segment  $1\frac{1}{5}$ ; then, if the weight is to be applied at any other point than the middle, the strength will be, as the product of the two distances is to the square of half the length of the beam between the supports.

Then we have, As  $6^2 : 9 \times 3 :: 500 : 375 = \text{wt. for the middle.}$

As  $7\frac{1}{5} \times 4\frac{1}{5} : 9 \times 3 :: 500 : 390\frac{5}{8} = \text{wt. for D.}$

6.  $\frac{1}{3} \pi b^2 a = \text{Solidity; and } \frac{1}{3} \pi b^2 \text{ as} = \text{weight.}$

Let  $x =$  part of axis immersed; then,  $a : b :: x : \frac{bx}{a} = \text{rad. of section immersed, and } \frac{\pi b^2 x^3}{3a^2} = \text{buoyant force; hence, } \frac{\pi b^2 x^3}{3a^2} = \frac{\pi b^2 \text{as}}{3}$

$= \frac{\pi b^2}{3a^2} (x^3 - a^3 s) = \text{force the work at the vertex. } \frac{\pi b^2 x^3}{3a^2} : \frac{\pi b^2 \text{as}}{3} :$

$\frac{3a}{4} : \frac{3a^4 s}{4x^3}$  distance from the vertex of the common centre of gravity of the cone, and the force or weight applied at the vertex; consequently  $\frac{3x}{4} = \frac{3a^4 s}{4x^3}$ ;  $\therefore x = \sqrt[3]{a^4 s}$ ; hence by substituting for  $x$ ,

$\frac{\pi b^2}{3a^2} (a^3 s^{\frac{3}{4}} - a^3 s) = \frac{\pi b^2 a}{3} (s^{\frac{3}{4}} - s)$ . Now  $s^{\frac{3}{4}} - s$  being a positive quantity

when  $s$  is a proper fraction, and  $\frac{\pi b^2 a}{3} (s^{\frac{3}{4}} - s)$  applied at the vertex is

requisite to cause the cone to float with indifference.



7.  $x^2 + y^2 - x - y = 14$ ; and  $2x + 2y + 2xy = 28$ . By addition,  $(x + y)^2 + (x + y) = 42$ ; complete the square, &c.;  $x + y = 6$ , and  $x^2 + y^2 = 20$ ;  $\therefore x = 4$ , and  $y = 2$ .

**CORRECT SOLUTIONS RECEIVED.**

J. W. Henstridge, Collins' Bay, solved all; Duncan McEachran, Mount Forest, 1, 2, 3, and 7; Robert J. Walsh, Albion, 1, 2, and 7; John Ireland, 7; Daniel Drummie, Solina, 7; Joseph Watson, Vaughan, 2.

**SOLUTIONS TO THE FOLLOWING PROBLEMS REQUIRED,**

*Address Solutions to A. Doyle, Ottawa.*

1. A owes B \$1000, and agrees to pay him in ten equal annual instalments, at a rate per cent., simple interest, equal to the true equated time for all the payments: how much must B receive annually?

2.  $x^{\frac{1}{5}} + y^{\frac{1}{5}} = a$ ;  $x + y = b$ ; 3.  $x^{\frac{1}{3}} + \sqrt{x^{\frac{1}{3}}y^{\frac{1}{3}}} + y^{\frac{1}{3}} = a$ .  
 $x^{\frac{1}{3}} + \sqrt{x^{\frac{1}{3}}y^{\frac{1}{3}}} + y^{\frac{1}{3}} = b$ .

4. A rectangular vessel of sheet-iron is 6 feet long, 2 feet wide, and  $1\frac{1}{4}$  in depth; it sinks 3 inches in common water; required the thickness of the sheet-iron.

5. Required the length of a line, drawn from a given point, in one of the sides of a given triangle, so as to cut off  $\frac{2}{3}$  of the area.

6. The sum of the diagonal and length of a right-angled parallelogram is given, to construct it when the square of the diagonal is equal to  $n$  times the square of the less side.

7. A body falling from the top of a tower, was observed to descend through  $\frac{1}{n}$  part of its altitude in the last second. Required the whole time of descent, and altitude of the tower.

8. If a tube of two inches in width, under a pressure of two feet, deliver 10 cubic feet of water per minute, its co-efficient of efflux or velocity is required.

**REMITTANCES BY INSPECTORS AND TRUSTEES TO THE EDUCATION DEPARTMENT.**

Persons having to make remittances to the Education Department of Ontario, will please send the same, if to the amount of \$50 or over, through an agency of the Bank of Commerce, or the Bank of Montreal, if there be one in the neighbourhood. The amount can be deposited at the agency to the credit of the Chief Superintendent, and the duplicate bank receipt enclosed with the letter of advice to the Education Department.

**IX. Advertisements.**

**University of Trinity College.**

(INCORPORATED BY ROYAL CHARTER.)

**MEDICAL DEPARTMENT—WINTER SESSION 1875-76.**

**FACULTY:**

- E. M. HODDER, M.D., Eng.; F.O.S., Lon.; Dean of the Faculty, and Consulting Surgeon Toronto General Hospital and the Burnside Lying-in-Hospital.—159 Queen Street West. Prof. of Obstetrics, and Diseases of Women and Children.
- W. B. BEAUMONT, M.D., F.R.C.S., Eng.; Consulting Surgeon Toronto General Hospital. Emeritus Prof. of Surgery.
- NORMAN BETHUNE, B.A., M.D., Edin.; M.R.C.S., Eng.; F.R.C.S., Edin.; F.O.S., Lon.; Physician to the Toronto General Hospital, and Burnside Lying-in-Hospital. 24 Gerrard Street East. Prof. of Surgery and Clinical Surgery.
- WALTER B. GEIKIE, M.D., F.R.C.S., Edin.; L.R.C.P., Lond.; F.O.S., Lond.; Physician Toronto General Hospital.—Corner Gould and Yonge Streets. Prof. of Principles and Practice of Medicine.
- J. FULTON, M.D., M.R.C.S., Eng.; L.R.C.P., Lond.—334 Yonge St. Physician to the Hospital for Incurables and Hospital for Sick Children. Professor of Physiology and Sanatory Science.
- W. COVERTON, M.D., M.R.C.S., Eng.; Professor of Pathology and Medical Diagnosis.
- JAMES BOVELL, M.D., L.R.C.P., Lon.; Consulting Physician to the Toronto General Hospital, and the Burnside Lying-in-Hospital.—118 St. Patrick Street. Professor of General Pathology.
- J. E. KENNEDY, A.B., M.D., F.O.S. Lon. Prof. of Materia Medica and Therapeutics.

- J. ALGERNON TEMPLE, M.D., M.R.C.S., Eng.; F.O.S., Lon.; Attending Physician, Burnside Lying-in-Hospital.—144 Bay Street. Prof. of Medical Jurisprudence and Toxicology, and Assistant Lecturer on Obstetrics, etc.
- W. H. ELLIS, M.A., M.B., L.R.C.P., Lon.; Instructor in Chemistry, College of Technology. Prof. of Chemistry—General and Practical.
- H. ROBERTSON, M.B., M.R.C.S., Eng.—24 Shuter Street. Prof. of Anatomy—Descriptive and Surgical.
- J. FRASER, M.D., M.R.C.S., Edin.; L.R.C.P., Lon. Demonstrator of Anatomy.
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