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Vol. I. TORONTO, AUGUST, 1877.

REV. WILLIAM CAVEN, D.D.

The name of the Rev. Principal Caven is no unworthy associate those of the other eminent men who have from time to time filled the office of President of the Ontario Teachers' Association. Like most, if not all, of them, he is in the best sense of the word a self-made man, having reached his present high position by dint of long-continued and severe mental application. A school teacher himself in his early years, and the son of a school teacher, it was in accord with the fitness of things that after twelve years of professorial work, in which he has greatly distinguished himself, he should be chosen to fill a chair which has been occupied by such both side, than at the present time. The destructive criticism of

eminent teachers as Professor Wilson, Professor Young, and Professor Goldwin Smith. Principal Caven was born in Wigtonshire, Scotland, in 1880, his father being a member of one of the sects which were afterwards consolidated form the United Presbyterian Church. On his mother's side he is connected with the Covenanters, now more commonly known as the Reformed Presbyterian Church of Scotland. His early education, a tolerably thorough one, was received in his father's school prior to the emigration of the family to Canada in 1847. Almost immediately afterwards, Mr. Caven commenced to study with a view to entering the ministry of his own church, while his father continued his active connection with the work of education both as a teacher and a superintendent of schools. The best collegiate institutions were then in a very rudimentary condition, and the denomination to which he belonged

hard labour, and with such aid as he could secure from ordinary ministers of the church appointed for that purpose, he succeeded in completing his theological course, and was licensed in 1852 as a regular Minister of the Gospel under the auspices of the United Presbyterian Church, after having spent some time in the work of common school teaching.

At the early age of twenty-one he was inducted into the pastorate of the congregation at St. Mary's, near which place his family had settled, and where they still reside. For the comparatively long period of thirteen years he continued in this charge, and his success in the pretoral work during that time was an earnest of the still more striking success which awaited him in his present sphere

of labour. The work of self-culture was never laid aside on account of the demands made on his time, as is too frequently the case with professional men, and in 1865 his scholastic attainments were recognized by the Canada Presbyterian Church, which invited him to fill the chair of Exegetical Theology and Biblical criticism in Knox College, then recently vacated by Professor Young. That position he has held ever since with great ability, his teaching being characterized as much by fearless candour as by evangelical orthodoxy. The department of theology entrusted to his charge is one for which he is peculiarly adapted. It is the one in and around which the battle of controversy rages with most fierceness and acrimony, and never was the war carried on with more vigour on

the schools, appealing as it does to human reason and the facts of history, has to be fairly encountered by every teacher of Biblical criticism whose aim is to enable his students to give a reason for the faith that is in them. The Canon of Scripture has to be defended against assaults from a variety of quarters, while every page of ecclesiastical history has to be studied with a view to finding out what the lines of attack against Evangelical Christianity have been in the past, and low they must be met in the future. By occupation as well as taste, therefore, Prof. Caven has been impelled to continue his work of self-culture until he has reached his present honourable position as a scholar and divine. During the past seven or eight years Dr. Caven has discharged the duties of Principal of the College as well as Professor of Exegetics, his management of the institution being as successful as his professorial work. Although for the pur-

laboured under the disadvantage of being without any. By dint of | poses of this sketch we have most to do with him in his capacity of teacher, it will not be out of place to refer to Principal Caven's earnest sympathy with every movement calculated to reform society and elevate the masses. He has ever taken a deep interest in the educational system of this Province, and it may safely be predicted that that interest will be increased rather than diminished as the result of his election to the Presidency of the Provincial Teachers' Association. It is one of the peculiar excellencies of that society, that by electing prominent persons to the honourable position of President, it tends to bring them into closer and more active connection with the work of practical education, and for this reason it seems desirable that the practice of selecting such mena practice seldom hitherto departed from-should be maintained.

ABOUT CONVENTIONS.—They will come from the east and from York City, when there is not one chance in 300 of ever earning the west; long articles will be read, long speeches will be made, officers will be elected and much glory will be got. Already m anticipation much midnight keroseng-oil has been spent. Those who are expecting to be elected president, etc., are coming over the speeches to express how surprised they are! A good many will speak at the conventions who should remain silent. For to repeat over and over the same story about the importance of grammar, or geography, or even the importance of education itself is useless as well as disagreeable. Those who speak should certainly have something to say. A good many things will be left unsaid and undiscussed that need candid and carnest treatment. Generally the best things that are said are by those outside the profession. Those who are inside note the cup and platter, but not their contents. No one can visit a convention and not be struck at the close by the unsatisfactory state of mind into which most of the members have fallen; a good two-thirds resolve never to come again. The discussions of the convention should turn at once on practical things. It must be apparent to a candid observer that while the teachers are doing the teaching, the growing body or form of education is beyond their reach. And yet they are the ones to say with distinct emphasis what are the exact needs of our educational system to-day .- New York School Journal.

EXAMINATIONS. - Examinations should, it is true, be conducted to some extent, upon the same plan pursued in recitation. But this plan, having its foundation in nature, will necessarily suggest itself to every mind qualified either to examine or to teach. It is the order of nature, to advance from particulars to generals; to begin with examples, and end with rules; and the mind of the pupil, both when receiving instruction, and when under examina-tion, should be directed in the road of natural discovery. This being attended to, the greater the diversity between the modes of recitation, and the method pursued by the examiner, the better.

This diversity will present an old subject in a new light. It will induce the pupil to believe, that he knows more of the subject than he had supposed. It suggests to him that neither his author, nor his teacher, nor he himself, had exhausted the subject. The difference of manner between the teacher and the examiner, may and will puzzle the mere memoriter scholar—and this is one of its uses—to detect this very vicious habit of relying on memory alone. But it will give to the scholar whose mind has been disciplined, an opportunity of displaying that mental dexterity which the habit of thinking has given him. Examinations should be extended over the whole ground occupied by the studies of the term, and each pupil should be led to expect, that he, as an individual, will be examined on every important principle, in the whole course of instruction, given since the last examination; and when his education is finished, that a review examination would test the accuracy of his knowledge, on all that he professes to have learned.—W. H. M. in Educational Monthly.

THE TEACHER'S TEMPER.—The teacher gains nothing by fretting; he only wastes his strength by it. The profession is one that develops worrying habits; it is an occupation that ruffles the temper terribly unless one is determined not to be ruffled. The tendency of a ruffled temper is that it brings to the surface the worst qualities a person has. Let the teacher smile often and much, and let these smiles be upon his pupils and not solely on his visitors. To help the teacher to gain this balanced, pleased state of mind, we urge that the work be well planned, skillfully planned. Think over the whole thing, the difficulties you may meet, the obstructions that may be in the way and how they may be removed. Put then your whole heart in the work; go about with earnestness and enthusiasm; feel interested that it prove successful, and finally look to Providence and rely on his aid. There is no one who cannot better his temper by steadily adhering to the above directions.

-The National Teacher's Monthly says: "Good teachers should be encouraged to continue in their work, for the same qualities which make them valuable in the school-room will win success in other and more lucrative callings. Unless capable persons can understand that their work will be appreciated and paid for, and unless they can be assured of some degree of permanency, in one place, they will not continue in the business. Only those will remain who can do nothing else. This nigardly policy of doling out half a living to faithful instructors has already degraded the profession, and, if continued, will do so still more. What scholarly and energetic

\$3,000 a year, and in order to get even that he must first serve twenty years on a much smaller salary. If the people permit this work to continue it will inevitably result in the ruin of our schools." These remarks are just as applicable to Canada as to the United

There are causes for the low wages that can be removed by the teachers themselves. In fact, we think that when the teachers arouse they can increase the rate of pay very sensibly. For there is a class of persons in the community constantly on the increase, who see the value of the teacher and would have him properly paid it is the educated class. The teachers can do six things that will bear powerfully on the leaver that will raise the salaries :- Recognize by word and act that teaching is a profession. 2. Uphold normal schools and teachers' institutes. 3. Meet with fellowlaborers for mutual improvement and discussion. 4. Honor the occupation, dignify it, believe in other teachers and schools. 5. Diffuse among your pupils and the public all you can learn about education and its progress. 6. Sustain with liberality those indispensable exponents and helpers to educational progress-Educational Journals.—New York School Journal.

It is perfectly obvious that the cause of education in this country needs a new baptism. It is perfectly obvious that a new gospel should be preached to every creature, even to the average member of the American Congress. It is perfectly obvious that American educators need to press the claims of the great interest they represent, persisently to the front. It is perfectly obvious that the true principles of statesmanship as applied to the development of a free society based upon the diffusion of intelligence and virtue among the people, demand a new revelation, and a more vigorous proclamation. It is perfectly obvious that politicians and partisans should be taught that they do not own the people, but that they serve their party best who serve their country best, and they serve their country best who labor the most intelligently, faithfully and successfully for the intellectual, moral, and social developments of its citizens.—Education! Weekly.

One of the most prolific causes of truancy, as it originates in home training, is the disposition of parents to keep the boy from school on every trivial occasion. The child is generally a shrewd reasoner. If his parents are not willing to sacrifice their convenience in order to send him to school, why should he sacrifice his pleasure by attending? I have known cases of truancy broken up from the day parents became convinced of this truth. In what I have written I do not wish to be understood as discarding punishment. I only urge the point, that we are too ready to commence by severity, punishment which should be the last resort, and end by studying the home life of the child, and by consulting his parents, which we ought always to do as soon as he manifests a disposition to play truant.—H. S. in Educational Weekly.

-The following resolutions were recently passed by the New York Medico-Legal Society: -1. That the minimum age of admission to the public schools be made six years. 2. That the maximum attendance at school for children under eight years of age be made three hours per day, with suitable intermissions. 3. That provision be made by law for medical inspection and supervision to secure the adoption and enforcement of sanitary rules and laws of health. 4. That larger play grounds should as far as possible be furnished for the children; and in improving present school-houses and uniformity in building new ones, they should be surrounded on all sides with an adequate open space, the better to secure light, ventilation, and play-grounds.

-What a good thing it would be if the rising generation could be instructed in hygiene! A few minutes daily devoted to this branch would be worth more than the hours given to arithmetic and grammar. The time may never come when we can dispense with the services of specialists in medicine and surgery, but we look for a time when men will know better than to go to sleep in a small room as tight as the "black hole of Calcutta." A thousand A thousand reforms in dress and diet are needed. If the study of physiology cannot be thorough and extensive in common schools, it will at least be suggestive.—David Kirk.

-It is a teacher's high duty to send his pupils forth into the community well stored with such information and discipline as they will need to enable them wisely and successfully to discharge continued, will do so still more. What scholarly and energetic the duties and obligations which await all good citizens.— Charles young man would think of devoting himself to teaching in New Northend, in Nat. Teachers' Monthly.

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The Canada School Journal.

TORONTO, AUGUST, 1877.

EDUCATION AND THE CIVIL SERVICE.

The Dominion Parliament has had under consideration for some time the best means of improving the Civil Service. In so far, as his is a question of public policy, we do not care to offer any decided opinion on the matter; but even, with reference to this view of the question, we must confess our inability to comprehend why the test of education should not be resorted to as the most likely, on the whole, to secure competent public servants in the various departments of State Were the experiment still untried everywhere else we could feel no surprise in seeing our legislators, most of them educated men themselves, ready to make it here; but it is no new idea, and this method of recruiting the ranks of the Civil Service may now be said to have stood a rigid and thoroughly satisfactory test. It is, however, with another aspect of the proposed reform that we intend to deal just now. The Civil Services of the Dominion, and of the various Provinces, embrace a very large number of employees. At present the mode of appoint ing these may fairly be spoken of as nondescript. Education

at all events, has little or nothing to do with it. would like to see is a premium placed on education in connection with these appointments, and of all the methods of applying the educational test the most satisfactory is, probably, the one adopted now in Eugland-a competitive examination. has been for some time in use in connection with the entrance to the Military College, at Kingston, with, so far as we know, beneficial results. There does not seem to be any obstacle, except political ones, in the way of either the Dominion Government or any of the local Governments laying down a programme upon which all candidates for positions in the Civil Service would have to be examined. The list of those who succeeded in passing could then be arranged in the order of merit, the chance of receiving an appointment being determined exactly by the candidate's position on the list.

"It is easy to see what an impetus such a system would impart to our middle class educational institutions, including our high schools in Ontario and the academies and schools corresponding to them in the other provinces. As the number of appointments made annually must always be very considerable they would soon come to be considered as of no small value. and the competition for the highest places would be extremely Both pupils and teachers would take an interest in the examination and lend all their energies to the work of preparation, the great advantage being that, in all cases, the pupils not intending to compete would be induced or compelled to work with greater diligence in order to keep abreast of those who were preparing for examination. We have already called attention to the good that might be done if our leading bankers and merchants were to recognise in some way a liberal education as an additional qualification in those seeking to enter their service. If they could be induced to move in the matter and the Dominion and Provincial Governments could, at the same time, be induced to put the whole Civil Service on a competitive basis, it is safe to se that a revolution in middle class or secondary education would be speedily effected. Such a consideration is not beneath the dignity of those who have to decide the matter for the public; and for more reasons than one we should like to have their attention pointedly called to an aspect of the question which is too apt to be overlooked. If a competitive examination is the best means of obtaining satisfactory employees for the State, it would surely be no drawback, in the way of adopting it, that it was likely to prove, at the same time, a means of advancing the cause of education.

There are few countries so favourably situated for introducing such a reform as the Province of Ontario. We have already instituted an examination for which we have, as yet, found far too little practical use—the Intermediate High School examination. Apart from the fact that it plays an important part in the distribution of the High School grant, it is now regarded as worthy of a certain amount of recognition in connection with the examination of teachers, and at least one university has accepted it pro tanto in lieu of its matriculation. Other uses of the same kind will yet be found for it, but not all of them together would have as much effect in popularizing it as would its recognition by the Legislature as the basis of appointments to the Civil Service. If it were once understood that no appointments of any kind could be secured without passing the Intermediate, and that he who passed most creditably had the best chance of being nominated for a vacancy, there would no longer be much room to complain of lack of interest in an examination, with respect to which the cry of cui bono? is still frequently heard.

Another aspect of this question is well worthy of consideration. Although the Dominion Parliament has nothing to do directly with education, it is highly desirable that whenever it can legitimately do so, it should endeavour to create a common standard to which all the provinces might approximate. Such a standard would be, to some extent, created by a judiciously arranged competitive Civil Service examination. Candidates from the different provinces would be brought directly into competition with each other, as they now are, to some extent, by the Gilchrist Scholarship and the entrance examination for the Military College. The result, apart from its influence on the efficiency of the Civil Service, would certainly be an educational renaissance all over the Dominion, which would do no harm anywhere, and would prove of incalculable benefit to more than one province. It happens that the Member for West Elgin, who brought the question of civil service reform prominently before the public, is himself an honour graduate of the University of Toronto. We have the more confidence, therefore, in calling his attention to the above aspect of his own case, which is a strong one even without any such adjunct. The Minister of Education in this Province being a member of the Government, the introduction of the competitive examination system in Ontario should be a matter of comparative case.

-It has been a matter of surprise to many that the "New Education," in the shape of Kinter Garten Schools, has not been introduced into Toronto ere this. No Province, State or City on this Continent was so ready to carry out the principles of Object Teaching laid down by Pestalozzi as the Province of Ontario. No other city of America can boast of such a complete collection of Object teaching apparatus as is to be found in connection with the Education Department of Toronto. It was natural to suppose, therefore, that this Province and City would be among the first to introduce the method of Frocbel. We are glad to learn that a reliable Kinter Garten will be opened in Toronto in September, in charge of Miss Mareau, a graduate of the training School of Madame Kraus Boelte, of New York, who is well known as the best exponent of the principles of Froebel in America. Madame Kraus Boelte was for a long time a co-worker with the wife of Froebel.

—The question of female education is attracting to itself an increasing amount of interest in Canada and especially in this Province. The appearance, for the first time, of young ladies amongst the candidates for matriculation in the University of Toronto, and their success in securing creditable positions on the class list, are events of no trifling significance. Equally important is the fact that the Senate of the University has at the class.

length framed a scheme for the admission of ladies to standing and honours without compelling them to take up all the work required of the sterner sex. We hope to be able to furnish our readers next month with the scheme in detail, at the same time expressing our opinion that, in justice to intending candidates and their teachers, the Senate ought to have been a little more prompt in publishing it.

Practical Education.

Queries in relation to mothods of teaching, discipline, school management. J. HUGHES, EDITOR.

HOW TO TEACH DRAWING IN PUBLIC SCHOOLS.

By James Hughes.

111.

DICTATION DRAWING.

After pupils have been taught how to draw geometric forms, there is no drawing exercise that combines in itself so many points of excellence as Dictation Drawing. In giving a lesson the teacher selects some simple subject involving regular forms—an artificial subject is better than a natural one for this purpose—and dictates to the class its various parts without any hand illustration whatever. The following are some of the merits of this method of giving a lesson:—

- 1. The teacher is compelled to us? concise and accurate language in describing the parts. This is a lesson much needed by most teachers.
- 2. The pupils also are trained to use definite language. This is accomplished to a certain extent by listening to the use of such language by the teacher, but may be further developed by requiring them to describe orally or in writing their drawing after it is finished. If this is done orally one may be asked for the first step in the description, another for the second, and so on.
- 3. The pupils must listen carefully to the teacher. Unless they catch his exact words in their proper connection they cannot draw what he describes. In an ordinary spelling lesson from dictation, every teacher obtains attention. This is one of the most important points in connection with teaching, and one of the most difficult for most teachers to secure. In a drawing lesson given from dictation the attention of the class must be better than it is even in a spelling lesson from dictation.
- 4. It proves that drawing is not merely the work of the hand and eye, but that these are the servants of the brain, to aid in giving expression to its ideas. So far as relates to form, drawing is simply hand language, and this method of teaching drawing shows oral and hand language to be capable of interpreting each other.
- It is an excellent review lesson, and reviews are essential in drawing as in other subjects.

Hints 1. With very young children the teacher will find it better to draw each line on the black board after the class has drawn it from his dictation.

- 2. With more advanced classes the drawing should be done in full on the board by the teacher when the dictation lesson is completed.
- 3. Ask your pupils to devise simple dictation lessons themselves at home and to bring them to you. This is an excellent home exercise, developing originality and aiding largely in teaching the use of clear and definite use of language. Encourage the pupils by giving some of the best of these exercises as dictation lessons to the class.

- 4. Occasionally draw on the board simple lessons dictated by the class.
- 5. If you have to repeat the description of any part of a drawing in giving a dictation lesson, use exactly the same language as the first time, unless you were wrong.

The following lesson taken from Walter Smith's Primary Manual will serve as a specimen dictation lesson:

"Draw two straight lines of any given length, one horizontal, one vertical, and bisecting each other. Divide each half of each line into two equal parts. Through the points of division, draw lines forming a square, having its sides parallel with the first lines drawn. Connect the same points of division by oblique lines, forming a second square within the first. Divide the sides of the first square into three equal parts. On the central parts draw isoscles triangles with their apexes at the end'sof the first two lines drawn.'

The above is a simple exercise, but with practice elaborate sub jects may be drawn from dictation.

MEMORY DRAWING.

It is a good plan to have the pupils draw from memory some of the subjects which they have been taught. If it did not take too much time it would be advisable to have them draw every exercise in this manner a few days after it had first been taught. A lesson of this kind may be given profitably in school about once in two weeks. The teacher should not let the pupils know what subject is to be repeated until the time for the memory lesson has arrived.

The benefits to be derived from drawing from memory are:

- 1. The teacher is enabled to find the result of his teaching, as this exercise shows how much of his lessons have been remembered by the pupils. Memory lessons in drawing correspond with reviews in other subjects.
- 2. The pupil is certain to attend more carefully to the instructions given by the teacher when he knows that he may be called upon to repeat from memory the lesson he is receiving. In order to compel attention the memory lesson should be marked more highly than an ordinary drawing lesson.
 - 8. The memory of the pupil will be developed.

In addition to the lessons given in school as recommended above, it is well to give occasional drawing exercises to be done at home from memory, These should not be done in the regular drawing books, but in a special book or on separate sheets of paper. The regular books should, of course, be left at school, otherwise the drawing would not be done from memory.

PENMÁNSHIP IN PUBLIC SCHOOLS.

By W. B. Robinson, Tracher of Penmanship, Ontario Bust NESS COLLEGE, BELLEVILLE.

One of the important ends of the vast means of our free educational system should be to teach every child in the land the art of writing. The success or failure of this undertaking is of vital consequence to the interests of society. It therefore becomes necessury, in view of this fact, to inquire not only into the agencies employed, but the method of instruction relied upon for the accomplishment of so vast a work, with a view of obtaining the greatest benefits with the least possible outlay of time, labor, and expense.

It was thought until within the past few years, that instruction could do little beyond directing imitation, and where this faculty was found deficient, little if any success attended the offorts of either teacher or pupil. General failure in such cases gave rise to the popular notion that all cannot be taught to write, and thus the universal acquisition of writing by imitation | them at the outset. The formation of letters should be taught on

nine cases out of ten. The problem to be solved is how to impart a practical knowledge of this art to every individual in the land in the most effective and expeditious mander. That it can be done is no longer doubted by practical, intelligent, and experienced teachers of the subject; but some more reliable method than mere "imitation," it is evident, must be resorted to in order to secure the result.

A good handwriting is looked upon as equivalent to a good trade and, combined with other desirable qualities, introduces its possessor at once to an honorable and lucrative position. But says one, "some people seem to be born good writers, while it is not natural for others to learn." Men are not born good writers any more than they are born good carpenters, expert shoemakers or good mechanics of any kind. It is only by the aid of proper instruction and continued practice that a man becomes a good ponman, painter, watchmaker, a good artist, or an expert in any branch of mechanism. There are no competent natural writers any more than there are competent natural mechanics. It is very true that one person may excel another without instruction; but there can be no approach to perfection by any person without understanding and applying the principles of an art, and the best so called "natural writer" will be improved as much as the poorest by a thorough training. Many are falsely captivated by the bold easy dash of a master who overlook the means by which that ease and freedom has been acquired. It is the result of careful study and labour, and to imitate the end, we should not shrink from the beginning.

While our sci.ool system is unsurpassed, in many respects, we are far behind our American cousins in this particular subject.

While on a tour through the United States last summer, I visited a number of public schools, and was struck with the uniformity and legibility of the penmanship of all grades of pupils. The same system is there adopted in almost every school and practiced in almost every business house. An examination of the miscellaneous autographs on hotel registers and other business writing that came under my observation, convinced me that the Americans are, as a nation, far better writers than the Canadians. The cause of this difference in the penmanship of two intelligent nations, living side by side, can easily be accounted for. The Americans have for the past thirty years adhered to a uniform standard system in their schools and colleges, while in this country no special attention has been given to the subject, and no particular system adopted in our schools. A number of different systems are presented, and each teacher adopts that which happens to suit his own fancy. Thus, with continual change of teachers, each, of course, preferring his own style, the system is continually changed and pupils asked from time to time to abandon what they have partially learned and commence in the new. The consequence is that, to-day, among the great mass of divines, doctors, lawyers and graduates of literary institutions, we find a large majority bad, illegible writers. At a competitive examination of the schools of one of the leading cities of Ontario, no less than thirteen different kinds of copy-books were presented, and among them nine different styles from the same school.

That a change is necessary, and that a national standard system should be adopted in Canada is obvious to every person giving thought to the subject.

HOW TO INSTRUCT PRIMARY CLASSES.

While I am decidedly in favor of teaching the more advanced pupils by elements, principles, &c., I do not believe in introducing alone has proved, and must continue to prove, a failure in about slates before the pen and ink are introduced. The first lessons

should be made as simple as possible; should be mere exercises to imitate while learning position, penholding and movement.

The time devoted to each exercise should be about twenty minutes; this is probably as long as the interest can be kept up without wearying young pupils. The pencils should be of sufficient length to be held like pens, and the manner of holding them should be very carefully taught.

On account of the liability of the pencils in common use to break it is a matter of economy and convenience to use those covered with wood, as they are both cheap and durable. The new patent pencil-holder lately introduced into our schools is admirably adapted to young pupils learning to write.



POSITION AT DESK.

The three positions chiefly used by writers are the "Rightside," "Front" and "Left-side" positions. The "Right" position is most convenient and decidedly preferable in the school room with modern desks.

In accordance with cut, sit with the right side near to the desk, but not in contact with it, the body slightly inclined for ward; place the left foot half the length forward of the right, and both firmly on the floor. Place the right arm parallel to the edge of the desk resting on the muscles front of the elbow, and

rest the hand on the nails of the third and fourth fingers, not permitting the wrist to touch the paper. Let the left hand be at right angles to the right and rest on the book, keeping the book parallel to the edge of the desk.

Mathematical Department.

Communications intended for this part of the Journal should be on separate sheets, written on only one side, and properly paged to prevent mistakes.

ALFRED BAKER, B.A., Editor.

The Examination questions, of which the following are solutions, will be found in another part of this JOURNAL.

- ENTRANCE. 1. Five millions divided by 7019 gives rem. 2472; then 7019 -2472=4547.
- 2. The expression in brackets = $\frac{473}{12} \times \frac{2}{33} \times \frac{3}{43} \times \frac{4}{49} \times \frac{7}{37} \times \frac{37}{5}$
- $=\frac{1}{165} \cdot \frac{20}{21} \frac{1}{105} = \frac{14}{15}.$ 3. The expression = £\frac{603}{48} \times \frac{30}{209} \times \frac{253}{253} \times \frac{480}{259}\$, where it will be observed that 37 is a divisor of 259 and 603, and 19 a divisor of 209, &c.: result £41 $\frac{1}{14}$.
- 4. 20 cwt. for \$15 = 1 cwt. for $\$\frac{15}{20}$ = 75c. \therefore 85 75 = 10 gain on 1 cwt. $\therefore 2225 \div 10 = 222\frac{1}{2}$ cwts. = $11\frac{1}{8}$ tons.
- 5. 1 yd. costs \$12\frac{1}{2} \div 3\frac{1}{16}\$, and $23\frac{7}{16}$ yds. cost $\frac{25}{7} \times \frac{8}{25} \times \frac{375}{16} =$ \$93.75
- 6. \$1400 \$625.50 = \$774.50 = twice his savings : savings =\$387.50, and expenditure = \$1400 - \$387.50 = \$1012.50, which, divided by $365 = \$2.77\frac{29}{73}$ daily expenditure.
- 7. $\frac{3}{10}$ spent in flannel, $\frac{3}{5}$ of $\frac{7}{10} = \frac{21}{50}$ in calico: then 1 $(\frac{3}{60} + \frac{21}{50}) = \frac{7}{25}$ left, which buys $10\frac{1}{2}$ yds. .. the whole sum would buy $10\frac{1}{2} \times \frac{25}{7} = 37\frac{1}{2}$ yds.
- 8. Area = $6 \times 5 = 80$ yds.; a yard longer and a yard wider would give area $7 \times 6 = 42$ yds. .. cost of latter $= \frac{42}{30} = \frac{7}{5}$ of former = $\frac{7}{5}$ of 25 = \$35.
- 9. The av. = $18\frac{35}{297}$... sum of the four numbers = 4 times the number = $72\frac{140}{297}$; and the sum of three of the numbers = $26\frac{41}{198}$

 $+3\frac{16}{27}+38\frac{1}{15}=67\frac{25}{29}\frac{73}{70}$ \therefore $72\frac{140}{297}-67\frac{2573}{2970}=4\frac{1797}{2970}$, the fourth

10. \$1039.84 is discharged with \$357.441,

 $357.44\frac{1}{2} \div 1039.84$ $857.44\frac{1}{2} \times 612.80 = $213.01 \div$ And 612.80

II.

THIRD CLASS.

1. $\frac{9}{10} \times 41$ oz. fine = 69 thalers \therefore 1 oz. = $\frac{69 \times 10}{9 \times 41}$ th. And $\frac{37}{40}$ oz. fine = $5\frac{1}{6}s$. \therefore 1 oz. = $\frac{205}{9 \times 41}$ th. \therefore 1 thaler = $\frac{205 \times 9 \times 41}{37 \times 69 \times 10}s$. = 2s. $11\frac{946}{6702}d$. 2. The 1st frac. reduces to 6 \times 2 = 12, the second to 4 \therefore 12-4

= 8 is time for A and C; $\therefore \frac{1}{2} - \frac{1}{8} = \frac{3}{8}$, B's. work per day; \therefore B in 23 days.

8. $2\frac{9}{7}\% = \frac{1}{35}$ wasted; $\therefore \frac{34}{35}$ of original quantity = 170 lbs., and original q. = 175. $\therefore \frac{33}{112}$ of 175, $\frac{55}{112}$ of 175, and $\frac{24}{112}$ of 175 =

 $51\frac{9}{16}$, $85\frac{1}{16}$, and $87\frac{1}{2}$ 4. £9 - 40 × 1.09\frac{3}{4}; ... 1 = 40 × 1.09\frac{3}{4} ÷ 10, and $18\frac{1}{4}$ = $\frac{40 \times 1.09\frac{3}{4}}{100} \times 18\frac{1}{6} = \$89\frac{7}{360}.$

5. To insure $96\frac{3}{5}$ costs $3\frac{1}{3}$; ... 1 costs $3\frac{1}{3} \div 96\frac{2}{3}$ ($= \frac{1}{29}$), and this multiplied by $48628\frac{1}{6}$ gives $$1676\frac{5}{6}$.

6. The num. = denom. $+\frac{1}{2}$ of denom.; ... $2\frac{1}{3}$ denom. = 352

and denom. = 160, num. 192.

7. No. sq. yds. paper required = $178\frac{2}{7} \times \frac{21}{36} = 104$. Let the width be unit, then $4\frac{1}{3} \times 4 = 17\frac{1}{3}$ width = 104. ... width = 6 yds., length = 7. ... $7 \times 6 \times \frac{4}{3} \times \frac{7}{4} = \frac{498}{3}$, cost of carpet.

8. If a and b be two Nos., i their L. C. M., and g their G. C. M. then $l = \frac{a}{a} \times b$; $\therefore a = \frac{b}{b} \times g$: hence 634938944494 \div 85044059, and multiplied by 9187 = 68590142.

9. Int. on 100 for time and rate = 14, $\therefore \frac{14}{100} = \frac{7}{50}$ is fraction of principal wh. = int., and disct. = $\frac{7}{57}$; $\therefore (\frac{7}{50} - \frac{7}{57})$ of principal = \$9.80 or $\frac{49}{2850} = 980 \therefore principal = \$570.

10. Square of breadth = $6 \times 4840 + 600 = 9980$ yds. $\sqrt{9980}$ 12:12 85 50 = 96.89 + 1000, length 299.69 + 1000

III.

SECOND CLASS AND INTERMEDIATE

- 1. The first expression = $\frac{299}{1800} \times \frac{901}{246}$; $2.662601 = \frac{655}{246}$ fraction = $\frac{299 \times 901 \times 246}{1800 \times 246 \times 655}$
- 2. L. C. M. of 483, 4721, 2581 = L. C. M. of numerators divided by G. C. M. of denominators = 21375 bushels.
- 3. $$480 \div 32c = 1500 \text{ yds.}$ He gains $\frac{220}{1500} = \frac{11}{75}$ of selling price, $\frac{64}{75}$ of selling price = buying price = 32c., and selling price = $37\frac{1}{2}c$; $\therefore 5\frac{1}{2}$ gained on $32 = 17\frac{3}{16}\%$.
- 4. The 1st gaining 10' and 2nd losing 10' in 12 hrs. ... the three will be first together when one has gained and the other lost 60': 1st gains and 2nd loses 10' in 12 hrs. ... 60' in 72 hours.
- 5. 12 oz. silver = \$66, \therefore 112 oz. = 616s. Also 1869 × 20 (s.) gold = 40×12 oz. and 1s. = $\frac{40 \times 12}{1869 \times 20}$ oz.; \therefore 616s. = $\frac{40 \times 12 \times 616}{1869 \times 20}$
 - 6. Int. = disct. + int. on disct., i.e., disct. + $\frac{1}{n}$ disct. = $\frac{1}{n}$ $\therefore / \text{disct.} = \frac{1}{n} \div \left(1 + \frac{1}{n}\right) = \frac{1}{n+1}. \text{ Or amt.} = 1 + \frac{1}{n} = \frac{n+1}{n}$ $\therefore \frac{n+1}{n} \text{ gives disct. } \frac{1}{n}, \text{ and}$ $\therefore 1 \quad \text{``} \quad \frac{1}{n} \div \frac{n+1}{n} = \frac{1}{n+1}.$
- 7. At 5 % for 1 yr. int. $=\frac{1}{20}$ of principal, and disct. $=\frac{1}{21}$ (last ques.) ... principal $=20\times44.52=\$890.40$, and this divided by 21 \$42.40 disct. ... \$890.40 \$42.40 = \$848.
- 8. Inc. from B. C. investment $=\frac{1}{30}$; $\therefore \frac{13}{20}$ invested in D. B. giving $\frac{13}{20} \times \frac{10}{13} \times \frac{9}{200} = \frac{9}{400}$ income. \therefore new income $=\frac{7}{20} \times \frac{1}{30} + \frac{9}{400} = \frac{12}{1200} \cdot \therefore \frac{141}{200} \frac{1}{30} = \frac{12}{1200} = \5 . \therefore value of investment =\$6000, or \$5000 stock.

- 9. In London 1 guil. = £ $\frac{4}{45}$. In Montreal £1 = \$ $\frac{40}{9}$ × $\frac{1091}{100}$ × $\frac{100}{100}$. \therefore 6000 guil. = \$2557.65+. By direct exchange 6000 guilders = \$2490; \therefore by remitting through London gain = \$2557.65 2490 = \$67.65 + .
- 10. Solidity of vessel = $\frac{189}{88}$ cub. ft.; sol. of column of water = $\frac{2873}{2078}$ cub. ft. $\therefore \frac{189}{88} \frac{2873}{2079} = \frac{12737}{16632}$ cub. ft. iron. \therefore wt. water = $\frac{2873}{2079} \times 62\frac{1}{2} = 86369 + ;$ wt. of iron = $\frac{12737}{16632} \times 62\frac{1}{2} \times 7\frac{1}{8} = 340 \cdot 361$ +, and total wt. = 426.73 + lbs.

FIRST CLASS.

- 1. For proof of rules see Canadian edition of Hamblin Smith's Arithmetic. By Sol. 4 preceding paper min. hands are together in 72 hrs., at which time the hr. hand of first clock has gained 12 of round and that of second has lost $\frac{1}{12}$ do. Hence all will be together in $72 \times 12 = 864$ hrs.
- 2. $23\frac{17}{27}\% = \frac{5}{27}$. Fraudulent gain $= \frac{\frac{3}{4}}{15\frac{1}{4}} + \frac{5}{21} \times \frac{\frac{3}{4}}{15\frac{1}{4}} = \frac{26}{427} = \frac{3}{427} = \frac{3}$

int.
$$-\frac{a}{b}$$
 of int. = disct. = $\frac{a}{b}$: int. = $\frac{a}{b}$ ÷ $\left(1 - \frac{a}{b}\right)$ = $\frac{a}{b-a}$

- (1) $\frac{261}{180} = \frac{29}{20} = \frac{a}{b-a} \div \frac{a}{b}$ whence $b = 3\frac{2}{9} a$... $\frac{9}{20}$ of principal = 261, or p=580, whence rate = $7\frac{1}{2}$ %
- (2) $\frac{180}{150} = \frac{5}{6} = \frac{n+1}{n}$ (see No. 6, second class) n = 5, and 5×180
- 4. \$1118 cy. = 1050 gold; $1050 \div 06 = \$17500 = \text{cy. to purchase stock (par).}$ \$\\ \frac{1}{6}\% \text{ of this = 65\\\ \frac{1}{6}\} \text{ ... amt. = \$17565\\\ \frac{1}{6}\} \text{ ...}
- 5. After deduction there is $\frac{96}{100} = \frac{24}{25}$, p. w. of wh. $= \frac{12}{13}$ received for tea; and $\frac{12}{13} \times \frac{118}{100} = \frac{12}{12}$ = selling price: but selling

price = p. w. of \$510.51 = \$500.50 = $\frac{12}{11}$ of price first charged, which $\therefore \frac{11}{12} \times $500.50 = $458.79\frac{1}{6}$.

- 6. See "Exam. Papers," page 13, q. 10, which gives $\frac{7.000 \times 19 \times 91 \times 89 \times 92}{5760 \times 94 \times 211} = 619.4602318 \text{ lbs. copper} = 1 \text{ gold.}$
- 7. Amt. = $4000 (1.1)^3 = 4000 (1.1)^8 \times \sqrt{1.1} = 5583.81$ Int. = \$1583.81 +.
- 8. 1 invested in B. C., $\frac{36}{25}$ in D. B., $\frac{76}{125}$ in C. Bank; $\frac{17}{500}$, $\frac{1}{30}$, $\frac{13}{380}$ are rates (per unit) paid by respective banks ... Income from B. C. = $\frac{17}{500}$, from D. B. $\frac{6}{125}$, from C. B. $\frac{13}{625}$. Hence $\frac{17}{500} + \frac{13}{625}$. $\frac{1}{25} = \frac{17}{2500} = \12.75 Amount in B. C. = \\$1875, in D. B. \\$2760, in C. B. \\$1140.
- 9. A, B and C do $\frac{3}{8}$ in 1 day, and since B takes $2\frac{3}{8}$ as long as Aand C_1 .: these do $2\frac{1}{3}$ as much as B_2 .: $B's + 2\frac{1}{3}B's = \frac{3}{3}$, $B's = \frac{3}{8}$, $B's = \frac{3}$, $B's = \frac{3}{8}$, $B's = \frac{3}{8}$, $B's = \frac{3}{8}$, $B's = \frac{$ $\times 120, B_{11} \times 120, C_{11} \times 120$
- 10. (1) Presents no difficulty. Ans. is 8√8.
 (2) Find radius of circumscribed circle = ^{20 × 25 × 30}/_{4 × area} = 20 × 30 $\times 25 \div 4\sqrt{\frac{75}{2}} \times \frac{25}{2} \times \frac{35}{2} \times \frac{15}{2} = 40 \div \sqrt{7} = 15.12 +$
- It will be seen that quantity under the radix sign = $5^6 \times 3^2 \times 7$ \div 2 4 .

Examination Questions.

Under this head will be published from month to month the papers set at the examination for entrance into the High Schools of Ontario, the Intermediate High School Examination, the examination of candidates for Public School teachers' certificates, and the Junior and Senior Matriculation examinations of the University of Toronto. The Mathematical papers will in all cases be accompanied by analytical solutions of the more difficult problems and hints on the best methods of solving the others.

PAPERS FOR JULY, 1877.

ARITHMETIC.

Examiner: J. A. McLellan, LL.D.

ADMISSION TO HIGH SCHOOLS.

1. What is the least number that must be added to five millions to make the sum exactly divisible by seven thousand and nineteen?

- $\frac{20}{21} \left(\frac{48\frac{1}{2} + 7\frac{3}{3} 16\frac{3}{4}}{16\frac{1}{2} \times 14\frac{1}{3} \times 12\frac{1}{4}} + \frac{5\frac{7}{4}}{7\frac{5}{6}} \right)$ $\frac{21}{104 3\frac{5}{2}} \times \frac{210}{100 01} \times \frac{100}{100}$ 2. Simplify
- 3. Simplify
- 4. A man bought a quantity of hay at \$15 for 20 cwts. He sold it 85 cents per cwt., gaining \$22.25. How many cwt. did he buy?
- 5. 3½ yards of cloth cost \$12.50; what will 23½ yards cost?
 6. A person having an annual income of \$1400 spends a sum equal to \$625.50 more than he saves. Find his daily expenditure
- (year = 365 days).7. A lady had in her purse just money enough to buy a certain quantity of silk; but she spent 130 of the money in flannel, 3 of the remainder in calico, and had then only enough money left to buy 101 yards of silk; How many yards of silk could she have bought at first?
- 8. A room 15 feet wide and 18 feet long is covered with matting at a cost of \$25; what would be the expense of covering, with the same quality of matting, a room a yard longer and a yard wider?
- 9. The average of four quantities is 18^{35}_{297} ; the first is 26.207, the second 3.592, and the third is 38.06. Find the fourth.
- 10. A bankrupt owes to A \$1039.84, and to B \$612.80: if A receives \$357.44 $\frac{1}{2}$, what will B receive?

Note.—10 marks to each question.

THIRD CLASS TEACHERS.

1. If 69 German Thalers, of which 9 parts in 10 are fine silver, weigh 41 ounces, what is the value of a Thaler in English money when standard silver, of which 37 parts in 40 are fine, is worth 5s. $1\frac{1}{2}d$. per ounce?

2. A, B, and C can do a piece of work in 2 days, A and C in

$$6\left(\frac{7\frac{2}{9} \text{ of } 12\frac{2}{3}}{2\frac{2}{9} \text{ of } 15\frac{2}{8}}\right) - 3\left(\frac{2\frac{1}{7} \text{ of } 4\frac{1}{3}}{2\frac{1}{4} \text{ of } 2\frac{1}{2}}\right) \text{days};$$

in what time can B do it alone?

- 3. A certain kind of brass is made by fusing together old brass, refined copper, and zinc, in the proportion of 33, 55, and 24; how much of each must be taken to produce 170 lbs. of brass, after allowing 22 per cent. for waste?
- 4. March 21st, 1877; sterling exchange is quoted at 93 for de ... mand bills what must be paid for a demand bill for £18 5s.?
- 5. What will be the cost of insuring a ship worth \$486281, at 31 per cent., so that in case of loss the owner may recover the value of the ship, and the amount paid for insurance?
- 6. The numerator of a certain fraction is a fifth as much again as its denominator, and the sum of the numerator and denomina. tor is 352. Find the fraction.
- 7. A room whose height is 12 feet, and length 15 times its width, takes 1784 yards of paper 1 ft. 9 in. wide to cover its walls; what will it cost to cover the floor with carpet 27 in. wide and costing \$1.75 a yard?
- 8. The L. C. M. of two numbers is 634938944494, and their G. C. M. is 9187: one of the numbers is 85044059; find the other.
- 9. The difference between the interest and the discount of a sum of money for 1 year and 9 months, at 8 per cent., is \$9.80: find the sum.
- 10. A rectangular field whose length is three times its breadth. contains 6 acres 900 yards: find its length and breadth.

Note. -20 marks to be allowed for each question.

III.

SECOND CLASS TEACHERS AND INTERMEDIATE.

1. Prove the rule for reducing a mixed circulating decimal to an equivalent vulgar fraction.

Find accurately what fraction \{ of (\frac{7}{6}-.512) of 3.6\frac{77}{123} ac., is of 2.662601 acres.

Show how to find the L. C. M. of two or more numbers.

Find the L. C. M. of 483 bushels, 472 bushels, 2 pecks; 258 bushels, 3 pecks.

3. A merchant buys flannel at 32 cents per yard; at what profit per cent. must he sell it in order that the money he receives for

220 yards may be equal to his gain on \$480 of outlay?

4. Three watches hang side by side, and all show 12 o'clock at the time of observation; the first is known to gain 10 minutes, and the second to lose 10 minutes in 12 hours, while the third keeps

66 shiftings weighing 11b troy?

6. Distinguish between bank discount and true discount? If the simple interest on a sum of money for a given time and rate is $\frac{1}{n}$ of the sum itself, show that the true discount is $\frac{1}{n+1}$ of that sum?

7. Reckoning commercial discount at 5% a person would receive \$14.52 less than the nominal value of a note which has a year to run; what should be receive for the note, if true discount only

were deducted?

8. What must a person have invested in Bank of Commerce Stock at 120, and paying 4 (half yearly dividends, if a transfer of 65 of his capital to Dominion Ban's Stock at 130, and paying half-yearly dividends, makes a difference of \$5 in his semiannual income?

9. A merchant in Montreal drew on Hamburg for 6000 guilders, at \$.415; how much more would be have received if he had ordered remittance through London to Montreal, exchange at Hamburg on London being 111 guilders for £1, and at London on Montreal 91 7, brokerage being 11 / for remitting from London?

10. The length of an iron cylindrical vessel with closed ends is 3 feet, and its outside circumference is 36 inches, the metal being an inch in thickness. Find its weight when filled with water, iron being 71 times heavier than water, and water 621 lbs. per cubic foot.

IV.

FIRST CLASS TEACHERS.

1. Define and investigate methods of finding the G. C. M. and

the L. C. M. of two or more fractional numbers.

Three watches hang side by side and all show 12 o'clock at the time of observation; the first is known to gain 10 minutes, and the second to lose 10 minutes in 12 hours, while the third keeps accurate time. In what time will all the hands first be at 12

2. A grocer bought a quantity of tea at 40 cents per ib., and fixed a price on it, to gain 23\frac{7}{4}, but in selling it he inadvertently used a pound weight which was \frac{4}{4} oz. too light, thus gaining \\$31.20 more than he would have gained if the weight had been true. How much did he buy?

8. Show that if the true discount for a sum of money for a given time and rate be $\frac{a}{b}$ o. That sum, then the interest will be

(1.) The interest on a certain sum for 6 years is \$261, and the discount for the same time is \$180. Find the sum and the rate

(2) The interest on a certain sum is \$180, and the discount for

the same time and rate is \$150. Find the sum.

4. How much U.S. currency will be required to purchase U.S. 6 / bonds, interest payable in gold, to give an income of \$1,113 in currency, gold being at 106, and the broker's commission \(\frac{3}{3} \) \(\frac{3}{3} \) on the par value of the bonds ?

5. I bought a quantity of tea from Thwaite, Eby & Co., Toronto, who allowed me a discount of 4 per cent. on the price charged for the tea and accepted for the reduced amount my note payable in 6 months; I sold the tea at once for a note of \$510.51 payable in 3 months, and allowing money to be worth 8, per annum, I found I had made a profit of 18^{2}_{11} per cent. Find the first price charged for the tea.

6. From 2 lbs. of standard gold are coined 89 guineas, and from 1 ib. standard silver 66 shillings, 84 / of standard gold being alloy, and 73 // of standard silver. If 24 pennies are coined from 1 ib. avoirdupois, calculate the ratio of the values of gold and

copper.
7. Find the compound interest of \$4000 at 10 % for 8½ years

(payable yearly).

8. A man invested a certain sum in Bank of Commerce Stock at 125 and paying 4½ % half-yearly dividends; 44% more than that sum in Dominion Bank Stock at 135 and paying 4½ % half-yearly dividends; and 39½ % less than that sum in Consolidated Bank Stock at 95, and paying 3½ % half-yearly dividends; his half-yearly income from the second investment was \$12.75 less than from the other true together. Find the countries that from the other two together. Find the amount invested in each kind of stock.

accurate time. When will all the minute hands be next at 12 - 9. To do a certain piece of work, for which \$120 is paid, B would take 21 times as long as A and C together, C 41 times as 5. How many ounces of coinage gold are equal in value to 112 long as A and B together, and all three working together actually ounces of coinage silver, 1869 sovereigns weighing 10b, troy, and do the work in 24 days. Divide fairly among them the money paid for the work.

> 10. (1) The base of an equilateral triangle falls on the diameter of a semicircular are, and its vertex is in the middle point of the are; the length of a side of the triangle being 8 feet: find the diameter of the circle.

> (2) The town A is 80 miles from B, B 25 miles from C, and C 20 miles from A; find where a house must be erected to be equally distant from A, B, and C.

ENGLISH GRAMMAR AND ETYMOLOGY.

ADMISSION TO HIGH SCHOOLS. 3 Examiner: S. A. MARLING, M. A.

Values.

1. Parse: Not seeing his way very clearly out of these difficulties, Charles was fortunate enough to discover an agent equally skilled in baffling his adversaries' schemes and in concealing his own.

2. Analyse:

"The yeomen looked on each other confusedly and with hesitation, the apprehension of so strange a danger prevailing with those who feared no other.

3. Write sentences showing the several ways in which

'who' and "that" are used.

4. Give the plural of 'hero,' 'crocus,' 'genus,' 'genius,' 'valley,' 'lily,' 'bandit,' 'Swiss,' 'appendix,' 'sheep,' '+,' 's,' 'cargo;' and the possessive singular and plural of 'beau,' 'mouse,' 'omnibus,' 'German,' 'Mary,' 'ox,' 'licutenant-governor,' 'court-martial.'

5. What is the manning of Word Inflection. Parsing.

5. What is the meaning of Word, Inflection, Parsing,

Weak Conjugation?

6. Write the present participle, the past participle, and the second person singular of the present and past tenses of sit, do, go, catch, eat, tear, set, rely, lose.

7. Correct any mistakes you detect in the annexed sen-

tencer giving your reasons:

(a) If he was me, he would have done very different. (b) He made a few memorandas to assist his clerk's memory.

(c) Jane got on quicker in her stadies than he.

(d) Each of you must attend to your own desk.

(e) I hardly know whom to make my complaint to.

THIRD CLASS TEACHERS.

Examiner: S. ARTHUR MARLING, M. A.

Values.

20

4

"But what would appear incredible to you, were the fact less public and notorious, is that a gang of hardened villains who had been confined, and got out of prison when the wall fell, at the first shock, were busily employed in setting fire to those buildings which stood some charce of escaping the general destruction."—(DAYY).

1. Divide this passage into propositions, stating their kind and their relation to one another, and fully analyze

2. Parse the words printed in italics.

3. Give the meaning of the Latin prefixes and affixes in the above extract.

4. Why are certain verbs called irregular? By what other names are they also known, and why? Write the present tense third person singular, also the present participle, the past tense second person singular, and the past participle of shear, slay, chide, eat, win, sit, lie, lose, die, spit.

5. Give examples to show the indefinite and also the

definite use of the pronouns he, it, one, who.

6. Write the plural of simile, spoonful, scraph, courtmartial, portfolio, James, crisis, x, 5; distinguish farther and further, older and elder, latest and last; and say what kinds of adjectives cannot be compared,

7. What is the difference in meaning between "he is gone," and "he has gone;" "you care for him more than I," and "you care for him more than me;" the 15 possessive with of, and the possessive with 's?

And the second s

8. Explain what is meant by Gonder, Case, Mood,

Word, Etymology, Construction of Sentences.

9. Correct any of the following that appear to you to

be wrong, giving your roason in each case:—

(a) Who did I give Burns' poems to? 'Twas me.

(b) A person cannot always be sure of not missing their way.

(c) His wife as well as his children were lost in the vessel.

(d) A slight misunderstanding has arose between the three partners.

10. Correct, where necessary, the spelling of disappoint, seized, dissapates, accommodate, metalic, shriek, distruction, delapidate, your's, leveling, develop; and accentuate irreparable, perverse, sejourn, Newfoundland, machinist, indisputable.

III.

SECOND-CLASS TEACHERS AND INTERMEDIATE.

Examiner: J. M. BUCHAN, M.A.

1. MALET.-Harold, I am thy friend, one life with thee, And even as I should bless thee saving mine,

I thank thee now for having saved thyself. HAROLD.—For having lost myself to save myself, Said 'ny' when I meant 'no,' lied like a lad That dreads the pendent scourge, said 'ay' for 'no'! Ay! No!—he nath not bound me by an oath— Is 'ay' an oath? is 'ay' strong as an oath?
Or is it the same sin to break my word
As break mine oath? He called my word my bond! He is a liar who knows I am a liar. And makes believe that he believes my word-The curse be on his head-not bounden-no. TENNYSON.—Harold, Act ii., Sc. 2

(i.) Divide Harold's speech into propositions, state their kind and connection, and fully analyse the first three and the last three.

(ii.) Parse "life," "even," "saving," and "mine," in Malet's speech; and "word," "bond," "believe," and "be," in the last four lines of Harold's speech.

(iii.) Scan the first line of the extract, naming the metre.

(iv.) Explain the derivation of "save," "mean," "pendant," and "crime.

2. Parse the italicized words in the following lines:

"I had liefer that the fish had swallowed me Like Jonah than have known that there were such devils." TENNYSON.—Harold, Act ii., Sc 1.

"That knowledge made him all the carefuller," TENNYSON .- Harold, Act iii., Sc. 1.

3. Distinguish between-

The European and African races. The European and the African races.

and

12

24

18

He made a better soldier than poet. He made a better soldier than a poet.

and

The remembrance of friends dead and alive. The remembrance of dead and alive friends.

4. Point out the ambiguity in

The rod white and blue flags.

Re-write the following sentence so as to make the meaning clear :-

"Men look with an evil eye upon the good that is in others; and think that their reputation obscures them, and that their commendable qualities do stand in their light; and therefore they do what they can to cast a cloud over them, that the bright shining of their virtues may not obscure them."—Tillotson.

5. "In 'The first king of Rome,' 'first' and 'of Rome' are not

co-ordinate adjuncts.

Explain what is meant.

6. Criticise

"44

"The Megarcan sect was founded by Euclid, not the mathematician, and were the happy inventors of logical syllogism, or the art of quibbling."-Tytler.

" There are a sort of men whose visages

Do cream and mantle like a standing pond." -Shakespeare.

"A laggard in love and a dastard in war.

Was to wed the fair Ellen of brave Lochuvar,"-Scott.

" Johnson's Lives are being reprinted."

"The captain with his men were taken prisoners."

" Pompey as well as Casar were great men."

"Sand and salt and a mass of iron are easier to bear than a man without understanding.

7. Give rules for the placing of adverbs and adverbial adjuncts. Illustrate the importance of placing words properly by the ex-

ample of "only.

8. Punctuate the following sentences, and arrange the words in iambic pentameters, putting capitals in the proper places :it is indeed a most derired event if when a parent from a parents heart lists from this earth to the great father of all prayer both when he lays him down to sleep and when he rises up from dreaming it one supplication one desire one hope that he would grant a wish for his two sons even all that he demands in their regard and studdenly beyond his dearest hope it is accomplished he should then rejoice and call his friends and kinsmen to a feast and task their love to grace his merriment then honour me thus far for i am be

Shelley .- The Cenci, Act i., Sc 3. 3. State briefly the principal difference between English and its parent Anglo-Saxon.

IV.

FIRST-CLASS TEACHERS.

Examiner: S. ARTHUR MARLING, M. A.

Hail, holy Light! offspring of Heaven first-born. Or of the Eternal co-eternal beam May I express thee unbalmed? Since God is light.

And never but in unapproached light
Dwelt from eternity, dwelt then in thee,
Bright effuence of bright essence increate. Or hear'st thou rather pure otheral stream, Whose fountain who shall tell? Before the sun, Before the heavens thou wert, and at the voice 10 Of God, as with a mantle; didst invest

The using world of waters dark and deep, Won from the void and formless infinite. Thee I revisit now with bolder wing, Escaped the Stygian pool, though long detained

15 In that obscure sojourn, while in my flight, Through utter and through middle darkness borne With other notes than to the Orphean lyre I sung of Chaos and eternal Night.

MILTON, PAR. LOST, B. III.

1. (a) Purse the words in italics.

(b) Analyse the subordinate propositions.

(c) Explain the references in 'rising world,' Stygian pool,' 'Orphean lyre,' ' utter and middle darkness.

(d) Re-write in prose lines 2-8, bringing out the meaning fully.

(e) Give the derivation of 'hail,' 'blame,' 'essence,' 'rather,' 'heavers,' 'utter,' 'since,' 'and,' 'void,' 'Chaos.'
(f) Point out an explain the figures of speech employed in

the above passage.

2. Write a short account of the origin and use of the auxiliaries shall' and ' can,' and explain such forms as ' I have written a 'leter,' 'methinks.'

3. Scan the 6th line of the passage; also the following, giving the name of the metre;

> (a) Arethusa arose from her couch of snows In the Acroserannian mountains.

SHELLY. ĬD.

Hail to thee, blithe spirit! (c) Faultily faultless, icily regular, splendidly null.

TENNYSON.

(d) He died in dungeon cold and dim, by Alphouso's base decree. LOCKHART.

4. Parse the italicised words in the following sentences from. Sakespeare:

> Would ye have me (a) Put my sick cause into his hands that hates me? .

I long To have this young one made a Christian.

(c) The fewer men the greater share of honor,

(d) Though all that I can do is nothing worth.

(c) Since maight so stockish, hard, and full of rage But music for the time doth change his nature.

5. What different views are entertained by grammarians with regard to the office of conjunctions? Give examples which seem

to you to define that office.

6. Re-write the following passage, substituting words of Saxon | for those of classic origin :- "Many peculiar causes in the situation and character of Henry the Seventh augmented the authority of the crown Most of these causes concurred in succeeding princes; together with the factions in religion and the acquisition of the supremacy, a most important article of prerogative.

7. Explain the derivation of these words: Candidate, miscreant, symplicit, ambition, Gloucester, tribulation, Whitby. objection to * cablegrain *?

8. Examine the syntax of the following, giving corrections where necessary .

(1) Ye will not come unto me that ye might have life."

(2) The greatest number of students came up to that examination of any former year.

Wanted, a nurse and housemaid who must both have good references.

ALGEBRAIC SYMBOLS IN GEOMETRY.

To the Editor of the Mathematical Department of the Canada School Journal.

Sin There appears to be doubts in some minds as to the exact meaning of the sentence "Algebraic symbols must not be used," which appeared at the head of the papers in Euclid, set at the late examinations for teachers' certificates. Will you kindly allow me through your columns to endeavour, so far as I can, to dispel these. The "Elements of Grometry" by Hamblin Smith has been authorized for use in our public schools. This reasonably involves permission to use the symbols employed in that work. Respecting any other symbols or any abbreviations, I would call attention to the excellent article on "The Use of Symbols in Euclid" in the July number of your JOURNAL. In it are clearly set forth the principles which should guide us in determining whether or not any symbol may be used: there is also given a list of symbols and abreviations admitted at the Cambridge Senate House examinations and at the Oxford and Cambridge examinations. These are rather more than five times the number of distinct symbols allowed at the London University examinations.

Yours respectfully, J. C. GLASHAN.

Notes and News.

ONTARIO.

An eight hundred dollar classical master is to be added to the Guelph High School staff.

Mr. Dawson has been re-appointed Head Master of the Belleville High School at a salary of \$1000.

The Norfolk Reformer condemns the practice of compelling children to study long hours out of School.

Mr. J. Shaw, who has been Head Master of the Omemee High School for fourteen years, was presented, recently, with a fine field glass by his pupils.

Mr. D. Fotheringham, P. S. Inspector of North York was presented with a complimentary address by the second-class candidates at the close of the recent examination in this city.

The London Free Press is not satisfied with Morris' Grammar Primer and blames the Central Committee for recommending it. The book was adopted by the old Council of Public Instruction, and the present regime cannot be held responsible for it.

recently presented with a gold watch and chain by the class he was

preparing for the teachers' examination.

In the County of Waterloo the average attendance in 1875 was 46 per cent. of the registered attendance; in 1876 it rose to 49 per cent. During the same interval the number of changes fell from 77 to 59.

Some of the towns selected by the Government as the best adapted for the institution of County Model Schools seem chary of accepting the honour conferred upon them. Should they refuse and of the testimony of several of the other girls. After several

they will probably acknowledge hereafter that they have committed a mistake.

The County of Norfolk Teachers' Institute was held in Simcoe about the middle of June. Dr. McLellan gave a series of lectures on the best methods of teaching arithmetic, algebra, and reading. The attendance was large and the Doctor's prelections were thoroughly appreciated. During the evening of one of the Institute days he delivered his lecture on the "Future of Canada" to a public audience in the Methodist Church. Mr. Carlyle, P. S. Inspector for Oxford, addressed the teachers on School management. Dr. Kelly of Brant, and L. G. Morgan, Head Master of the Vienna School were unavoidably absent.

At the recent matriculation in Arts, in Toronto University, the first classical scholarship went to Ottawa, and the second to Brantford, while the first mathematical went to London and the second to Hamilton. Owing to a new regulation, preventing those obtaining special scholarships from competing for general proficiency, it was not determined how the proficiency scholarships would have been distributed on the old plan. Of the two female candidates, one stood first in second-class in classics, and obtained first-class honours in French and second in English; the other was first in second-class in English, and obtained first-class in German and

second-class in History.

The regular meeting of the Teachers' Association of the County of Haldimand was held in the Central School Building, in the town of Dunnville, on Friday, June 29th and 30th. About 70 teachers, from various parts of the country, were present. T. Kirkland, M. A., Science Master of the Toronto Normal School, discussed the subjects of algebra, natural philosophy, geometry and mensuration, and gave a great deal of valuable information. Friday evening a large and appreciative audience assembled in the Boswell Hall to listen to a lecture from Mr. Kirkland on the "Story of our Earth." The lecturer was instead to throughout with wrapt attention, and sat down amidst the applause of all present. A cordial vote of thanks was tendered him and acknowledged in appropriate and eloquent terms. On the second day the exercises were resumed, at 10 o'clock, to discuss the remaining subjects of the programme, after which the election of a rest for the current year took place, resulting as follows: President, C. Moses, I. P. S.; 1st Vice-President, C. W. Harrison, B. A.; 2nd Vice-President, Examine; Treasurer, A.; Thomas, Examine Constitute. E. T. Hewson; Secretary, A. J. Hewson; Executive Committee, Wm. Hird, Thus. Moore, Wesley McCarter, Thus. Hammond and W. S. Wood.

The regular meeting of the East Middlesex Teachers' Association was held at the Morrill Temple, London, on Friday and Saturday, 8th and 9th of June. There was a very large attendance of teachers and friends of education. After the receipt of the reports of various committees, and the adoption of rules for the conduct and management of the Christmas competitive examination, Mr. McQueen and Mrs. White took up school examinations and exhibitions, but the complete discussion of the subject was postponed to leave more time at the disposal of the lecturer of the convention, T. Kirkland, M. A., Science Master Toronto Normal School. The last part of the Friday afternoon session was taken up by Mrs. White in illustrating, with a class of 500 children, her method of teaching singing, song-exercises, and simultaneous recitation,—an exhibition that those who had the good fortune to see and hear will not readily forget. The last part of the Saturday afternoon session was taken up with the discussion of the amended school law and new regulations. All the rest of the time was very profitably occupied by Mr. Kirkland in giving most excellent, clear, and instructive lectures on algebra, euclid, and natural philosophy. On Friday evening, Mr. Kirkland delivered a lecture on the subject, "The Story of the Earth," to a large and appreciative audience. The lecture was graphically illustrated by means of stereopticon views, geological and astronomical, and chemical experiments.

At a time when one memorandum by the Minister of Education -Mr. J. Crozier, Head Master of the Listowell High School was in School Discipline is causing some unfavourable comment, it may do no harm to refer to another which is much more likely to prove acceptable to the teachers. A lady teacher in the Petersville Public School having taken one of the school girls by the shoulders and pushed her out of the door on account of premeditated insubordination on the part of the pupil, the mother of the latter complained to the trustees, and the teacher was summoned to answer for herself. This she failed to do on account of an attack of illness, but she sent to the Board a written statement of the facts,

weeks' illness she resumed teaching and thought no more of the matter, until she was summoned to appear before a local magistrate to defend herself against a charge of assault. Both the magistrate and one of the trustees, who testifies on his behalf, admit that if the teacher had appeared before the Board, the criminal prosecution would never have taken place. As it was she escaped without a fine, but was mulcted in costs. The evidence in the case having been submitted to the Minister, he passed on the magistrate a censure which is certainly severe, but not more so than the circumstances called for. In his memorandum on the case he says: "This is no case of undue severity on the part of the teacher in maintaining her unquestionable authority. I must express my regret that any magistrate should have thought fit to have interfered in a matter of this nature, and which had been previously investigated by the Board of Trustees, who were quite competent to deal with it. The interference of any magistrate in matters pertaining merely to the discipline of our public schools is to be deprecated, and it is only in a case where undue severity has been exercised by the teacher that any magistrate should consider it a case to be dealt with according to law. The teacher's task is quite onerous enough without unnecessary and injudicious interference on the part of parents, who, under fancied grievances, complain to a magistrate. Unless the children receive some substantial injury his duty should be to refuse to interfere, and leave the question to be dealt with by those best conversant with it, namely, the Trustees of the schools themselves. In this case Miss Mathieson deserved support, and not censure, from the magistrate." again: "I regret that in the exercise of an official duty my views should reflect on others who are also assuming to discharge official duties; but I think I am bound to declare as explicitly as possible, in the interests of education, that the discipline in the school, which the teacher can alone exercise beneficially, should not be impaired by the interference of School Trustees or Justices of the Peace, except in a case of undue severity or cruelty."

Report of the Minister of Education for 1876.—From extracts published in advance from the annual report of the Minister of Education, for 1876, we learn that the total amount of money raised from all sources for the use of the Public Schools was \$3,393,655, a net increase of \$28,201 over the previous year. Of this sum \$1,553,574 was raised by school taxes levied by trustees, \$793,161 by municipal school assessment, \$270,-576 by legislative grant, and the balance from various other sources. The amount expended for Public School purposes during the year was \$3,006,456, a net increase of \$13,375 over 1875. Of this sum, \$1,838,322 was spent in paying teachers' salaries, the increase due to this system being \$80,221. There was a decrease of \$4,718 in the amount expended on maps, prizes, &c.; an increase of \$2,290 in rents, repairs, &c.; a decrease of \$72,064 in the amount spent on buildings and sites; and a total increase of \$7,646 in other expenses. The large decrease in the expenditure for sites and buildings is satisfactory rather than the reverse, as will be seen from the remarks of the Minister quoted below; it is due not to any falling off in the liberality of the people, but to the fact that the great majority of the school sections of the Province are now supplied with good schoolhouses, and that the number of new buildings required is becoming annually smaller. The total school population of the Province (i. c., between 5 and 16) was 502,250, an increase of 1,167, while the number attending school was 490,-537, an increase of 16,296. It is evident that the compulsory clauses of the School Act have produced some effect, and that by a little judicious management on the part of trachers, trustees, and inspectors most of the remaining 12,000 may soon be gathered in. It would be satisfactory to be able to report that all these pupils were in regular attendance on the schools in which they are enrolled. Only 20,921 attended over 200 days; 94,953 between 150 and 200; 108,122 between 100 and 150; 128.455 between 50 and 100; 91,012 between 20 and 50; and the large number of 46,474 less than 20 days. The child who attends school only four weeks in each year derives little benefit from his attendance, not to speak of non-compliances with the law. In addition to nearly 12,000 reported as not attending any school, this exhibit shows that there must have been at least from 180,000 to 190,000 registered pupils who did not receive the four mouths' echooling which the law provides as a minimum. The only satisfactory feature about this part of the report is the fact that while there is an aggregate decrease of 3,451 in the number attending less than 50 days, there is an aggregate increase of 18,7477 in the number attending for a longer period. The average daily attendance for the year was

212,483, considerably less than 50 per cent. of the registered attendance, but showing an increase of 13,909. The average time for which the schools were kept open was eleven months and fourteen days. The number of teachers employed during the year was 6,185, an increase of 167. The number of schools was 5,042, an increase of 208. The highest salary paid a male teacher was \$1,000, and the average 533, the latter being an increase of \$7, while the average salary of female teachers was \$268, an increase of \$8. Of the 6,185 certificates held by teachers 241 were firstclass Provincial, 1,201 second-class Provincial; 372 old first-class County Board, 139 old County Board seconds, 51 old County Board thirds, 3,688 new County Board thirds, and 493 interim certificates. The increase in the number of first-class Provincial certificates was 5; of second-class Provincial, 113; of old County Board thirds, 22; and of new County Board thirds, 136. There was an aggregate decrease of 63 in old County Board certificates of the first and second classes. The number of Roman Catholic schools was 167, an increase of 11. The amount of money raised from all sources was \$106,483, an increase of \$15,856. The number of pupils in attendance at these schools was 25,294, an incresse of 2,621, and the average attendance 12,779, an increase of 1,005. The following remarks accompany the extracts from which the above information is derived : - The increase of receipts and expenditure, although less than usual, is nevertheless, considering the existing monetary and commercial depression of the year 1876. satisfactory. Teachers' salaries, which, at the time of the passing of the School Act of 1871, were, for males, \$449; for females, \$224; are now \$533 and \$268—an increase in the former case of \$84, and in the latter of \$44 per teacher. The amount paid for teachers' salaries in 1871 was \$1,191,476; and in 1876, \$1,838,322—being an increase of \$646,846. The sum expended on schoolhouses, although it has decreased \$72,064 in 1876, has greatly increased during the past six years. For instance, in 1871 \$261,833 were expended on schoolhouses; in 1876, \$630,265—being an increase of \$368,432-while in quality the comparison is equally gratifying. There were, in 1871, 898 brick school-houses, 425 scone, 1,928 frame, 1,425 log; in 1876, 1,417 brick, 514 stone, 2,253 frame, 742 log; increase, 519 brick, 89 stone, 325 frame, while the number of log houses has been diminished by no less than 683. Daily and average attendance in 1876 exhibit a very fair progress, as also the number of pupils in the different branches of education. Of certificates, Old County Board and Interim have decreased; the higher class certificates have increased. average time of keeping the schools open has also increased three days."-Globe.

NOVA SCOTIA.

A correspondent of the Halifax Chronicle pleads for the introduction of the Continental in preference to the English method of pronouncing Latin.

The examination of the Normal School, situated at Traro, was attended by a large number of educational notabilities. The work done by this establishment is producing good results.

The examinations of the University of Halifax, for first L.L.B., were held on the 17th, 18th and 19th July. The legal fraternity in Nova Scotia take great interest in the new University.

Mount Alison Wesleyan College, Sackville, N. B., has adopted the curriculum of the University of Halifax *en bloc*. This example will probably be followed by the other colleges.

King's College, Windsor, had a very successful caccenia this year. The number of students is steadily increasing under the management of President Dart. The degree of D.C.L., was conferred on Rev. G. W. Hill, Chancellor of the University of Halifax.

The Education Office Scandal is not yet over. It is said, however, that the charges against the Superintendent have fallen to the ground; this would surprise few people, for he has always enjoyed a high reputation for integrity.

Archbishop Hannan, at the closing exercises of St. Mary's College, declared his intention of doing his utmost to place the College in the front rank of such institutions. He will appeal to the Catholics of the Diocese to aid him. The Archbishop is one of the most distinguished educationists in the Maritime Provinces.

The annual examinations of the Public Schools of 'Halifax occupied the first fortnight of July. Progress was manifest in nearly all the schools. The press asks that the girl's department in Morris Street School—the principal one at the south end—should be taught by more efficient teachers than hitherto.

A new High School is to be upened, and the pupils, boys only, will pay an annual fee of \$20. This is strongly objected to by

many. The head master, who will teach classics, is Rev Canon Gilpin, D.D., Archdeacon. He was head master of the Grammar School and is an able scholar and an excellent teacher. A teacher of mathematics, with a salary of \$1400, and a teacher of English, with a salary of \$1200, are advertised for by the Board of School Commissioners. The post of teacher of Modern Languages is also vacant.

MANITOBA.

The Governor-General's silver medal was awarded to Mr. Patrick Haverty for mathematics, and the oronze medal donated by his Excellency was awarded Mr. N. Betournay for French composition. The Rev. J. Robertson, of Winnipeg, has been elected by the

Board of Education as its representative on the Senate of the

Provincial University.

The contractor of the Winnipeg Central School expects to have the building ready for occupation by the 1st of September. It is to be brick veneer, and will have a fine commanding appearance. When completed it will be the chief architectural ornament of the

St. John's and Manitoba Colleges have closed for the summer Vacation. Also the two principal Ladies' Schools in the Province, Miss Bannatyne's and Miss Lane's. The summer vacations in the Public Schools are, in rural districts, from 1st August to 1st September, and in Winnipeg from 15th July to 1st September.

The examination for the Isbister Prizes, (£5, £4 and £3), open to all public schools in the Province, took place July 11th, and the Protestant School Boards Examination of Teachers commenced on

the 10th July at Winnipeg and Portage la Prairie.

By the middle of November the St. John's College Ladies' School is to be furnished. It is to be a large and commodious building, costing about \$20,000, with Miss Hart Davies of the Oakfield Academy as Principal. It is to have a Board of Governors, the Bishop of Rupert's Land as President, and Rev. Canon Church Missionary Society, has become the founder of the institution by a handsome donation exceeding \$7,000.

The Unitary method of teaching arithmetic is followed in the Winnipeg Schools, and there seems to be a disposition to adopt the Canadian edition of Hamblin Smith's as the text book. In this edition the editors, besides adopting it to Canadian currency, have corrected numerous errors which have inadvertently crept into the English edition. Many new problems have been added and other

improvements made.

For some months past the educationists of Manitoba have been discussing with much keepness the question of non-sectarian schools. The discussion took its origin with a bill which the Protestant section of the Board of Education intended to submit to the Legislature at its last session. Before the bill was drafted, the principles which it was to embody leaked out and were published in the Globe, though to no one in Manitoba were they known save the members of the Board. This excited a good deal of comment, which, together with a mcreiless flagellation which the Board received from the Standard on account of a new programme for the examination of teachers, and other regulations, so demoralized them that, though they drafted their bill and had it printed, they did not lay it before the Legislature at all, so hopeless was the prospect. At this time Archbishop Tache, somewhat alarmed for the safety of his "Denomination or Free Christian Schools," published, in successive numbers of the Standard, a long letter, subsequently issued in pamphlet form, in which His Grace maintained that the proposed system of national schools was contrary to the provisions of the British North America and Manitoba Acts, as well as subversive of all religious principles and so ruinous to society as to foster every vice and to stifle every virtue. To this a vigorous reply was immediately given by a member of the Protestant Board, generally supposed to be Rev. Mr. Robertson. Not long after this, there appeared a letter from Libertas, which attracted general notice for the ability with which it was written and the clearness with which it set forth the legal aspect of the question in favor of the non-sectarian system. Whether the points made in this letter are correct or not, which cannot probably be settled until the matter comes before some of the highest tribunals in the realm, it is generally admitted to be the most masterly production which has yet appeared on the subject. For some time after its appearance it was thought that no person of less legal acumen than Chief Justice Wood or some of the leading lawyers after its appearance it was thought that no person of less legal acumen than Chief Justice Wood or some of the leading lawyers could have written it, though now it is popularly, and no doubt correctly credited to the pen of Rev. Prof. Boyce, of Manitoba The walls of the house shall not be less than ten exemt.

3. Kind of House. On such site there shall be a substantial school house of wood, brick, stone, etc. (the kind to be determined at the pleasure of the Trustees), set back at least ten yards from the road or street. The walls of the house shall not be less than ten feet high in the clear,

College. The Archbishop meanwhile continued his letter, presentmg his objections from a social and religious point of view; the Standard itself took strong ground against His Grace's position, advocating the abolition of the dual system, favoring, however, such compromises as the permissive use of French, and options in text-books in history. Since then, with the exceptions of one or two anonymous letters, there has been a lull in the controversy. Thus far none have taken part in it except educationists immediately interested. The general public are too busy with the activities of life in a new country to give the matter close attention, though the probability is that at no distant day it will form an important plank in the political platform. The Standard newspaper, which has given considerable attention to educational topics, has had a change in its management of late, and rumour hath it that henceforth its position, with regard to these matters, will be similar to that of its contemporary the Free Press, which, while avowing non-sectarian principles, exhibits no anxiety to agitate at present such a thorny question.

-The Teachers of Boston have organized an Association for the purpose of 'extending aid to sick and superannuated teachers. It is instituted under the City School Board, on a plan somewhat similar to that of the Superannuated Teachers' fund in the Province of Ontario.

-The next meeting of the Education Society of Eastern Ontario has been postponed until the 26th, 27th and 28th of December.

-- A book agent, writing to his publishers concerning a valuable educational work, says that he is much discouraged, because seventy per cent. of the teachers are young girls, who do not hesitare to spend ten dollars for a fashionable bonnet, but can not be induced to spend two dollars for a work essential to success in Grisdale, Secretary. An English clergyman, connected with the their calling. While we believe the young man exaggerated, still his statement contains an element of truth. We have too many in the school-room, who seldom, if ever, read anything pertaining to their profession, or make any effort to improve their qualifica-tions as teachers. It would be an interesting fact, if we could know the number of teachers who take an educational journal, or own so standard a work as " Page's Theory, and Practice of Teaching." Teaching should be an intellectual calling; it often is not, and years pass away in dull routine, with no genuine study into the art and science of that grandest of all callings, training the mind .-- Educational Weekly.

Departmental Notices.

REVISED REGULATIONS AS TO SCHOOL ACCOMMODATION. APPROVED BY THE LIEUTENANT-GOVERNOR IN COUNCIL, MAY 8, 1877.

1.-RURAL SCHOOLS.

The law as now amended (see sec. 17 (2) of Act 1877) requires trustees of Raral School Sections to provide adequate school accommodation in their sections, "so as to accommodate at least two thirds of the children who have the right to attend the school of the section, according to the census taken by the Trustees for the next preceding year." This includes all children resident in the School Section, between the ages of five and twenty-one years, and also children from adjacent school sections, whom the Trustees are required to admit upon certain conditions.

The School accommodation required by the Act for Schoolhouses hereafter to be erected, is hereby defined as follows, and these requisites are to be construed to apply to existing Schoolhouses, so far as the circumstances of each Section may enable them to be complied with, without pressing unduly upon the resources of the Section. Inspectors will see to the carrying out of the Regulations. Special cases of omission or difficulty to be reported to the Department for decision or advice.

1 .- Rural School Site, House and Appendages.

1. Fifty Children and under-Site. When the number of children resident in a Section is fifty or under, the site for the schoolbouse shall not be less than half an acre in extent.

When the number exceeds fifty, the

2. Over Fifty Children—Site. When the site shall not be less than an acre in extent.

It shall not contain less than twelve square feet on the floor for each child who has the right to attend (to the extent of two-thirds of the total number, as aforesaid), so as to allow an area in each room, or gallery, for at least one hundred and twenty cubic feet of air for each child, in-cluding space for Teacher, platform and passages between the scats. It shell also be sufficiently warmed and ventilated, and the premises properly drained, to the satisfaction of the Inspector.

4. Separate Entrances. - In Schoolhouses for more than fifty pupils, there shall be separate entrances for boys and girls, with necessary cap

and cloak-rooms attached.

5. Fences.-The School premises shall be strongly fenced, the play yards in the rear of the schoolhouse being invariably separated by a high and tight board fence, or wall; the front ground being planted with shada trees

6 Well.—A well, or other means of procuring water for the school,

satisfactory to the Inspector.

7. Offices.-Proper and separate offices for both sexes shall be provided at some little distance from the Schoolhouse, and suitably enclosed or otherwise masked.

2.-Schoolhouse Accommodation and Teachers.

3. 50 Resident Children.—For a School Section having fifty resident children or under, there shall be a house with schoolroom, and comfortable sittings for the children, and the Trustees may also provide a gallery or class-room. There shall be one Teacher and, at the option of the Trustees, a Monitor to aid the Teacher.

4. 100 Resident Children.-For a Section having one hundred children, there shall be a house with two class-rooms with comfortable sittings (one for an elementary and one for an advanced division), and the Trustees are recommended to provide a gallery. There shall be a Teacher and Assistant, and at the option of the Trustees a Monitor.

5. 150 Resident Children .- For a Section having one hundred and fifty resident children a house having one gallery and two good classrooms with comfortable sittings, and one Teacher, an Assistant and Monitor; or a house having a gallery and two apartments, one for an elementary, and one for an advanced department, with a Teacher and two Assistants in each. A Monitor may be appointed to prepare the younger children for the Master, the duty of the Assistant being confined to the preparation of the more advanced pupils.

6. Over 150 Resident Children.-For a Section having over one hundred to one hundred and fifty resident children, the regulation for

accommodation for Village Schools shall apply.

II .- CITIES, TOWNS AND VILLAGES.

It is the duty of the Public School Board under the amended law of 1877, to determine the number and kinds of schools to be established and maintained in the Municipality, and in order that this duty may be definitely regulated, the following are to be observed by the respective Public School Boards, that is to say :

1.—Schoolhouse Accommodation and Teachers.

1. 150 to 200 Resident Children .- For a Village or Town School, having from one hundred and fifty to two hundred resident children, a brick, stone or frame house shall be provided by the Board, having in it one or two galleries and three apartments (one for an elementary, one for an intermediate division, and one for the highest division), and by means of a sliding door, one good class-room at least, common to the two latter; also three Teachers and an Assistant, and at the option of the Trustees, a Monitor. The area of each room or gallery shall be guch as to secure a space of at least one hundred cubic feet of air to each child, to be accommodated therein. If necessary, Schools may be provided at the pleasure of the Trustees for the different departments in different parts of the village, town or division.

2. 200 Resident Children and upwards.—For any village or town hav ing two hundred resident children and upwards, a house or houses with sufficient accommodation for the different elementary and advanced

divisions shall be provided as above prescribed.

III. -AS TO ALL PUBLIC SCHOOLS.

The Offices shall be constructed so as to possess these essential particulars, viz. :

1. The Privy building, or Closet, should be masked from view, and its approach equally so.

2. There should be little or no exposure to mud or wet weather in reaching it.

3. There should be no unpleasant sight or odour perceptible.4. The apartment should be well finished.

5. It should be kept entirely free from cuttings, pencilings, or markings, and scrapulously clean.

6. There should be, at least, two privies attached to each mixed

school, and they should be so separated that neither in approaching nor occupying them, can there be either sight or sound observed in passing, or from one to the other. This cannot be effected by a mere partition; nothing can secure the object but considerable distance, or extra heavy brick or stone walls resting on the ground. It is a serious error ever to omit this precaution.

2 Furniture and Apparatus. - Desks, seats, blackboards, maps, library, presses, books, and other furniture, necessary for the efficient conduct

of the school, shall be furnished.

Suggestions as to School Buildings.

Trustees and School Boards are recommended to pay due attention to the following particulars in the erection of schoolhouses, viz. :

1. The Schoolhouse should be but one story high, in rural sections. 2. A separate room should be provided for every fifty pupils enrolled in the School. By means of sliding doors these separate rooms could be thrown into one on special occasions

3. Provision should be made for one or more galleries or class-rooms in every School, according to its size, as heretofore prescribed.

4. Separate entrances with outer porches to the Schoolhouse or room, for boys and girls, should invariably be provided where the number of pupils is over fifty.

5. The entrance porches should be external to the Schoolhouse.
6. The external doors of the Schoolhouse should open outwards.

7. The Schoolrooms must be well ventilated.

8. The light should be admitted to the School and Class-room behind or at the left of the children, and either from the East or North, but in no case should the children face it.

9. The window sashes should be made to move up and down on

pulleys, and the sills should be about four feet above the floor.

10. Each schoolhouse should be provided with a bell.

11. If the house be brick, care should be taken to make the walls hollow, but air tight, otherwise the air will be damp inside.

Note.—Each Inspector is furnished by the Department, with Dr. Hodgins' book on School Architecture, which supplies useful plans and suggestions for the guidance of Trustees; and the Inspector will assist the Trustees in giving effect to the above recommendations.

ADAM CROOKS

Minister.

EDUCATION DEPARTMENT, ONTARIO, May 10, 1877.

CIRCULAR IN REGARD TO COUNTY MODEL SCHOOLS.

To Boards of Public School Trustees, Inspectors and Head Masters. Toronto, July 20th, 1877.

In addition to my recent circular in regard to County Model Schools, the Honouruble the Minister of Education desires me further to remark

I. Organization of County Model Schools .- The duty of putting into operation the provisional County Model Schools, shall be performed by the Head Masters of the Schools, with the advice and under the supervision of the County Inspectors; by whom all the arrangements made shall be approved, subject to the final decision of the Minister. By County Inspectors, in the previous sentence, is to be understood the County Inspector in whose division the Model School is geographically included.

2. The County Inspectors above designated, are directed to ascertain without delay, and to inform the Department, whether the Trustees of the Schools that have been selected to perform temporarily the work of the County Model Schools, are willing to accept the nomination of their schools for this purpose.

3. In the event of the Trustees of the schools designated being propared to accept the nomination of their school to serve temporarily as a County Model School, the Trustees and the Head Master are requested to observe that the school will open, for training purposes, on the 27th

day of August next.

4. The few days between the opening of the County Model Schools, on the 27th August, for training purposes, and the opening of the Public Schools for their ordinary work, where this occurs at a later date than the 27th August, should be employed by the Head Masters in receiving and enrolling the teachers-in-training, in explaining to them the general character of the work with which they are to be occupied, and in delivering such preliminary instructions as may be necessary or suitable before the children attending the Public Schools are gathered together.

5. The Department has been asked for information as to the apparatus, with which Schools, acting as County Model Schools, must be furnished. For the present year, this must necessarily be left somewhat indeterminable. The Minister, in determining what may suffice for the present year, will be very much guided by the opinion of the County In-

spectors.

II. Inspection of County Model Schools .- 1. The Minister of Education having intimated his intention to get the work of temporarily inspecting

^{*}Thus, for instance, a room for fifty children would require space for 6,000 cubic foot of air. This would be equal to a cube of the following or equivalent dimensions in foot, viz., 30x20x10, which is equivalent to a room 30 feet long by 29 wide and 10 feet high.

Note.- Temperature.-In Winter, the temperature during the first school hour in the foreneon or afternoon, should not exceed 70 and 60 degrees during the rest of the day.

County Model Schools done by the Central Committee, who may assign it to any of their number the Central Committee have appointed the four members of the Committee, who are Public School Inspectors,

as a sub-committee for this purpose.

2. The above-mentioned inspection through a sub-committee of the Central Committee is not intended to interfere in any measure with the authority and rights of Public School Inspectors. Public School Inspectors rotain all the powers they have hitherto possessed in regard to the oversight of Public Schools. But it is desirable, with a view to possible future arrangements, that the Minister of Education should be in possession of a more special and systematized information than could be furnished by the reports of the Public School Inspectors generally. It has, therefore, been decided to make an independent inspectoral visitation of the County Model Schools, with the exclusive object of ascertaining how they are fulfilling their functions as training institutions,

III. Candidates who shall be admitted into the County Model Schools.

Cases in which attendance will not be required.—1. The teachers-in-training, who shall have the privilege of attending the several schools acting as County Model Schools, for the first and second sessions respectively, as county Model Schools, for the first and second sessions respectively, shall be selected from candidates fulfilling the prescribed conditions, by the several County Boards of Examiners. While the County Boards, as the parties best acquainted with all the circumstances that should be taken into account, are left to their full discretion in making the selection, it is suggested, that, as a rule, they give the preference to those candidates who have been most successful in passing the non-professional examination for Third Class Certificates. Not more, however, than twenty-five candidates should be admitted to any Model School without the special concurrence of the County Inspector, for reasons which may

appear to justify the admission of a larger number.

2. Enquiries have been addressed to the Dopartment as to whether Teachers, who are at present teaching on Permits, or County Board Certificates, and who may succeed in passing the approaching non-professional examination for Third Class Certificates, must attend the County Model Schools, before obtaining a Third Class Certificate. The Minister is of opinion that the just claims of all parties will be best provided for, and the least amount of hardship, consistent with the general educational interests of the Province, inflicted on individuals, by leaving the decision of this question in the hands of the County Boards. Should a County Board be of opinion that a teacher, who is at present teaching on a Permit, or County Board Certificate, and who may succeed in passing the approaching non-professional examination for Third Class Certificates, has had an amount of practical experience substantially equivalent to what would be gained by attendance at a County Model School, they may grant a special Third Class Certificate to such Teacher. Their action, however, must be reported to the Minister, and must be subject to his approval.

IV. Conclusion.—The Minister of Education, in inaugurating the very

important change in the system of training teachers to which this Circular refers, invites the friendly co-operation of the Trustees and the Head Masters of the Schools selected to act as County Model Schools. The success of this scheme must depend very much on the intelligence and devotion with which the Masters, in particular, enter on the performance of the responsible duties assigned to them; and it is the earnest request, as it is the confident expectation of the Minister, that these gentlemen, called to undertake a branch of work which must be new to most of them, will prepare themselves for it as thoroughly as possible. and will be zealous in endeavouring to contribute, in this as in other ways, to the intellectual and moral advancement of the Province.

LIST OF PUBLIC SCHOOLS SELECTED TO BE TEMPORARILY USED AS COUNTY MODEL SCHOOLS.

	Dan Convenie		
County or Riding.	Place.	Sc	hool.
Esser	Windsor	Public	School.
Kent			
Lambton	Sarnia	Public	School.
Elgin	St. Thomas	Public	School.
Middlesex, E	London	Central	School.
" W	Strathroy	Public	
Huron, N	Clinton	. '	14
" S	Goderich		14
Bruce, E	Walkerton		14
" W	Kincardine		14
Grey, N	Owen Sound		14
" S	Durham		
Wellington, S	Guelph		11
" N	Mount Forest		"
Perth			
Waterloo, 8.	Galt		• •
" N	Berlin		••
Oxford			
Brant			44
Norfolk			
Haldimand			44
Welland			
Welland	CA Coshamina	•	
Lincoln	Tiila	•	
Wentworth	namuton	•	••

Halton	.MiltonPublic	School.
Peel	.Brampton	
York		**
	.Newmarket	**
Sinicov, N		• •
	.Bradford	• •
Ontario		46
Durham		**
Victoria		• •
Northumberland		44
Peterborough	Patarbaranah	44
Prince Edward		44
Hustings		64
114001118000000000000000000000000000000	. Madoc	
Lennox		46
Addington		
Frontenac		
Renfrew		44
Lanark		**
Lords		
	.Prescott	44
Carleton		;; ·
Dundas		••
Stormont		44
Prescott)	. Vankleek Hill	**
i i i i i i i i i i i i i i i i i i i		
Glengarry	.Martintown	"

The Department relies upon your co-operation in successfully carrying out the Regulations on the subject.

I have the honour to be, Sir, your obedient servant,

J. GEORGE HODGINS,

Deputy Minister of Education.

APPORTIONMENT OF GRANT TO THE HIGH SCHOOLS.

From a communication addressed to the Minister of Education, a misapprehension appears to exist in regard to the principles on which the sum of \$10,000 is annually distributed to the High Schools on the recommendation of the Inspectors. These principles are fully explained in the regulation instituting the present system of payment by results. The regulation is as follows:

III. A part on the results of inspection.

The sum of say ten thousand dollars will be distributed amongst the schools, according to their efficiency as determined by the report of the Inspectors. In classifying the schools with a view to the distribution of the part of the grant which it is proposed to apportion on the results of the inspection, account will be taken of the following:

(a) School accommodation, condition of school premises, general edu-

cational appliances, (maps, apparatus, &c)
(b) Number of masters employed as compared with the number of pupils and classes, qualifications of masters, character of the teaching, etc.

(c) Character of the work done between the two limits mentioned below; so that any school which, owing to the operation of special causes, may prepare but few pupils to pass the "Intermediate," will nevertheless be rewarded for the thorough work they may do below this higher limit.

(d) The quantity and quality of the work which may be done beyond the higher limit, i.e., by those pupils who shall continue their studies in the higher course prescribed for those who pass one In-

termediate Examination.

(c) Government, Discipline, General Morale.

SUB-EXAMINERS, UNDER THE COMMITTEE.

(Copy of an Order in Council, approved by His Honor the Lieutenaut-Governor, the 12th day of July, A. D. 1877.)

Upon recommendation of the Honorable Arthur Sturgis Hardy, acting Minister of Education, the Committee of Council advise that the following gentlemen be appointed sub-examiners under the Committee for second-class teachers and for intermediate certificates, namely, the following Public School Inspectors:—A. Campbell, S. P. Davis, J. Dearness, M. J. Kelly, C. Moses, J. J. Wadsworth, and Messrs. C. Clarkson, B. A., W. Scott, B. A.; and that the following gentlemen be appointed substitutes, should any of the above be prevented from acting, namely: Adam Johnston, B.A., Classical Gold Medalist; J. E. Wetterell, B.A., Prince of Wales Prizeman; Dr. Evans, of Trinity College; J. L. Davidson, Provincial Gold Medallist, Model School, Toronto. Certified.

(Signed)

J. G. SCOTT, Clerk Executive Council, Ont.

The Honorable A. S. HARDY, Acting Minister of Education.

SUPERANNUATED TEACHERS.

(Copy of an Order in Council, approved by His Honor the Lieutenant-Governor, the 12th day of July, A.D. 1877.)

Upon the recommendation of the Honorable the Provincial Secretary, acting Minister of Education, the Committee of Council advise that the teachers named in the annexed list, having complied with the law and regulations in that behalf, be granted pensions as superannuated teachers in accordance with the provisions of the Act. Certified.

(Bigned)

J. G. SCOTT. Clerk Executive Council, Ont.

12th July, 1877.

The Honorable The Minister of Education.

SUPERANNUATED TEACHERS.

The Deputy reports to the Minister of Education that he has carefully examined the accompanying applications of Public School Teachers, and as they have complied with the law and regulations on the subject, respectfully recommend the applicants for superannuation, viz.:

	IOVER SE	XTT YE	RS OF AGE.		
Name.	Religion.	Birth- place.	Residence.	Ago	Service in Ont.
Bernard Daly	C.Apostolic R. Catholic	do. do.	Chatham Kingston St. Catharines. Toronto		381 years. 182 " 17 " 26 "

II.—UNDER SIXTY YEARS OF AGE AND DISABLED PROM TRACHING. Adolphus Andrews ... | Mothodist. | Englad|Tp. Westmin's 55 Richard H. Banks. do. | Ontar'o | Durham | 37 Wm. M. Crewson ... | Disciplo ... | do. | Acton ... | 52 Wm. H. Moredith. ... | Mothodist. | Englad|Toronto ... | 51 Jeromiah W. Palmer. | Presbytern | Ontar'o | Wintby... | 50 14 21 23

Respectfully submitted.

(Signed) EDUCATION DEPARTMENT, June 20th, 1877.

J. GEORGE HODGINS, Deputy Minister.

CHANGES TO BE MADE IN LATIN AND ENGLISH LITERATURE.

(Copy of an Order in Conneil, approved by His Honor the Lieutenant-Governor, the 12th day of July, A.D. 1877.)

The Committee of Council have had under consideration the annexed report of the Honourable Wm. Hardy, Acting Minister of Education, with reference to certain changes to be made in the portions of Latin and of English Literature to be read for the December Intermediate Examination, and advise that the same be acted upon. Certified.

(Signed)

J. G. SCOTT, Clerk Executive Council, Ont.

12th July, 1877.

The Honorable A. S. HARDY,

Acting Minister of Education.

The undersigned respectfully begs to report for the consideration of His Honor the Lieutenant-Governor in Council, the following respecting the Education Department, that is to say :-

The Central Committee of Examiners recommend, in view of the revised curriculum of the University, that the following changes be made in the portions of Latin and English Literature to be read for the December Intermediate Examination:

(a) Latin.—For Casar, Book II., substitute Casar Bellum Britannicum, being Book IV., chapters 20-38, and Book V., chapters 1-23.

(b) English Literature.—For Gray's Elegy, substitute Goldsmith's Deserted Village. The other subjects to remain as before, viz.: Virgil, Eneid, Book II., lines 1-300, and Scott's Lady of the Lake.

The undersigned would respectfully recommend that an Order in Council be passed to give effect to the above modifications.

Respectfully submitted.

(Signed)

ARTHUR S. HARDY,

Pro.-Minister of Education.

EDUCATION DEPARTMENT,) Toronto, 1877.

THE ANNUAL CONVENTION OF THE TEACHERS' ASSOCIATION OF THE PROVINCE OF ONTARIO.

To the Teachers, Inspectors of Schools, and Friends of Education, in the Province of Ontario:

The Seventeenth Annual Convention of the Ontario Teachers' Association will be held in the Examination Hall of the Normal School

Buildings, Toronto, on Tuesday, the 14th day of August next, at two o'clock in the afternoon, and continue in Session three days.

Tickets of Membership can be procured by communicating with the erretary The Annual Fee is fifty conts to those who are members of Secretary Branch Associations, and one dollar to others. Ladies, engaged in

teaching, free.

Most of the Railway Companies have agreed to grant return tickets to members attending the Convention, for one and a third fare, on the presentation of certificates, at the beginning of the journey.

Efforts will be made to secure accommodation on as favourable terms as possible for members of the Association while in Toronto. A person as possible for members of the Association while in Toronto. A person will be in attendance at the Theatre of the Normal School Buildings, on the first day of the Session, to give the necessary information.

The order of business will be as under;

2 p. m. Tuesday—Treasurer's Report; Samuel McAllister, Esq. 2.30 p. m.—Township School Boards; Jos. H. Smith, Esq. 7.30 p. m.—Opening Address: President, Rev. Principal Cavan.

Reception of Delegates.

2 p. m. Wednesday—Uniform Promotion Examinations in Public Schools; Jno. M. Moran, Esq.

3.30 p. m.—Training Schools for Teachers; William Macintosh, Esq. 7.30 p. m.—The Rev. Dr. Fyfe.

Reception of Delegates.

2 p. m. Thursday—Nomination of Officers. 2.15 p. m.—The relation of the Public and High Schools Programmes; William Tassie, LL.D.

7.30 p.m.—Dr. Ellis on some subject in Chemistry with experiments. John Irwin, Esq., Dissolving Views of Nare's Polar Expedition, Polarized Light, Solar Spectrum, Astronomy, &c.

PUBLIC SCHOOL SECTION.

Arithmetic, Algebra and Geometry. How they should be taught in Public Schools, by Thos. Kirkland, M. A. (Toronto Normal School). Institute Lesson on Object Lessons, by James Hughes, I.P.S., 'Toronto.

INSPECTORS' SECTION.

Report Forms and Registers.

School Inspection.

HIGH SCHOOL SECTION.

University Curriculum.

Intermediate Examinations; John Seath, B.A.

The following reports will be presented, viz:— Report of the Public Masters' Section.

Report of the Public School Inspectors' Section.

Report of the High School Masters' Section. An Excursion on Friday, the 17th, to Niagara and the Falls at

reduced rates. Any member of the Association may propose other subjects for discussion, which, if approved by the Board of Directors, will be intro-

duced to the Association, with the understanding that the proposer lead off in the discussion.

The Board of Directors earnestly hope that Local Associations will be represented by delegates at the ensuing Convention, as provided for by the Constitution.

The following article of the Constitution of the Provincial Association

refers to the formation of Branch Associations :-

"Anticle 5.—Every Local Association appointing a delegate to represent it at the annual meeting shall be a Branch Association; and shall, through its representative, have one vote for each of its members, connected with this Association not present at the annual meeting, provided that the names of such members and such representative, together with the annual fees for the same, be transmitted to the Secretary on or before the first day of July in each year."

ARCHIBALD McMunchy.

Secretary.

COLLEGIATE INSTITUTE, Toronto, June, 1877.

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WM. SANDERSON. Secretary.

Brantford, Ont., July 26, 1877.

NOTRE DAME DU SACRE CŒUR.

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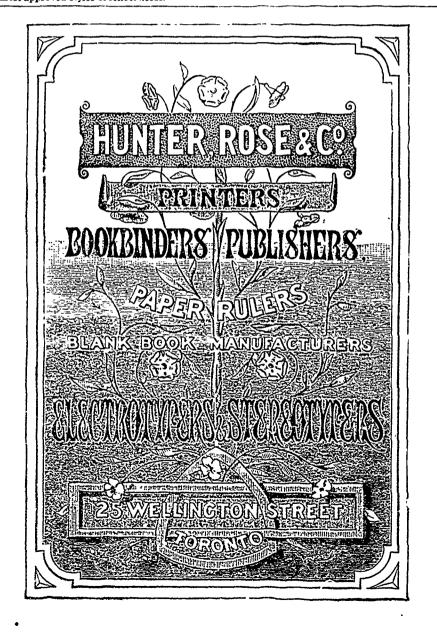
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