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MINUTES

OF THE

SEVENTEENTH ANNUAL CONVENTION

THE ONTARIO ASSOCIATION

FOR THE

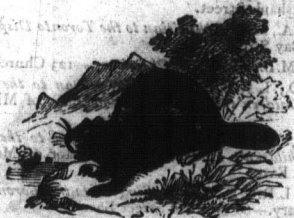
ADVANCEMENT OF EDUCATION,

HELD IN THE

THEATRE OF THE NORMAL SCHOOL BUILDINGS,

TORONTO,

ON TUESDAY, AUGUST 14, 1877.



TORONTO:

COPP, CLARK & CO., PRINTERS, COLBORNE STREET.

1877.

The Toronto School of Medicine,

IN AFFILIATION WITH THE UNIVERSITY OF TORONTO.

FACULTY, 1877-8.

- HENRY H. CROFT, D.C.L., F.L.S., *Professor of Chemistry and Experimental Philosophy, University College, Emeritus Lecturer on Chemistry.*
- WM. T. AIKINS, M.D., *Surgeon to the Toronto General Hospital and to the Central Prison, Consulting Surgeon to the Children's Hospital, Lecturer on Principles and Practice of Surgery and Clinical Surgery.*—78 Queen Street West.
- H. H. WRIGHT, M.D., L.C.P. & S.U.C., *Physician to Toronto General Hospital, Consulting Physician to the Children's Hospital, Lecturer on Principles and Practice of Medicine and Clinical Medicine.*—197 Queen Street East.
- J. H. RICHARDSON, M.D., M. R. C. S., Eng., *Consulting Surgeon to Toronto General Hospital and Surgeon to Toronto Jail, Lecturer on Descriptive and Surgical Anatomy.*—46 St. Joseph Street.
- UZZIEL OGDEN, M.D., *Consulting Surgeon to the Children's Hospital, Physician to the House of Industry and Protestant Orphan's Home, Lecturer on Midwifery and Diseases of Women and Children.*—57 Adelaide Street West.
- JAMES THORBURN, M.D., Edinburgh and Toronto Universities, *Consulting Physician to the Toronto General Hospital and Boys' Home, Consulting Surgeon to the Children's Hospital, Lecturer on Materia Medica and Therapeutics.*—Wellington and York Streets.
- M. BARRETT, M.A., M.D., *Medical Officer to Upper Canada College, and Lecturer on Physiology, Ontario College of Veterinary Medicine, Lecturer on Physiology.*—Upper Canada College.
- W. W. OGDEN, M.B., *Physician to the Toronto Dispensary, Lecturer on Medical Jurisprudence and Toxicology.*—242 Queen Street West.
- M. H. AIKINS, B.A., M.B., M.R.C.S., England, *Lecturer on Primary Anatomy.*—Burnhamthorpe.
- W. OLDRIGHT, M.A., M.D., *Physician to the Newsboys' Home, Curator of Museum and Lecturer on Sanitary Science.*—50 Duke Street.
- L. MCFARLANE, M.B., *Physician to the Toronto Dispensary, Demonstrator of Anatomy.*—7 Crookshank Street.
- GEORGE WRIGHT, M.A., M.B., *Physician to the Toronto Dispensary, Demonstrator of Anatomy.*—154 Bay Street.
- ALEX. GREENLEES, M.B., *Practical Chemistry.*—123 Church Street.
- R. ZIMMERMAN, M.D., L.R.C.P., Lond., *Physician to the Toronto Dispensary, Physician to the Children's Hospital, Demonstrator of Microscopical Anatomy.* 107 Church Street.
- F. H. WRIGHT, M.B., L.R.C.P., London, *Physician to the Toronto Dispensary, Physician to the Children's Hospital, Demonstrator of Microscopical Anatomy.*—197 Queen Street East.
- J. E. GRAHAM, M.D., L.R.C.P., Lond., *Surgeon to the Toronto General Hospital, Lecturer on Chemistry.*—66 Gerrard Street East.
- R. A. REEVE, B.A., M.D., *Surgeon to Toronto Eye and Ear Infirmary, Ophthalmic Surgeon to the Toronto General Hospital and Children's Hospital, Lecturer on Diseases of the Eye and Ear, and on Botany.*—22 Shuter Street.

Clinical Lectures will be given at the General Hospital by Dr. H. H. Wright, Dr. Aikins, Dr. Richardson, Dr. Thorburn, Dr. Graham, and Dr. Reeve.

Clinical Instructions will be given at the Toronto Dispensary by Dr. McFarlane, Dr. George Wright, Dr. F. H. Wright, and Dr. Zimmerman.

Janitor of School, JAMES PICKERING. Residence on the premises.

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MINUTE

THE OYSTER ASSOCIATION

FOR THE ADVANCEMENT OF THE OYSTER INDUSTRY

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPE, CLARK & CO.
COLBORNE STREET, TORONTO.

THE OYSTER ASSOCIATION was organized at a public meeting held at the Grand Hotel, Toronto, on the 1st of January, 1881. The object of the Association is to promote the interests of the oyster industry in Canada, and to secure the best possible conditions for the production and sale of oysters. The Association has since that time held regular meetings, and has been successful in securing the attention of the Government and the public to the oyster industry. The Association has also been successful in securing the establishment of oyster markets in various parts of the country, and in securing the best possible conditions for the production and sale of oysters. The Association has also been successful in securing the attention of the Government and the public to the oyster industry. The Association has also been successful in securing the establishment of oyster markets in various parts of the country, and in securing the best possible conditions for the production and sale of oysters.

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SEVENTEENTH ANNUAL CONVENTION
OF
THE ONTARIO ASSOCIATION
FOR THE ADVANCEMENT OF EDUCATION,

HELD IN THE THEATRE OF THE NORMAL SCHOOL BUILDINGS, ON
TUESDAY, AUGUST 14, 1877.

The Convention opened at 2 p.m. Robert Alexander, Esq., Vice-President, in the chair.

After the reading of a portion of Scripture, and prayer, by Mr. Kilgour, the Roll of Officers was called by the Secretary.

Moved and seconded,

That the Minutes of the last meeting having been printed and circulated among the members, be considered as read, and be adopted as correct.—*Carried.*

The Treasurer, Mr. S. McAllister, read his Report, which showed that financially the affairs of the Association are in a very satisfactory state.

Moved and seconded,

That the Treasurer's Report be received and adopted.—*Carried.*

Mr. J. R. Miller moved, seconded by Mr. Johnston,

That Mr. S. P. Halls be Minute Secretary.—*Carried.*

The President nominated Messrs. J. R. Miller and Dickenson as Auditors to examine the Treasurer's Statement and to report thereon.

The Secretary read communications expressing regret at inability to attend the Association, from Mr. M. McVicar, Principal of Normal School, New York; Prof. Ramsay Wright, Prof. of Natural History, University College, Toronto; Dr. McVicar, Principal of the Presbyterian College, Montreal; and from Hon. Justice Moss, Vice-Chancellor of the University of Toronto.

J. H. Smith, Esq., I. P. S. for Wentworth, then read an excellent paper on "Township Boards," for which a hearty vote of thanks was tendered him, after which the subject was thrown open to discussion, Messrs. Dickenson, Miller (Walkerton), Dearness, Millar (St. Thomas), McKinnon, Harvey, Knight, Tilley, Miller (Goderich), Lewis, McAllister, Barber, McQueen and Tamblyn, taking part in the same. The essayist closed the discussion with a few remarks.

It was then moved by J. H. Knight, Esq., P. S. I. for North Victoria, seconded by J. J. Tilley, Esq., P. S. I. for Durham, and resolved,

That the system of Township Boards, as provided for in the School Act of 1877, is likely to prove a great improvement on the present sectional system, and is worthy of the sympathy and support of all friends of education.

Moved and seconded,

That the hours of meeting for this Convention be from 2 to 5 o'clock, p.m., and from 7.30 o'clock, p.m., to adjournment, the forenoon of each day being for meetings of the different sections of the Association.—*Carried.*

It was then moved by Mr. Dickenson, seconded by Mr. Tamblyn,

That inasmuch as by the Free School system the wealthy residents of a section assist the poorer in the education of their children; to be consistent, it should be enacted, as soon as possible, that wealthy sections in a township should assist in supporting the weaker sections, by a system of uniform township taxation.

On motion, the discussion on this resolution was adjourned till the evening session.

Convention rose till evening.

EVENING SESSION.

First Vice-President took the chair at 7.30.

Moved by Mr. Seath, seconded by Mr. MacMurchy, and resolved,

That the following be a Committee to wait upon the Pro-Minister of Education in reference to the publication of the results of the late Teachers' Examinations for 1st and 2nd class Certificates, viz., Messrs. McAllister, Dickenson, McCallum, McIntosh, Millar and the mover.

The Secretary read a communication from the Rev. Principal Cavan, President of the Association, thanking the members for the honour conferred on him by electing him President of the Association, and expressing regret at his being unable to be present.

Mr. MacMurchy then read the address which had been prepared by the President for presentation to the Association; subject, "Discipline in Schools: its Objects and Methods."

Moved by Mr. Dickenson, seconded by Mr. Seath,

That a hearty vote of thanks be tendered to the President for his able address.—*Carried unanimously.*

The adjourned discussion on Mr. Dickenson's resolution was then entered on, Messrs. Knight, Raine, Tambllyn and Millar (St. Thomas) taking part in the same.

The resolution on being put to the vote was *lost*.

Moved by Mr. Dearness, seconded by Mr. McKinnon,

That in the opinion of this Association the Government and municipal grants should be apportioned partly on the basis of average attendance and partly on the basis of local effort, as shown by the certificate of the teacher employed, and the rate raised by the section for ordinary school purposes.

A discussion followed, in which Messrs. McQueen, Knight and Moran took part, after which the motion was withdrawn by the mover and seconder, with the consent of the Association.

The following delegates reported on behalf of their Associations:

- Mr. Chapman, Waterloo.
- " Hicks, Huron.
- " Osborne, Haldimand.
- " Robinson, South Ontario.
- " Barber, Durham.
- " Dickenson, South Perth.
- " Butler, Elgin.
- " Johnston, Northumberland.
- " Crozier, North Perth.
- " Munroe, Eastern Ontario.
- " Lewis, Toronto.
- " McMillan, Centre Wellington.
- " J. H. Smith, Wentworth.

Reports have been received from delegates for 14 Associations, having a total membership of over 1,000.

The delegates stated that the Associations were engaged in practical work, generally procuring the services of some prominent educationist to lecture and illustrate methods of teaching the various subjects.

The Convention then adjourned.

MINUTES.

August 15, 1877.

The Convention met at 2 p.m. First Vice-President in the chair.

Mr. McCallum opened the Convention by engaging in prayer.

Minutes of the previous meeting read and confirmed.

Moved by Mr. J. R. Millar, seconded by Mr. McKinnon,

That a committee of five be appointed by this Association to consider and report upon the whole question of Township Boards, as well as upon the distribution of the legislative and municipal grants, and the equalization of taxation under the present sectional system; said committee to consist of Messrs. McQueen, Dearness, Tilley, and the mover and seconder.—*Carried.*

An excellent address on "Uniform Promotion Examination in Public Schools," was then delivered by J. M. Moran, Esq., P. S. I. for South Perth.

Moved by Mr. Scarlett, seconded by Mr. Seath,

That the thanks of this Association be tendered to Mr. Moran for his address.—*Carried.*

An animated discussion on "Promotion Examination" ensued, in which Messrs. Miller (Walkertown), Barber, McKinnon and Robinson took part. At this stage of the proceedings the President announced that the time for the discussion had expired, when

Mr. Strang moved, seconded by Mr. Millar (St. Thomas), that the discussion be continued for half an hour.—*Carried.*

The discussion was then continued, Messrs. Scarlett, McBrien, McCallum, J. R. Miller (Goderich), Millar (St. Thomas), Lewis, Brown and Tamblyn taking part. The President again announced that the time for the discussion had expired, when it was

Moved by Mr. Dearness, seconded by Mr. Brown,

That the discussion be kept open for another half hour.—*Lost.*

The discussion was closed by Mr. Moran making a few remarks.

Moved by Mr. McKinnon, seconded by Mr. McCallum,

That in the opinion of this Association the adoption of county uniform examinations would in many respects prove beneficial to our public schools.—*Carried.*

Mr. MacMurchy then stated that he had received a communication from Mr. A. McIntosh, expressing regret at not being able to attend to take up the question of "Training Schools for Teachers," on which the President called on Mr. Johnston to open the discussion, in which Messrs. McCallum, Scarlett, Brown, Morrison, McBrien, Lewis, Ross, Raine and Dickenson took part.

The Convention then rose till evening.

EVENING SESSION.

First Vice-President took the chair at 7.30.

The Rev. Dr. Fyfe gave a very excellent address on "Teachers and their Mission."

Moved by Mr. Knight, seconded by Mr. Scarlett,

That a hearty vote of thanks be tendered to the Rev. Dr. Fyfe, for his very able address.—*Carried.*

In reply to a question, the delegate for Eastern Ontario stated that the Association which he had the honour to represent is by no means in opposition to this Association.

Moved by Mr. Barber, seconded by Mr. Lewis,

That the thanks of this Association are due and they are hereby tendered to the Hon. Minister of Education, for the provisions and standing given to the Local Associations, believing the educational interests of the Province will be materially aided by the cognizance so given.—*Carried.*

The Convention then adjourned.

August 16, 1877.

The Convention met at 2 p.m. First Vice-President in the chair.

Mr. McCallum led in prayer.

Minutes of the previous meeting read and confirmed.

Dr. May was then introduced to the Association by the President. The Doctor stated that if the teachers of the Province were desirous of visiting the Paris Exhibition next year, he would be in a position to render them material assistance, and he would willingly do all he could to make a visit to Paris a success in every sense of the word.

Moved by Mr. McCallum, seconded by Mr. Johnston,

That a vote of thanks be tendered to Dr. May for his thoughtful kindness.—*Carried.*

Moved by Mr. J. R. Miller, seconded by Mr. Knight,

That this Association appoint the following to act as a committee to consult together as to the advisability of following up the suggestion of Dr. May, in reference to teachers' excursion to Paris: Messrs. Dawson, Munroe, J. R. Miller, Johnston, Tilley, McCabe, Kirkland, McLellan and Dr. May.—*Carried.*

The Secretary stated to the Association that the requests made to the Grand Trunk and Great Western Railway Companies, with reference to fares, &c., were kindly granted.

The Auditors reported that they had examined the Treasurer's Report, and found the same correct.

Mr. Dawson, the delegate to the Quebec Protestant Teachers' Association, reported on the working of that Association.

The Report of the Committee on Township Boards was then laid on the table.

Moved by Mr. McAllister, seconded by Mr. Alexander,

That the Report of the Committee on Township Boards be received and printed in the Minutes of the Association.—*Lost*.

Moved in amendment by Mr. Knight, seconded by Mr. Strang,

That the Report of the Special Committee be received, and that the consideration thereof be deferred until after the election of officers and the address of Dr. Tassie.—*Carried*.

Minutes of the Public School Teachers' Section, as well as the Minutes of the High School Teachers' Sections, were laid on the table.

Mr. Hughes reported on behalf of the Committee appointed to confer with the Minister of Education, with a view to secure the establishment of a Representative Board to advise with him on educational matters, that they had waited on him for the above-named purpose, and that he promised to give the matter his careful consideration, and would notify the Committee when he had arrived at a conclusion on the subject. No word had as yet been received.

The Executive Committee recommended the following as officers for the ensuing year:—

President—J. A. McLellan, LL.D.

Recording Secretary—A. MacMurchy, M.A.

Treasurer—S. McAllister, Esq.

Corresponding Secretary—J. Hughes, Esq., P. S. I.

Moved by Mr. Alexander, seconded by Mr. Mills,

That the recommendation of the Executive Committee be adopted.—*Carried*.

Report of the Public School Inspectors' Section was laid on the table.

Dr. Tassie gave a very practical address on the "Relation of the Public and High School Programmes."

Moved by Mr. Scarlett, seconded by Mr. Hicks,

That the thanks of the Association be tendered to Dr. Tassie for his very practical address.—*Carried*.

A discussion then ensued, in which Dr. Kelly, Messrs. Dickenson, Brown, Scarlett, Miller (Walkerton), Millar (St. Thomas), Seath, McAllister, Tamblyn, Hicks, Husband, Raine and Kirkland took part.

Moved by Mr. Doan, seconded by Mr. Brown,

That the Report of the Special Committee on the Distribution of the Legislative Grants, &c., be received and printed in the Minutes, and that the consideration of the said Report be postponed until the next meeting of the Association.

Convention adjourned till evening.

EVENING SESSION.

First Vice-President took the chair at 7.30.

Minutes of the afternoon session read and confirmed.

Dr. Ellis then gave a very elaborate address on "Chemistry."

Moved by Dr. Kelly, seconded by Mr. Kirkland,

That the thanks of this Association be tendered to Dr. Ellis for his very able and instructive lecture on the science of chemistry.—*Carried.*

Moved by Mr. Kirkland, seconded by Dr. Kelly,

That a Committee be appointed to ask the Ontario Government to grant a few scholarships to be competed for at the University examination for women, said committee to be Messrs. Buchan, Robinson, Dickson (Hamilton), and the mover.—*Carried.*

Mr. MacMurchy moved, seconded by Mr. J. R. Miller,

That votes of thanks be given to the railroad companies for reducing the fares; to the Education Department for the use of the hall; and especially to the city newspapers for their full and accurate reports of the proceedings of the Association.—*Carried.*

Moved and seconded,

That the next meeting of the Association be held in Toronto.—*Carried.*

Moved and seconded,

That the thanks of this Association be tendered to J. H. Smith, Esq., for the very able manner in which he has presided over the deliberations of the Association.—*Carried.*

The National Anthem was then sung, and the Convention closed.

ARCHIBALD MACMURCHY,

Secretary.

TREASURER'S REPORT FOR THE YEAR 1876-7.

RECEIPTS.

Deposit in Bank	\$ 94 09
Cash in hand	12 76
Interest on Deposit	6 25
Members' Fees	53 00
Proceeds of Sale of Minutes	55 20
Advertisements in Annual Report	42 50
	<hr/>
	\$ 263 80

EXPENDITURE.

Printing Annual Report of 1875, Balance of Account	\$ 50 00
Printing Annual Report of 1876, in full	62 91
Printing Annual Circular	16 00
Expenses of Delegate to Montreal	15 00
Minute Secretaries for Conventions of 1875 and 1876	8 00
Secretary's Account for Postage, &c.	10 00
Treasurer's Account for Postage, &c.	4 67
Advertising	2 00
Caretaker of Normal School Buildings	4 00
	<hr/>
	\$ 172 58
Balance in Bank	75 34
Cash on hand	15 88
	<hr/>
	\$ 263 80

SAMUEL McALLISTER, M.
Treasurer.

PROCEEDINGS OF PUBLIC SCHOOL SECTION.

THEATRE, NORMAL SCHOOL, TORONTO,

August 15, 1877.

The first meeting of the Public School Section took place this morning at 9 o'clock. Mr. Alexander, chairman; Mr. Dickenson, secretary.

The first business was, "How to teach Arithmetic, Algebra and Geometry," by T. Kirkland, M.A., Science Master, Toronto Normal School.

The Section proceeded to Mr. Kirkland's room in order that black-board accommodation might be secured.

An hour and a half was taken up with Algebra and Geometry, when Mr. Kirkland suggested that Dr. McLellan, High School Inspector, might be secured to take up Arithmetic.

On motion of Mr. Dickenson, seconded by Mr. McAllister, it was agreed to refer the suggestion to the Executive Committee.

Mr. Harvey moved, seconded by Mr. Raine,

That the thanks of the Section be tendered to Mr. Kirkland for his able exposition of methods of teaching Algebra and Geometry.
—Carried.

Mr. Dickenson moved, seconded by Mr. Barbour,

That the question of "County Model Schools" be discussed.—
Carried.

Remarks were made upon the question by Messrs. Dickenson, of Stratford; Lewis, of Toronto; Johnson, of Cobourg; Barbour, of Durham; Harvey, of Barrie; Hicks, of Huron; Goggin, of Port Hope; Osborne, of Dunnville; and Chapman, of Berlin.

Dr. McLellan spent the forenoon with the Section, and assisted in discussing the question of model schools, defending the scheme recently given the country quite warmly.

Moved by Mr. Johnston, seconded by Mr. Davy,

That this Section heartily approve of the scheme of county model schools, as inaugurated by the Minister of Education.—Carried.

On motion, it was decided that fifteen minutes be allowed Mr. Turnbull to illustrate geographical apparatus on Thursday.

Meeting adjourned.

August 16, 1877.

The meeting opened in the usual form. Mr. Alexander in the chair.

Minutes read and confirmed.

Dr. McLellan gave a lesson of an hour's duration on Arithmetic, discussing the merits of the ancient and modern systems of teaching the subject, illustrated by solutions of various problems. A vote of thanks was tendered at the close of the lecture.

The officers of the Section were then chosen, as follows:

Chairman—S. McAllister, Toronto.

Secretary—H. Dickenson, Stratford.

<i>Executive Committee</i>	{	D. Johnson, of Cobourg.
		R. McQueen, of Kirkwall,
		W. R. Harvey, of Barrie.
		C. Sangster, of Belleville.
		J. Hughes, of Toronto.

An Institute lesson on Object Lessons was then given by Mr. Hughes, Public School Inspector for the city of Toronto.

The customary vote of thanks was passed.

Moved by Mr. Dickenson, seconded by Mr. Burgay,

That inasmuch as the three Sections constituting this Association had representation on the late Council of Public Instruction; and that by the abolition of the Council of Public Instruction this representation, granted by the Legislature, was by that body abolished; therefore be it resolved, that the Hon. Minister of Education be humbly requested to grant us Sectional representation on the Central Committee.—*Carried.*

Meeting adjourned.

PUBLIC SCHOOL INSPECTORS' ROOM,

August 16, 1877.

The Public School Inspectors' Section had two sessions—one on Wednesday morning, the other on Thursday morning—at both of which J. H. Smith acted as chairman, and James C. Brown as secretary.

At the former the chief topic of discussion was the proposed model school, much light being thrown upon this matter by G. W. Ross, Esq., to whom a vote of thanks was most cordially given.

On Thursday morning the Section adjourned for the purpose of hearing Mr. McLellan's remarks on the method of teaching arithmetic.

On resumption, after a desultory discussion on the matter of school registers and model schools, it was moved by Mr. J. R. Miller, and seconded by Mr. Scarlett,

That the resolution of 1876, concerning registers, be re-affirmed by this meeting, and that another committee be appointed to consult with the Minister of Education; said committee to consist of Messrs. Ross, Smith, and the mover.—*Carried.*

OFFICERS ELECTED.—*Chairman*, Dr. Kelly. *Secretary*, James Hodgson. *Members of Executive Committee*, Messrs. Kelly, Moran, Carson, Agnew and Purslow.

JAMES COYLE BROWN,
Secretary.

HIGH SCHOOL MASTERS' ROOM,
Education Department,
August 15, 1877.

The High School Masters' Section met this morning at 9.30.

Present — Messrs. MacMurchy, A. Miller, Purslow, Strang, Andrews, Robinson, John Millar, Tambllyn, Robertson, O'Connor, Hodgson, Cruickshank, Herald, Crozier, Mills, Anderson, Seath, Dawson, Alex. Carlyle, Orr, Ballard, Sullivan, Grant and Oliver.

The meeting having been called to order,

Mr. MacMurchy was appointed chairman, and A. Miller secretary.

Mr. Purslow, Port Hope, read a brief and excellent paper on the new "University Curriculum." Considerable discussion followed, the following points being chiefly dwelt upon, viz.: The desirability of giving more prominence to English and natural science, particularly chemistry, at the Matriculation Examination.

Objections were made to the difficulty of the honour classics at matriculation, the age limitation in the case of candidates for scholarships, the degradation of the Prince of Wales' Prize, and to the short notice given of the changes to come into operation in 1878. It was also considered desirable that some definite textbook on English grammar be mentioned. The present condition of the curriculum was attributed to the want of knowledge on the part of the Senate of the effect of the changes upon the High Schools.

Mr. MacMurchy having been called away, Mr. John Millar took the chair.

The following gentlemen took part in the discussion :

Messrs. Seath, J. Millar, Robinson, MacMurchy, A. Miller, Strang, Robertson, Andrews, Mills, Tambllyn, Grant and Purslow.

The following resolution was then unanimously adopted :

Moved by J. Seath, seconded by N. J. Robertson,

That in the opinion of this Section, the claims of natural science to a place in the modern system of education should be recognized by our University authorities in their Matriculation Examination.

Moved by Mr. Purslow, seconded by Rev. Mr. Grant,

That the Secretary of the High School Masters' Section be requested to communicate with the authorities of the Law Society, and urge the desirability of having the subjects laid down in the new University curriculum adopted by them, as in the case of the former curriculum, as the subjects of examination for entrance into the Law Society.—*Carried.*

August 16, 1877.

Dr. Crowle took the chair during temporary absence of Mr. MacMurchy at 9.30 a.m.

Present—Messrs. Seath, Robertson, Crowle, Tassie, Andrews, Crozier, Purslow, Robinson, Dawson (Belleville), John Millar, Mills, Sullivan, A. Miller, Strang, Halls, Bryant, Kemp, Davis, Murchie, Hicks, Hunter, Dobson, Shaw, MacMurchy, Hodgson, Ballard, Tambllyn, Grant, Anderson, O'Connor, McMichael, Cruickshank, Orr, Tilley, O'Connor, Clarke, Dawson, and several others whose names were not ascertained.

The Minutes of the former session were read and adopted.

Dr. Tassie, Galt, gave some explanations with reference to his action concerning the University curriculum.

Mr. Seath discussed, at considerable length, the present system of Intermediate Examinations.

Mr. Inspector Buchan was present at this session, and addressed the Section, pointing out some of the advantages of the present system of High School Examinations.

In the discussion upon Mr. Seath's paper the following gentlemen took part: Messrs. Dawson, John Millar, Robinson, Hicks, A. Miller, Crowle, Dr. Tassie, Clarke, Mills, Anderson, Oliver, Tambllyn and Hodgson.

It was moved by Mr. Dawson (Belleville), seconded by Mr. Robinson,

That in the opinion of this Section it is advisable that the minimum test at the Intermediate Examinations should only be applied to the several groups, and not to the separate papers as at present.—*Lost.*

Moved by Mr. Seath, seconded by Mr. Tamblyn,

That some provision should be made for deciding appeals from the finding of the examiners and sub-examiners at the Intermediate Examinations.—*Carried.*

Moved by Mr. Seath, seconded by Mr. John Millar,

That the Section adjourn, to meet again this evening.—*Carried.*

EVENING SESSION.

The Section met according to adjournment; Mr. MacMurchy in the chair.

After some informal discussion, the following gentlemen were elected members of the Executive Committee from the High School Masters' Section: Messrs. Seath, Dawson, Tassie, Mills and Dickenson.

The Section then adjourned *sine die*.

The Committee on the Distribution of Legislative and Municipal Grants, Township Boards, and Equalization of Assessments, report as follows:

DISTRIBUTION OF LEGISLATIVE AND MUNICIPAL GRANTS.

1. That in addition to the present legislative grant to public schools, the Government should give to every section employing a second class provincial certificated teacher the sum of \$10, and to every section engaging a first class provincial certificated teacher the sum of \$20; and that the municipality in which such teachers are employed be required to grant to each section so employing them a sum equal to that contributed by the Government.

2. That the legislative and municipal grants to townships be discontinued, and that in lieu thereof grants to inspectoral districts be made, in order that the present unequal distribution may be remedied, and that they be apportioned on basis of average attendance in the said inspectoral division.

TOWNSHIP BOARDS.

1. That it shall be the duty of the chairman of every annual meeting held in each school section to take a vote of the ratepayers then present on the matter of the establishment of Township Boards, and that a special meeting may be called at any time during the year to consider and decide upon the question, and that in all cases the matter shall be decided by a majority vote in a majority of the sections in the municipality.

2. That in the organization of every new municipality, provision be made for the institution of the Township Board system in the management of its school affairs.

EQUALIZATION OF TAXATION.

That in order to equalize taxation where the system of Township Boards may not be adopted, the following amendments to the present law are recommended :

1. That the municipal council of each township be required to levy an equal school rate upon all the taxable property of the municipality, and to pay therefrom each year to the local trustees of each section a sum equal to at least two-thirds of the average salary of teachers in such municipality during the year then last past.

2. That sections in which more teachers than one are employed shall be entitled to receive a sum equal to two-thirds of the ordinary sectional grant for each assistant employed.

3. That each union school section shall receive from each of the municipalities out of whose territory it is formed, that proportion of the ordinary sectional grant for such municipality which the equalized assessment of the portion of the section within such municipality bears to the whole equalized assessment of the section.

PAPERS READ
BEFORE THE ONTARIO ASSOCIATION
FOR THE ADVANCEMENT OF EDUCATION.

PRESIDENT'S ADDRESS.

WILLIAM CAVEN, D.D., PRINCIPAL, KNOX COLLEGE.

DISCIPLINE IN SCHOOLS:—ITS OBJECTS AND METHODS.

I have to return sincere thanks for the honour you have done me in electing me to the office of President of this Association. I much regret that my absence from the country at the time of the Annual Convention prevents me from having the great pleasure of meeting with the teachers of Ontario, of witnessing their proceedings, and of listening to the highly interesting discussions of important questions relating to education which will be held during these days.

The utility—the great value—of this Association as an instrument of educational advancement is evident, and does not need to be dwelt upon. It cannot but prove of the highest importance to educational interests that so many of those who are most closely connected with the work of instruction, and who, from their studies and attainments, are pre-eminently qualified to express an opinion upon the several questions which come up for discussion in the educational sphere, should have such an opportunity of presenting their views to the public as the meetings of this Association affords, and thus of contributing to the intelligent settlement of these questions. In the discussion of political problems it would not be expected that the members of parliament should forbear to take a part; in questions of theology it were unreasonable to forbid the ministers of religion to express their opinion; and when teachers make their voice heard upon questions of education, they are doing not only what they have a perfect right to do, but what, we may say, the community has a right to expect of them. It is at once their privilege and their duty to bear a part in the determination of such questions, in accordance with the superior opportunities of studying them furnished by their professional position and training. No feeling of modest unwillingness to anticipate the judgment of the general community should restrain the educational worker from giving his opinion freely upon such questions as they come up for settlement.

Topics and matters of the kind alluded to have been considered in the annual meetings of this Association from the time of its organization; and several such topics of specific character will fall to be dis-

cussed during the present convention. Leaving the consideration of these interesting and important subjects affecting school legislation, and the details of the teacher's work, to those who are better conversant with them than I can profess to be, you will permit me to offer a few observations on a matter of more general character—the matter of *Discipline in Schools*. The subject is indeed too large to be treated in any exhaustive way in a brief address; and all I can hope to accomplish is to bring before you some of the more obvious aspects in which it may be viewed. I trust that no undue dogmatism will appear in the enunciation of opinions which are nevertheless earnestly held, and believed to be practically important.

No one will dispute the proposition that there is a discipline proper to be maintained in schools, and that the maintenance of it implies the exercise of *authority* of some kind, and in some degree. The school can no more dispense with discipline than can the family, or the church, or the state. So evident is this that the most strenuous humanitarian, so far as we know, has not denied it. The ends which discipline seeks to gain are such as these: First, the securing of order, and the prevention of improper conduct on the part of pupils while in school. Pupils cannot be allowed to come to school and leave it at such hour as they please, to sit in what seat they please, to join what classes they prefer, to go out and in as they see fit. Nor can they be allowed to disturb the work of the school by unseasonable noise; nor to strike or molest their fellow pupils; nor to use improper language in addressing either their teacher or fellows; nor to injure the furniture of the school, or the books and apparatus of other pupils, or any property connected with the school. Whatever opinion may be formed as to the responsibility of the teacher for his scholars' behaviour when distant from school, it cannot well be denied that the discipline of the school must seek to accomplish the end here pointed out. Otherwise the school cannot do its work: it cannot be the instrument of either intellectual or moral benefit. The worst-conditioned schools do, as a matter of fact, endeavour to enforce some sort of rules as to order and conduct. But any considerable degree of failure to preserve order in school, and to restrain improper conduct, greatly impairs its efficiency and usefulness. We can all recollect instances in which the manifest inability of a teacher to govern his school has neutralized qualifications which would have made him an excellent instructor.

Again, the discipline of the school aims at securing the diligence of the pupils in study, whether in school, or at home in the preparation of lessons. Such diligence is of course necessary in order that the end of appointing the school may be served. The special object of the school is to educate those who attend it—to secure progress in the various studies which are pursued, and in the mental development and the culture of the pupils: obviously, therefore, it is not sufficient that order be preserved and that improper conduct be prevented. The pupil cannot be allowed to neglect his work and to waste his time, whether in school hours or in evening hours which should be devoted to preparation for school. A proper measure of activity and of labour must be insisted on—enforced—or else the work of the school cannot go forward.

I am not, you will please observe, expressing any approval of the practice of prescribing extremely long tasks to children, especially young children, to be performed out of school. Perhaps you will even allow me to say that some schools (for there is no ground, I am sure, for any general charge) are certainly faulty in this matter. Quite young children will have, *e.g.*, a great deal of arithmetic assigned for the evening. I have known a child of ten or eleven years of age having sums prescribed which would require very earnest application for perhaps an hour and a half or two hours in working them out and transferring the process carefully to paper. Now this seems to be quite unreasonable, and not a little fitted to discourage; and inasmuch as many pupils will inevitably fail to come up to such requirements, the result is injurious to the discipline of the school. Home hours must be utilized, no doubt, in committing rules, &c., to memory, and in preparing lessons of various kinds; and in the case of more mature pupils it may be very proper to prescribe a little arithmetic; but no good can result from overdoing the matter, and imposing tasks impossible of performance except by children who are both clever and of great physical endurance. But whilst taking the liberty of putting in this word of protest against injuriously attempting too much, it remains perfectly obvious that the discipline of the school must enforce a due measure of application to study on the part of all attending it.

Still further, the discipline of school contemplates the moral improvement of the pupils. If any shall object that schools are established for educational purposes, and that however true it may be that the moral advancement of the pupils is the highest of all possible ends, yet this end cannot, without losing sight of the purpose of the school, be primarily sought, we are ready to admit that there is a measure of truth in the statement; but surely any conception of education which leaves out moral cultivation must be seriously defective. The secular school is not a religious institute, and does not profess to occupy the same field as the Sabbath school, or the church, or the family; but, nevertheless, it cannot divest itself of the character of a moral appliance (its glory were gone should it succeed in doing so); and it must, therefore, be of the highest consequence that its moral tone should be right, and that its entire work and regulations should tend in a proper moral direction. Moral improvement may not be *primarily* sought, but everything will be arranged—everything conducted—in remembrance of the fact that the moral sphere is supremely important; and that an education purely intellectual in its results—if such an education, indeed, were possible—would not fulfil the end which all wise and good men, all wise communities, have sought in the establishment of schools.

My point then is, that, in respect of this end, the discipline of the school (taking the term in its widest sense) is all important. If there is no discipline, or bad discipline, all interests, intellectual and moral, will suffer together; and the young people will come together not for the better but for the worse.

Now, it is a subject deserving most careful consideration *in what way*—*by what means*—the discipline of schools can best be maintained, and the important ends therewith connected in largest measure secured.

And here no one, I am sure, will say that the rod is the only instrument of discipline, and the only support of the teacher's authority. All will allow that the *personal character, the habits, and the deportment of the teacher* are of the greatest consequence in this regard. In preserving good order in school, in checking and preventing improprieties of conduct among the pupils, in securing diligence in study, and in the foundation of right moral character in his youthful charge, nothing must be named before the character and ways of the teacher himself. Influence, conscious and unconscious, by which his pupils will be affected and moulded, will go forth from him all the time. We know that human beings brought closely together, under any relations, reciprocally affect each other; that the influence of character, whether good or bad, cannot be restrained in its diffusion; and that in this fact there resides very great power, which may be used to great results by the teacher. For the teacher occupies a place of exceptional advantage for the exercise of influence. His official authority and his superior knowledge put him in a position in which his moral qualities have fine opportunity of gaining a benignant ascendancy over his pupils. He may reign among them as a king, exercising an authority which, if united with wisdom and love, is little liable to be questioned.

It is worth while dwelling for a minute upon those elements in a teacher which cannot fail to gain for him the power of command alluded to. They are such as these: Uprightness and justice, so clearly manifested in his government of his school, that no scholar can fail to see them; perfect truthfulness, so that no scholar can doubt that the words of the teacher are meant to take effect; command of temper, and patience with the dull and even the perverse; kindness; deep interest in the progress of his pupils' studies and in their general welfare; a dignity perfectly consistent with the utmost kindness, which makes it difficult for the pupil to encroach upon his prerogative, or take undue liberties in his presence. And this dignity must be quite distinct from pomposity and official consequence; for these are things which the keen satirical eyes of young people will not readily confound. It is also indispensable that the teacher should be thorough master of the subjects on which he gives instruction, thoroughly acquainted with the ground over which he would lead his class; and if once the discovery be made that his knowledge is imperfect—that he is apt to blunder when any point in the least new, though pertinent, is raised, or even that he is living from hand to mouth, as we say—it will be very difficult to preserve his authority unimpaired. Farther, the teacher must exhibit the same diligence and love of learning to which he would exhort those under his care. To say all more briefly, the teacher must be a good man and entirely competent to do his work.

Now all will agree with me in saying that, in regard to the maintenance of discipline, we cannot over-estimate the value of such qualities as those enumerated; and that if these qualities are signally wanting, nothing can be a substitute for them. But the question still remains whether any *power* in addition to that involved in these moral elements is required by the teacher in conducting his school. "Yes," some will reply, "there must be the right of expelling pupils for confirmed insub-

ordination and certain other grave offences; this will suffice." We admit that expulsion from school is a severe penalty, and that the authority of discipline is much reinforced by it. There are certain cases in which it is quite necessary to use this power. There may also be schools of a certain character in which no other punishment is needed. But the question remains whether *the use of the rod* in our public schools should be entirely prohibited, and the moral authority of the teacher, backed by the right of expulsion and suspension, be exclusively relied on for maintaining discipline.

Now we quite agree with those who condemn the excessive use of the rod which was wont to obtain in public schools in most countries, even as too great severity may have prevailed in the discipline of many families. Very severe things might justly be said in reprobation of a system which appealed too little to the conscience and the better nature of the young, and gave a painful prominence to the element of brute force. The esteem with which many painstaking, conscientious and successful teachers are remembered by their pupils, is sadly qualified by recollection of the terror with which they were almost uniformly surrounded; and those who as "boding tremblers" watched their "morning face," can scarcely recall their image, even in mature years, without some renewal of their early alarm. But the same change in human opinion and sentiment which has so much decreased the number of capital offences, which has nearly abolished flogging in the army and navy, which has reformed prison discipline, has also brought greater gentleness into the government both of families and schools. And no doubt this change is a substantial gain to humanity: it is in itself a right and Christian thing. We must be careful, nevertheless, not to go beyond the proper line, and in the greatness of our reaction against an excessive severity, take ground which is not less opposed to a true experience and to the spirit and teachings of Scripture, than the ground which has been abandoned.

Our opinion, we hesitate not to say, is that the rod cannot with advantage be altogether dispensed with in schools. We have already tried to emphasize the value of moral influence in the government of schools, and have allowed that in certain cases expulsion may be a very proper and indeed necessary penalty. Expulsion, however, simply throws the entire responsibility of dealing with bad boys upon their parents, and in many cases is a punishment to the parents rather than the children. To many boys, expulsion, unless followed up by a pretty rigid discipline at home, is no punishment at all. There may be cases indeed where parents who have entirely neglected the discipline of the home *deserve* to have their unruly children cast upon their own hands. But the question is one of general, of public interest, and must be considered in this light; and unless the abolition of corporal punishment shall prove a public benefit, it is little consolation to know that fathers and mothers who have neglected their duty have to suffer very severely in consequence.

The question, it seems to us, is one to be decided by experience rather than by any abstract and general principles. So far as general principles are concerned, considerations as to the parties to whom authority

over the child is vested, we can see little difficulty. Of course that authority is not primarily vested in the teacher; but why may not a certain measure of it, for a definite purpose and under proper guarantees for its exercise, be delegated to him? Why may not the parent convey some portion of his authority to one who is doing what may be regarded as primarily the parent's work? Or why may not the State delegate to him authority within certain limits? The magistrate, as an individual, has no authority; but the State clothes him with authority for the purposes of his appointment. If the control of education properly belongs to the State, the State may obviously convey to the teacher all the authority which may be profitable in the discharge of his functions; and if such control belongs to the parent and the State conjointly, these parties may obviously unite in such conveyance. To deny this is to limit both parent and State quite unnecessarily. Thus the whole question becomes one to be decided on grounds of prudence and expediency. If it is found that teachers cannot exercise the authority of the rod without injury to their office or to the character of the child, let such authority be withdrawn from them; but if experience has no testimony of this kind to bear, then let no undue reaction against an almost obsolete system of severity lead us to maim the teacher or tie up one of his hands. We are really not aware that those who oppose the use of the rod *in toto* have any practical demonstration of the success of their views to adduce; and in many instances, certainly, these views are supported by arguments which would deprive the parent, the teacher and the State, equally, of all right in any case to use force. If it be said that teachers when invested with the power of the rod may be too severe, or may inflict chastisement on occasions not calling for such discipline, or may act in so great heat of temper as to deprive the chastisement administered of the character of discipline, the same may obviously be said both of parents and of civil authorities. The truth is that *power*, in every exercise of it, by any parties, may be abused; and what is needed is that the possessors of power—those called to exercise authority and force—shall be characterized by wisdom, justice and benevolence. These are our safeguards. Let these be required on the part of teachers—be considered indispensable qualifications—and there will be no necessity for taking the extreme ground which many excellent and humane persons seem disposed to occupy.

The wise and competent teacher will seek to secure, and to a large extent will secure, the co-operation of his pupils in maintaining the discipline of the school. The influence of his character, apart from any admonitions to this effect, or any law of the school, will enlist on the side of order and good conduct all the rightly disposed among his charge. The honour and efficiency of the school will not be a matter of indifference to them any more than to him. They will be zealous in rendering to him such service as they can in improving and elevating the character of the school. A teacher who entirely fails to secure this co-operation must be, in some respect, unqualified for his work; and it will be hard for him to do, by the mere strength of his own arm, what many willing hands should be found prepared to assist him in doing.

We need not go into details in showing how pupils can successfully aid their teachers in this important work. It is certainly not meant that tale-bearing should be any part of an approved system in the government of the school. Very little assistance could be rendered to the teacher by any practice of this kind, and its pernicious effect upon the character of pupils would not be less marked than in other cases where it is practised. Pupils must not be asked or encouraged to do anything inconsistent with the utmost propriety and delicacy of feeling and the utmost self-respect. We do not think well of governments which depend for security upon a system of espionage; and certainly the school and the family should be free from anything so questionable in its tendency. Whether pupils may not be required, in cases of sufficient importance, to give evidence as to the conduct of other pupils, is a point of very considerable importance, and is not at all decided in the negative by the aversion which we very properly cherish towards the habit of tale-bearing. In other cases, tale-bearing and witness-bearing would not be confounded; and no part of the odium attaching to the former would fall upon the latter. Witness-bearing is clearly a duty—is regarded as such by all moralists—when the proper authorities require it of us. When a person in court gives the testimony on which the murderer, the house-breaker or the thief is convicted, he is not held to do a discreditable thing: rather he is regarded as rendering an important service to society; and he is considered as justly liable to punishment should he refuse to give the civil authorities the benefit of his knowledge. The distinction here pointed out would be recognized as valid in the sphere of the family also. The only thing necessary, therefore, to make it right and proper that the teacher should demand the evidence of scholars upon matters of sufficient importance is that he should be recognized as vested with a degree of magisterial or parental authority. Authority of this kind, as touching some other matters, he certainly has, otherwise he dare not use the rod. The points to be determined are whether the government of the school would really profit by the teacher's having power to demand the evidence of pupils, and whether teachers as a class are persons who may be safely trusted with the exercise of such authority. Those who regard teachers as, on the whole, equally qualified with parents to inquire into the conduct of young persons placed under them, and who think it advantageous and right that mischief and wickedness should be detected and punished, will be disposed to answer the question in the affirmative. In any case, there can be no good ground for thinking that a pupil is degraded by disclosing his knowledge of the violence committed or the dishonesty practised by a fellow-pupil. Teachers may of course abuse the power of inquisition; but so may parents and magistrates. Pupils may suffer from the revenge of those whose evil deeds they have brought to light; but so may persons who have given testimony in a court of law. But whilst holding with clear conviction the view now expressed, I would again declare that the discipline of the school should, above everything else, rest upon the high personal character and the perfectly adequate attainments of the teacher, and that the law of kindness should in everything prevail.

TEACHERS AND THEIR MISSION.

R. A. FYFE, D.D., PRINCIPAL CAN. LIT. INST., WOODSTOCK.

Education, the promotion of which is the mission of the teacher, is not often discussed outside of professional circles. This is partly the case, because it is supposed that educationists alone are competent to deal with the somewhat abstruse, numerous, and often disputed details of this great subject; and partly because the subject itself lies vague and undefined in many minds. It seems to be taken for granted that the masses have nothing special to say about education, or that they all have an adequate conception of the meaning of the term. There cannot be a greater mistake than to suppose that education belongs to a particular class, either as imparters or recipients thereof. If ever there was a theme that came home to every creature who has any mind, whatever may be his sphere in life—if there is one subject which more than another demands the most serious attention of those who make teaching their life work—the attention of parents, who are all educators, and of children who are all to be educated—if there be a theme which demands the most careful study of the statesman, the philanthropist, or the Christian—that is education. Much of the indifference which prevails in regard to this subject arises from downright ignorance, from a want of any adequate conception of what education is, of whence it comes, of how it is imparted on the one hand, and how acquired and mastered on the other. Yet many would be much offended if they were told that they did not understand the meaning of the term, education. Not understand the meaning of the term! Why, it is one of the most common words in the English language. It is in everyone's mouth. It would be much more proper to ask who does *not* understand the term, than to charge the many with not knowing it. Every schoolboy knows it comes from the Latin word *educo*, to lead forth. All this is very smart and very true, but tens of thousands who know as much as this are nevertheless profoundly ignorant of the true meaning of this very common word. They know not the countless influences which contribute to the mighty result called education. They cannot tell whence these influences come, nor point out whither they go. They have never sounded the depths nor soared to the heights of this subject. Scarcely any two men use the term education with the same latitude of meaning. The education they severally speak of is not made up of the same constituent elements. I hold that the word education should be used in the plural number—*educations*. The forces which are used in its production, the elements which are woven into the thinking substance of the educated man, the breadth and colour which may be given to it, the height to which it may be carried, the aims which may be kept before the mind—are all so diverse and infinitely varied, that the results

called education cannot possibly be the same. Shall we as teachers confine ourselves to the training of the intellect merely? Shall we not give heed to the moral principles also? Shall the child's religious nature receive any information and direction? Shall his social habits be seen to? And shall any attention be paid to the physical nature? All these are elements in the child's nature which require proper attention and culture. Yet how many, or rather how few, enjoying the highest advantages which this country furnishes, have had their *whole nature* properly trained or disciplined? How many are there with cultivated intellects and bad principles, moral and religious? How many are allowed to destroy their health while they are securing what is called an education; and how many carry off high honours and retain the manners of a boor? True, education is a wondrous thing. It is like the fairy tent given by Peri Banu to Prince Amgid, in the Arabian Nights, so small that it may be hid in the hollow of the hand, and so large when pitched, that it can shelter the mightiest army. A young lad may be said to be educated, and well educated, and yet the greatest scholar the world ever saw is nothing more than this. Considered with reference to some practical end in life, it may be regarded as complete or finished; considered as the complete development and discipline of an immortal mind, it is never finished. We may think of the highest attainments in knowledge, in the power of apprehension and reasoning, in perfection of will-power and purity, yet made by the greatest of merely human beings that has ever lived, and we can conceive of a point in the never ending future, when the mind that is now simply rational will far surpass this measure of acquired forces. Education in the proper sense is the giving to a human being the full control and direction of all the faculties which his Creator has bestowed upon him. And these faculties must be in a disciplined state. They must be stimulated, taught right habits, and subordinated. If only a portion of a man's capacities are stimulated, informed and directed, then he is only partly educated. If they are all perfectly developed, then he is perfectly educated. If this be a proper conception of this great theme, if the statement I have made be admitted to be substantially correct, very important and far-reaching conclusions follow. Mere State education must come far short of perfection even when it reaches its highest development. But I shall not enter upon this. Another point much more nearly concerning us as teachers, and much more under our control, may be considered. If education be such a high, noble, and far-reaching work, what manner of persons ought we as teachers to be—we who are artificers in this work? The extent and completeness of the education which young Canadians shall receive, depends after all very much more upon what the teachers are and do than upon the Government. We mould the young people by the example we set, and by the principles which we impart. What we are in spirit and character will, both consciously and unconsciously to our pupils, perpetually exercise an influence upon them, while the manner and matter of our instructions will fashion and shape their modes of thinking.

The great science of teaching has been supposed to differ greatly in the different grades of schools in which it is active. The teaching of

the Common School is supposed to differ widely from the work done in the Grammar and Collegiate Schools; and the teaching done in these again differs from that of the University. This notion conveys, in my opinion, a little less than a half truth. The subjects taught in these three classes of schools are different from each other, but the work of planting them in the minds of the pupils is substantially the same. Teaching in its nature, through the whole range of subjects, retains the same essential elements. Every mind which is well taught must be stimulated, informed, and directed. Its forces must be developed, it must be instructed, its habits must be formed, and its will-power disciplined. No person can be said to be well taught of whom these things can not be predicated. In the Common School what teacher does not know the importance of stimulating the pupils' minds—of arousing their attention, and awakening their ambition? Those teachers can never do much with their pupils who cannot stir their souls and make their eyes flash. Such cannot impart what they know, and cannot interest their pupils in their instructions, so that they will remember them. The success of a teacher depends much more upon the possession of this faculty than upon the extent of his knowledge; our efficiency depends upon our own power to take in knowledge, and more particularly upon our power to communicate it, or to give it. Many a teacher drives his learning so far in that he cannot get it out again, or, like some plasters, spreads it so thin that it won't stick. He must possess or acquire the power to awaken and arrest the attention of his pupils, else he cannot largely succeed. What I have said on this point is true at every stage of the pupil's career. His mind must be awakened, and his attention be secured in the Grammar School, Collegiate Institute and the University. What is the line, for example, between the work of the teacher in the Collegiate Institute and the professor in the University? Just when does the work of the one end, and that of the other begin? The distinction or line is purely imaginary, and when carried out to the extent to which it is often done, it is mischievous. It is carried too far even in this country. So far as the professor in the University, the masters of the Collegiate or Grammar Schools, or the teachers of our Common Schools, do good work upon the minds of their pupils, it is essentially the same. They have aroused these minds, they have instructed or taught them, they have directed or formed their habits. Before passing to some of the essential qualifications of a good teacher, which I wish to speak of, I may remark that in my estimation the Common School teachers occupy in some respects the most important position among all the teachers or professors of the land. They are laying the foundations upon which all the others have to build. If these foundations are laid upon the sand—if the true square and plumb line have not been applied, what mischievous results must follow! We ought to have the very best teachers to lay the foundations of education. If pupils are started wrong, it takes them a long time to right up, if they ever do.

There are but two professions in Christendom exclusively devoted to the elevation of the human race; there are many which are subsidiary to human advancement, but only two exclusively devoted to human

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elevation, i.e., preaching the gospel and teaching. The first aims chiefly at raising the moral and religious nature of man, the second at the raising and development of the intellectual ; but neither is exclusively confined to one class of his pupils' faculties. The minister cannot perform his work without largely enlightening and disciplining the intellectual powers of his people ; nor can any teacher, by the utmost exercise of his care to avoid doing so, influence and mould the intellects of his pupils without largely influencing also their morals and religion. No legislative statutes can prevent this ; and no jealous watchfulness of sectaries can wholly guard against it. If teachers are not directly or indirectly benefiting their pupils morally and religiously, they are assuredly injuring them. This position cannot be fairly questioned. Ministers stamp their image upon the people to whom they preach. When the tone of the ministry is low, when religious teachers are ill taught and narrow minded, or loose in moral and spiritual things, they will infallibly find imitators among their hearers, and beget spiritual children in their own likeness. They realize the prophetic proverb, and are "like people like priest." What may be said of the ministry in this respect may, to a large extent, be said of the teachers of our young people. There is a direct and an indirect teaching going forth from all professed instructors which go far toward forming our young people into their own image. No teacher can be ill tempered, loose in his morals, or sceptical in his religious views, or loose and careless in his teaching, without letting pupils know. And though he never consciously imparts to them a lesson on these points, they will, as it were, intuitively sympathize with his states of mind, be impressed with his views, and imitate his habits. The temper, the manners and the spirit of the teacher will infallibly be imitated and adopted by those who are daily under his care. This thought must be most comforting and cheering to the high minded and conscientious teacher ; but what is it to him who is the reverse ? It must be a matter of deep regret if we contribute nothing to raise or benefit our fellow men ; but what must be the reflection that we have contributed to pull them down and degrade them—to send them backward and downward from shame unto shame ?

But perhaps I have indulged long enough in remarks of a merely general nature, albeit they relate to important aspects of your great life work. Permit me now to direct attention more particularly to some of those qualities which I deem essential to a really good teacher.

1. I think a teacher who would stand in the first rank must heartily love the work of teaching. I do not think any man can do his very best if he do not love the work in which he is engaged. I do not at all question but that a man of superior ability may do well various things, in which he may feel no great interest. But how much better could this same man do his work if his whole heart were in it ? How patiently would he strive to master his loved employ ? How anxiously would he inquire after the best models ? And how promptly would he set aside all past attainments while he reached forward towards higher and better. In the work of instruction teachers as a class are yet very far from having reached the highest efficiency. If the saying may be adopted in any profession it may assuredly be adopted in that of

the teacher—"There is plenty of room up higher." And to reach the best results as teachers, I say they must *love their work*. They must throw themselves into the struggle early; like Jacob, wrestle with the angel at the dawn of day. At the present-time much of the instruction imparted to our young people is given by those who make teaching only a stepping stone to something else. And though many of these make very good teachers, yet they have no motive to put forth their best efforts to excel in their temporary employment. It is to be feared that this drawback will exist in Canada for a very long time. Teaching in all its grades is well worthy of being exalted into a profession and a life work. The work of forming and developing immortal minds, so grand in its results, so lasting in its effects, is well calculated to call forth the interest and enthusiastic attachment of any generous mind. The impress of the teacher upon the soul of his pupil can never be effaced. Every sentiment which he writes upon the mind of the child remains indelible forever; like a certain kind of fruit sometimes eaten by wild fowl, so penetrating and powerful that it taints their flesh and colours every bone in their bodies, or like a kind of indelible ink, which so affects the substance on which it is written, that you may burn the substance in the fire and the writing will remain still legible in the cinders.

Those who love teaching will also, I think, generally love the children, who are to be the future men and women of our country. These young immortals, when they first come under the teacher, have to a large extent all the world before them where to choose, and oh! how much the teacher contributes to make their choice wise or otherwise.

2. I would remark that a true teacher must feel that he has a mission, a vocation, or call to his work. As a general rule, a man is called to do what he on the whole is best adapted to do. If this be true, what multitudes have missed their calling, and are in other people's way. There may be exceptions to this general principle, but few will deny that many considerations support it. It seems to be sustained by the well known argument from design, which is troubling sceptics in our day so much. If a person is created with an evidently special capacity to do this or that good work best, we can scarcely avoid the conclusion that his Maker had a design in regard to him; else we cannot depend much upon the argument drawn from design, and special aptitudes. It is true there are those whose specialty we cannot easily trace, simply because they cannot do anything well. Others we find can do all things equally well; they are jacks of all trades and masters of none. Teaching is sometimes taken up by persons, not because they have any special interest in the work, but because it is supposed to be a kind of easy and respectable life. Alas, what a blunder! This class will soon find that they are on a treadmill, where they must move on, or go down forever. Respectable, if you please, but never easy. I say a true teacher should feel that he has a mission, a life work assigned to him. Some ridicule, as a mark of intolerable conceit, the notion that one has a special mission. As I have said, it is not easy to ascertain in many cases what men are fit for, but it is equally true on the other hand that nearly all who have done much for the world felt that they had a special work

or vocation. So, if the teacher would rise to the full conception of the grandeur of his work, he must feel that he has a mission, one of the grandest which the Creator has given to his creatures, and he is going to live up to it in the Great Taskmaker's eye.

At this point I may notice a disturbing element which is far reaching, and mischievous in its effects—I mean the small remuneration which is generally given for the teacher's services. This operates largely in keeping down and depressing teachers who have entered upon their work. They have not the means of improving themselves and keeping up with the demands of their profession. And it prevents many of the best minds from seeking this employment. We hope for a general, though perhaps slow, improvement in the remuneration of teachers as the country increases in wealth and its appreciation of education. I admit that this is something of a hindrance to the rapid and high elevation of the teacher's profession. But, on the other hand, has not this drawback been made too much of? I know that largely remunerated teachers are the exception and not the rule. But I remark, is not the same true of nearly every pursuit in life—even when the making of money is the great aim? It is said one man in thirty who enters upon mercantile life makes money, and twenty-nine fail or make a bare living. How is it with physicians and lawyers? How few of them acquire wealth, and how many barely live. It seems never to have been intended that the many in any pursuit should amass wealth, while the few only come short. This is true even when the great aim is to acquire wealth—money, more money! Here it may be well to ask what is a large salary, or an adequate remuneration? It has no fixed or determinate value, and we cannot therefore make it the measure of our services or of the value of our work. Secondly, those avocations whose sole or chief remuneration is money all tend to degrade their votaries. In all the noblest and highest pursuits or employments in life the pecuniary element is only a very secondary one. Whenever it is brought out of that relation it degrades the employment and lowers the employee. The true rewards in these pursuits are the ennobling, elevating, and refining influences of the pursuit upon ourselves, and the benefit it confers on others. This view is worthy of the serious study of the teacher. His work is that of a benefactor; it has the elements of true philanthropy in it. He is conferring vast and priceless benefits upon individuals and upon society. If he receive comparatively little salary, his work enlarges and elevates his own mind, and furnishes him with pleasant reflections for life. Thus he learns by experience the full import of the inspired utterance that a "man's life consisteth not in the abundance of the things which he possesseth."

3. Teachers should be exemplary in every respect. We cannot take the ground that every teacher should be a Christian in the strict sense of that word (yet I most heartily wish that all were truly such), though we can insist that they should be pure in morals and life, that they should be high minded and generous, that they should have duly considered and appropriated to themselves whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are of good report. Only think of

a mean, sneaking, underhand school teacher—one who will do petty things. Think of a false, cruel, treacherous one, or of an impure or immoral person teaching children! It only requires that we should think of one of these epithets to make us turn with thorough disapprobation from the person to whom it may be righteously applied. Neither the confidence of the pupils nor that of their parents can be bestowed upon any teacher whose life is not exemplary.

4. A teacher should be well educated. This, as the French say, "goes without saying." It is like a *gerund in dum*, elegantly understood. No one can teach what he does not know, and no one can teach well what he does not know well. Yet these all but truisms will bear to be turned over and looked at. Take a teacher when he first begins. He has attended some school where the prescribed course of study is laid down for him. He must at least answer the minimum number of questions in order to get a certificate. Necessity, or it may be a very imperfect conception of what will fit him to teach well, makes him turn from every subject not essential to secure a certificate, and enable him to earn his living. Science studied with such an aim as this the Germans call bread and butter science; and so the education which I have described may be called a bread and butter education. I do not deny that a pupil preparing to teach may have, in the first instance, to confine himself to the course of study prescribed for teachers; but they should never forget the imperfection of their course considered as education. Though a person could answer 90 out of every 100 questions put to him from Collier's "Outlines of General History," what a paltry knowledge of history would he have, and how poorly fitted would he be to teach and interest other minds in general history. A like remark might be made respecting every other subject. It must be borne in mind that education is not merely nor mainly a means to an end. It is something noble, substantial, and elevating in itself. We should consider what it makes of a man, how it develops and enlarges him. It furnishes for him exhaustless springs of pure enjoyment, and enriches his whole being. All these views are entirely independent of what education enables a man to do. If men only aimed at being more than they are, at having broader, higher, and juster views, they would be able to do more. It is what people are which gives weight of character, and enables them to influence and govern others.

I have reserved for the last a few remarks which I have to make about school government and discipline. About this there are very wide divergences in practice, whatever there may be in theory. Some may be said scarcely to govern at all, because they have no definite ideas about order or government. The main idea of others in respect to government is simply the use of terror. The sceptre is the rod. Some seem to be constitutionally devoid of the power of governing, and cannot be taught to rule well. The sooner a portion at least of all these classes give up school teaching the better for all concerned. I have had a number of well educated teachers under me who could do anything well but keep order in the class room. To rule well a person must have a natural gift or aptitude for it, and that must be trained

and developed. And I know there are some who never can be trained to govern others. A student once told me he never had been able to distinguish, by the ear, "Yankee Doodle" from the "Old Hundred." I concluded at once we could not make a musician of him. So it is with some about keeping order. They must have natural endowment enough to enable them at least to distinguish "Yankee Doodle" from the "Old Hundred." The best rulers have a gift or talent for this, and one of the first characteristics of this gift is that its possessor can govern himself. He must never lose control of his temper; if he does so he has lost the battle. A teacher must never give up to passion, or punish a pupil when his temper is hot. This I consider fundamental in the science of government. But one asks, "Do you allow corporal punishment in school?" I answer, "Yes, but as little of it as possible, and let it be appealed to only as the last resort, when everything else has failed." Let this be like angel visits. God uses this only as a last resort. He causes people to pass under the rod, to bring them under the bonds of His covenant. This is a most precious discipline, and should not be wasted. And when you do punish let it always be for an adequate reason; then let it be done thoroughly, honestly, pathetically. Let not your soul spare for the crying. Everything which is done, should be well done. The habit of scolding, cuffing here and slapping there, and threatening awful things, is an abomination in school and family. I believe that corporal punishment cannot yet be done away entirely, especially among younger pupils, but the nearer we can approach to its complete abolition the better. A woman once came to me and asked me to give her son a sound flogging. I answered, "No, madam. I have not come to that yet." "What! not flog in your school! You will never get along without it. Only see what scholars they make in Scotland, just with the taws, just with the taws!" In every case of correction make a thorough and even a long continued attempt to carry the convictions of the pupil with you. Make him feel, if possible, that your position is right. Remember, that most pupils only hear the rule, "Thou shalt not," &c., and not the principles which underlie it. They should see, if possible, the evil for which they are punished. School rules should be as few as possible and general in their nature. Many publish a long list of severe rules, and paste them up around the school-room. It is a mistake. These tend to demoralize the school, because they are never wholly carried out. The teacher, conscientious, loving, and earnest, should be as far as possible the embodiment of law and order. Pupils must be made to obey, lovingly, with approbation of their own reason and conscience if possible, but obedience must be secured. It lies at the foundation of all order, of morals, &c. A recent decision of the head of the Education Department—for whom I have the very highest regard—has drawn forth some discussion on this point. About the particular case which drew forth the decision I have nothing to say; but it seems to me as if some of the positions which were laid down on both sides need, at least, some explanations, if not limitations. To form in children habits of tattling and tale-bearing is vile and degrading; but there are some things which children should tell of when asked by the teacher which cannot be classed with tale-bearing.

This is a new element—when asked by competent authority. The young have laid down among themselves a law which is really immoral, and which, if strictly carried out, would render it impossible to govern a school. "We must not tell upon each other" covers a multitude of sins. While little can be said against this social rule, as it relates to the ordinary, trivial affairs of the school, it must not be made to cover wanton injuries, immoralities, or crimes committed by the scholars. We understand that the laws of our land are based upon right. Blackstone tells us that the law of God underlies the English law. Yet that law compels a man, when asked by competent authority, to tell upon his neighbour, if he sees that neighbour do a wrong, or commit a crime. Does this law compel men to degrade themselves? Is this tattling? Surely not. If it is perfectly right to make a man report against his neighbours in matters of this kind, for the welfare of society, I cannot see that it is very wrong to require a boy or a girl, or young man or woman, whom we may know to be acquainted with facts, to report for the good of the school, in the case of similar offences. This must not be ranked with tattling or tale-bearing. It is simply getting the pupils to help the teacher preserve the moral purity of the school. I have acted on this principle for many years, and I think I shall continue to do so. I have, as briefly as I have been able, endeavoured to set before you my conception of the teacher's work, and some of the qualifications of those who undertake to do it. I must leave to each of you the most important, as well as the most difficult part of this address, viz., its practical application, in so far as you may find it suits your ideas and wants.

SOME RECENT CHEMICAL THEORIES.

W. H. ELLIS, M.A., M.B.

In the beginning of the present century, there was living in Manchester a teacher of mathematics, to whose truly philosophical mind, and to whose intelligent and unwearied labours, we owe that conception which has been of such incalculable value in the development of chemical science, and which is known throughout the civilized world as Dalton's Atomic Theory. The idea that matter consists of ultimate indivisible particles dates back, as we know, to the philosophy of the ancients. It was reserved to Dalton to give definite form to what was before a vague idea by adding the conception that the atom of each kind of elementary matter had a definite weight peculiar to that kind of matter, and that chemical union was a union between atoms. The theory met with the opposition that invariably assails a new doctrine, but nevertheless gradually obtained the assent of scientific men; and, supplemented and extended by the laws of Avogadro, and of Dulong and Petit, it has played such an important part in the scientific thought of the present century, that it is not too much to affirm that without

it the magnificent edifice of modern chemistry would never have been built.

These discoveries in chemistry however, like those in other experimental sciences, have only been made after unwearied and painful toil. The questions addressed to nature by the chemist have often remained unanswered, or have been apparently answered only to mislead; and when, finally, after enormous labour, a pregnant reply has been obtained, it has brought with it new questions to be solved, new difficulties to be overcome.

As in the ascent of a mountain, when each successive eminence is surmounted, the traveller sees another peak loom up before his gaze seemingly more lofty and more difficult of access than the preceding one, so here, with infinite toil, after overcoming innumerable difficulties—after many a false step, and many a wrong turning that has cost him much weary wandering in the morasses of error, or brought him only to the foot of some inaccessible escarpment to surmount which all his efforts are vain—the chemist has at last attained, as he thinks, the goal towards which he has been striving, and from which he had fondly hoped to be able to make a comprehensive survey of the field of his science, and rejoice his eyes with the fair proportions of the landscape. But no sooner has he reached this eminence, than he is confronted by another peak, which towers above him in a grandeur so awful, veiled in mists so impenetrable, that he scarcely dares attempt to scale it; and if at times a ray from the sun of science seems to struggle through the thick clouds that environ it, and gild for a moment with rosy light some pure and snow-clad peak in the heights far above him, where the foot of man has never trod—even then he almost despairs of ever reaching those far summits, and is almost tempted to abandon a task which seems too stupendous for his feeble powers.

By the efforts of previous discoverers we have found out sixty-four chemical elements; we have arrived at a tolerably accurate knowledge of their most salient properties and their most ordinary combinations, with the laws which govern these combinations; and we have determined with tolerable accuracy their atomic weights. But here we are at once met by the questions, What is the cause of the difference between these elements, and what is the meaning of atomic weight? Are these sixty-four or more elements essentially different kinds of matter, and has each kind of matter an atom of a size and weight peculiar to itself? Or is there, after all, only one kind of matter which exists in sixty-four different forms? If the latter is the case, have these forms any dependence on the atomic weight, and if so, what dependence?

These are mighty problems, and until they are solved we shall never reach the lofty table-land upon which that onlooker must stand who is to frame the true theory of chemistry. Nor are there wanting adventurous thinkers and patient workers to attack the question.

One thing is certain. The only way to reach this height is to begin by getting over the ground that lies just in front of us, and making sure of every step we take.

Let us then look at these atomic weights a little more closely.

There are some curious relations among the atomic weights of certain of the elements which speculators have long noticed, and which have

attracted no little attention. Take, for instance, the three haloid elements, *Cl*, *Br* and *I*. Their atomic weights are as follows:

Cl 35.5 *Br* 80 *I* 127

Observe that the atomic weight of the middle term of the group is very nearly the mean of the atomic weight of the two extremes. There is also a well marked transition in the properties as we pass from the lower to the higher atomic weights.

1. The chemical energy decreases as the atomic weight increases.
2. *Cl* is a gas, *Br* a liquid, *I* a solid.
3. Specific gravity of (liquid) *Cl* is 1.33, of *Br* 2.9, and of *I*, 4.9. All form acids with *H*: *HCl* a powerful and very stable strongly acid gas; *HBr* more unstable and less strongly acid; *HI* still less acid and more unstable.

So with *S*, *Se* and *Te*, and *Ca*, *Sr* and *Ba*.

Atomic Wgt.	Density.	Melting Pt.	Atomic Wgt.	Density.
<i>S</i> = 32	2	111-115°	<i>Ca</i> 40	1.58
<i>Se</i> = 79.5	4.3	217°	<i>Sr</i> 87.6	2.5
<i>Te</i> = 128	6.2	500°	<i>Ba</i> 137	4

Ca SO₄ sol. in 500 aq.
Slightly soluble.
Insoluble.

The significance of groups such as these may be best shewn by referring to certain organic series, which present characters of striking analogy.

Let us take two series of hydro-carbons, the methane and the ethylene series.

		Molecular Weight.	Boiling Point.	Specific Gravity.
Tetrane	<i>C₄ H₁₀</i>	58	1°	.600.
Pentane	<i>C₅ H₁₂</i>	72	38°	.628.
Hexane	<i>C₆ H₁₄</i>	86	70°	.669.

It will be seen that of these three the mean of the molecular weight of the two extremes is the molecular weight of the mean.

		Molecular Weight.	Boiling Point.
Ethylene	<i>C₂ H₄</i>	28	Permanent gas.
Propylene	<i>C₃ H₆</i>	42	-18°
Butylene	<i>C₄ H₈</i>	56	1°

The same thing applies here, and the same transition of properties is observable.

Now, suppose we were ignorant of the compound nature of these bodies, but were acquainted with their molecular weight, they would then appear to us to be strictly analogous to such groups as *Cl*, *Br* and *I*. On the other hand, if we suppose *Cl*, *Br* and *I* to be not really simple bodies, but to be formed one from the other by the successive addition of some unknown quantity corresponding to the *CH₂* of the hydrocarbon series, we shall have a ready clue to the phenomena which we have noted.

It is needless to say that we have no evidence whatever that such is the case, and that *Cl*, *Br* and *I* have hitherto resisted all attempts to decompose them into simpler elements.

Nevertheless, these singular facts are well worth our attention, and they have been carefully studied by many thinkers. Among these philosophers, there is one who has pursued the subject with so much care, and who has obtained such remarkable results, that I will ask your attention while I endeavour to explain his views.

In 1869, M. D. Mendelejeff, a Russian chemist, announced the discovery of what he called "The Law of Periodicity of the Chemical Elements," which he stated as follows:—"The properties of simple bodies, the constitution of their combinations, as well as the properties of the latter, are the periodic functions of the atomic weights of the elements."

Leaving out for the present *H*, let us take the first fourteen elements in the order of their atomic weights, and arrange them in two rows as follows:

Li=7, *Be*=9.4, *B*=11, *C*=12, *N*=14, *O*=16, *F*=19.
Na=23, *Hg*=24, *Al*=27.3, *Si*=28, *P*=31, *S*=32, *Cl*=35.5.

Now, we see at a glance that in this arrangement similar elements stand over each other, as *Li* and *Na*, *N* and *P*, *F* and *Cl*, &c.

Also observe that the metals are all at the left, the non-metals at the right. The character of the compounds also changes gradually from left to right. The elements on the left hand have a strong affinity for *O*, those on the right for *H*. Only the four right hand members of the series combine with *H*, and the properties of these compounds change. Thus, *HCl* is a strong acid; *H₂S* is a feeble acid, easily decomposed by heat; *PH₃* is not an acid at all, and is readily decomposed by heat; *SiH₄* is a still more unstable body.

The character of the oxides changes from left to right thus:

Na₂O, *Mg₂O₂*, *Al₂O₃*, *Si₂O₄*, *P₂O₅*, *S₂O₆*, *Cl₂O₇*;

and hydrates:

NaHO, *Mg 2 HO*, *Al 3 HO*, *Si 4 HO*, *PO 3 HO*, *SO₂ 2 HO*, *ClO₃OH*.

Here we see a regular increase in valence from left to right, and also a regular change from base to acid.

The densities, as well as other physical properties, change regularly thus:

	<i>Na</i>	<i>Mg</i>	<i>Al</i>	<i>Si</i>	<i>P</i>	<i>S</i>	<i>Cl</i>
Density	0.97	1.75	2.67	2.49	1.84	2.06	1.33
Atomic vol.	24	14	10	11	16	16	27

The atomic volume is the number obtained by dividing the atomic weight by the specific gravity.

	<i>Ag</i>	<i>Cd</i>	<i>In</i>	<i>Sn</i>	<i>Sb</i>	<i>Te</i>	<i>I</i>
Atomic weight	108	112	113	118	122	125	127
Specific gravity	10.5	8.6	7.4	7.2	6.7	6.2	4.9

Now it is a remarkable fact that, with the exception of certain elements of which I shall speak immediately, all the elements can be arranged into series of seven in the order of their atomic weight, forming "periods" in which their properties change regularly through seven members, and are then as regularly repeated in the following period:

SERIES.	GROUP I. R ₂ O.	GROUP II. RO.	GROUP III. R ₂ O ₃ .	GROUP IV. RH ₄ RO ₂ .	GROUP V. RH ₃ R ₂ O ₅ .	GROUP VI. RH ₂ RO ₃ .	GROUP VII. RH R ₂ O ₇ .	GROUP VIII. RO ₄ .
1	H=1	—	—	—	—	—	—	—
2	Li=7	Be=9.4	B=11	C=12	N=14	O=16	F=19	—
3	Na=23	Mg=24	Al=27.3	Si=28	P=31	S=32	Cl=35.5	—
4	K=39	Ca=40	—=44	Ti=48	V=51	Cr=52	Mn=55	Fe=56, Co=59, Ni=59
5	Cu=63	Zn=65	—=68	—=72	As=75	Se=78	Br=80	—
6	Rb=85	Sr=87	Ni=88	Zr=90	Nb=94	Mo=96	—=100	Ru=104, Rh=104, Pd=106
7	Ag=108	Cd=112	In=113	Sn=118	Sb=122	Te=125	I=127	—
8	Ce=133	Be=137	Di=138	Ce=140	—	—	—	—
9	—	—	—	—	—	—	—	—
10	—	—	Er=178	La=180	Ta=182	W=184	—	Os=195, Ir=197, Pt=198.
11	An=199	Hg=200	Tl=204	Pb=207	Bi=208	—	—	—
12	—	—	—	Tl=231	—	U=240	—	—

Another noteworthy thing is that if we take *H* as the first period and *Li Be*, &c., as the second, we find that the corresponding members of the various even series resemble one another much more closely than they do those of the odd series, and so of the odd series. Thus:

4th Period,	<i>K</i> ,	<i>Ca</i> ,	—,	<i>Ti</i> ,	<i>V</i> ,	<i>Cr</i> ,	<i>Mn</i> .
5th "	<i>Cu</i> ,	<i>Zn</i> ,	—,	—,	<i>As</i> ,	<i>Se</i> ,	<i>Br</i> .
6th "	<i>Rb</i> ,	<i>Sr</i> ,	—,	<i>Zr</i> ,	<i>Nb</i> ,	<i>Mo</i> ,	—.
7th "	<i>Ag</i> ,	<i>Cd</i> ,	<i>In</i> ,	<i>Sn</i> ,	<i>Sb</i> ,	<i>Te</i> ,	<i>I</i> .

These series of seven elements are called small periods. I mentioned that there were certain elements which could not be arranged in these periods, and they come both by atomic weight, and properties between the last members of the even and the first members of the succeeding uneven periods. Thus *Fe*, *Ni* and *Co* come between the fourth and fifth periods:

Cr 52; *Mn* 55; *Fe* 56; *Co* 59; *Ni* 59; *Cu* 63; *Zn* 65.

Ru, *Rh*, *Pd* follow the 6th; and *Os*, *Ir*, *Pt* follow the 10th.

An even period, an uneven period, and an intermediate series constitute a "large period."

The intermediate members are classed by themselves in an 8th group.

Now, granting, as I think we cannot help doing, that this periodic law of Mendelejeff is a natural one, you will see at once that we may use it as a guide in our researches.

Mendelejeff proposes the following ways in which his system may be used:

As a classification of the elements.

In the determination and correction of atomic weight.

To determine the properties of hitherto undiscovered elements.

To increase our knowledge of chemical compounds.

As an example of the method in which this classification may be used take the case of Indium. The atomic weight of Indium was formerly taken as 75, and its oxide *In* O. Mendelejeff, however, believed that *In*, from its properties, ought to come into his 3rd group; its oxide then ought to be *In*₂ O₃, which would make its atomic weight 113.

Now Bunsen has lately determined the specific heat of Indium to be .057, and this $\times 113 = 6.4$, which is sufficiently near the mean to shew that 113 is the true atomic weight.

But this is by no means the most remarkable result that M. Mendelejeff has got out of his law. If you look at the table for a moment you will be struck by a number of gaps, where there is no element occupying some position in the series. These gaps represent undiscovered elements. Now a little attention will convince you that if this arrangement is a true one, we ought to be able to predict many of the properties of these unknown elements. Mendelejeff has done so in several cases.

To distinguish these unknown elements he uses Sanscrit numerals, *eka*, *dvi*, *tri*, *tshatur*, &c., and places one of these numerals before the name of a typical element of the same group: thus, 72 = *eka silicium*, 68 *eka aluminium*. He published a pretty detailed description of several of these undiscovered elements in 1869, and among them *El*. This is what he said about it:

"Ekaaluminium $M=68$, density 5.9, a metal not oxidizing in air, fixed, fusing at a low temperature. Oxide $El_2 O_3$; salts $El X_3$; chloride $El Cl_3$, less volatile than $Zn Cl_2$. The sulphate will be soluble in water, and will form with sulphate of potassium a double salt, eka-aluminium alum, $K El 2 SO_4, 12 H_2 O$, which will crystallize in octahedra, and resemble common alum. Ekaaluminium will probably be discovered by means of a spectrum analysis."

This is a tolerably full description of this hypothetical element, quite sufficient, you will say, to permit of its recognition should it ever be met with by the chemist.

For some years past, M. Lecoq de Boisbaudrau has occupied himself with the question of the classification of the elements. Being familiar with the relations pointed out by Dumas and others between the atomic weights of certain elements and their properties, he applied himself to the study of these relations, and was led to discover many new ones, particularly, it would appear, in the spectra of the elements. From these studies he was led to frame a classification of the elements which, although the substance of it has been deposited in sealed packets with the secretary of the Institute, has not yet, so far as I am aware, been made public. It is therefore of course impossible for us to conjecture whether or not his scheme bears any resemblance to that of Mendelejeff, with which, he tells us, he was entirely unacquainted. Like Mendelejeff, however, he found in his classification a number of gaps, which he too was led to believe represented unknown elements. He then devoted himself during fifteen years to a series of researches, the object of which was to fill some of these gaps. After repeated failures, his labours were at length crowned with success; and on the 27th of August, 1875, between three and four o'clock in the afternoon, he had the happiness of discovering a new element, which, in honour of his native country, he called "Gallium."

In the beginning of the present year he had succeeded in obtaining from 430 kilogrammes of zinc blende about 65 centigrammes of gallium. He describes it as a grayish white metal, having a fine lustre; it is liquefied by the heat of the hand. When heated to bright redness in the presence of air it does not volatilise, and only oxidises very superficially. The density of gallium is 5.9. The sulphate of gallium is very soluble in water. M. Lecoq de Boisbaudrau has succeeded in obtaining a well-crystallized salt by neutralizing with ammonia an acid solution of gallium sulphate, which is to all appearance ammonia-gallic alum. Gallium alum crystallizes in colourless cubes with octahedral faces, and in octahedra with cubic faces. These crystals present exactly the aspect of common alum. "If, as seems certain," says M. Lecoq de Boisbaudrau, "there is no error in the nature of my gallium alum, the existence of this combination fixes the atomicity of the new element. The oxide of gallium will then be described as $Ga_2 O_3$, and the chloride probably $Ga Cl_3$." You will not be surprised to hear that on the publication of these properties of gallium, M. Mendelejeff, in a communication to the French Academy, claimed that this new metal gallium was neither more nor less than the ekaaluminium, the properties of which he had predicted five years previously, nor will you, I will

venture to say, hesitate to acknowledge that the correspondence is too close to be the result of mere coincidence.

It now remains for chemists to compare new elements, which may from time to time reward their researches with the other gaps still left in Mendelejeff's table. If they appear to fit these gaps, each additional discovery of this kind will tend to confirm the remarkable results of M. Mendelejeff, and to prove that the laws which he has enunciated are worthy to be so called. The truth or falsehood of this hypothesis will have to be demonstrated by experiments yet to be performed. According as it agrees with facts now known or hereafter to be discovered, it must stand or fall; but even in its present provisional condition it constitutes, I think, a good working hypothesis, and appears to me to open the portals of a new epoch in the history of philosophical chemistry.

TOWNSHIP SCHOOL BOARDS.

J. H. SMITH, ESQ., I.P.S., WENTWORTH.

The question of Township School Boards has been brought prominently before the public of this province during the past year. Leading newspapers have discussed it editorially, and correspondents have favoured the public with their views on the matter; while, at the recent County Conventions, when the Honourable the Minister of Education was present in his official capacity, this subject was freely discussed; thus showing that it is a *live* question in connection with our present school system.

The local management of our public schools has been wisely placed by the legislature in the hands of the people, who are left free to provide such a school as may meet the wants of the immediate neighbourhood. For this purpose two methods of local management have been devised, the one known as the Section, and the other as the Township Board System. To facilitate matters in the Section System, power was given to township councils to divide their respective townships into school sections, in each of which the people elected three persons as trustees. These trustees form a corporation, and are vested with certain powers, by the exercise of which a suitable school may be kept open in each section. These sections vary in size from a few hundred acres to several thousand, but the law now requires that "no section shall be formed which shall contain less than fifty resident children between the ages of five and sixteen years, unless the area of the section shall contain more than four square miles." Provision has also been made for the formation of union school sections, composed of parts of two or more municipalities. Changes in the boundaries of these sections are of frequent occurrence, and are a fruitful source of trouble to township councils, giving rise in many instances to petty quarrels.

The advantages claimed for the Section System may be briefly summarized, as follows : (1) That the people through their representatives, the trustees, can engage any legally qualified teacher they may desire; (2) that they can determine the salary of such teacher; (3) that they can fix the amounts to be paid for other school purposes, such as providing adequate accommodation, the purchase of prizes, maps, libraries, apparatus, and other requisites for the proper education of their children; and (4) that they (the ratepayers) are better judges of the requirements of the section, in regard to school matters, than any person who is not a resident of such section. To sum up the matter, then, in a few words, the advantages claimed are, that each section shall have the entire control of its own public school, subject, of course, to the just and equitable demands of the School Law.

From the foregoing summary it will be readily seen that the question of expense is, after all, the primary consideration. Nor do we find fault with this fact, but regret that in too many instances efficiency is sacrificed in order that the section may have a cheap school. Now, this seems a serious mistake; for at the best it is false economy to sacrifice efficiency for cheapness, especially in so important a matter as education. The object of all school legislation has been to make adequate provision for the establishment of a well equipped public school in each section. If we are then to judge our public schools by the quality of the work done as well as the quantity, as the primary consideration, making the question of expense of secondary importance, then we have no option but to say that the Section System has not met the reasonable expectations of the public. We are forced to this conclusion from a careful consideration of the reports of the various Public School Inspectors, from the number of inferior teachers employed, from the frequent changes of teachers, as well as from the inadequate remuneration which such teachers receive. It is useless to expect efficient schools when inferior teachers are employed, and it is equally vain to expect competent teachers to remain in a profession where the pecuniary compensation is so small. This, then, being the case, the Township Board System merits our most careful consideration, so that the local management of our public schools may be placed on the most satisfactory basis.

The principle of the Township Board System was first introduced in the School Act of 1850 by Dr. Ryerson, late Chief Superintendent of Education. This was amended in the Act of 1871, but these various clauses have been repealed, and special provisions for the establishment of Township Boards have been embodied in the Amended Act of 1877. To these provisions I therefore beg leave to direct your attention. However, before doing so it will not be out of place to quote a few remarks made by the Honourable the Minister of Education upon introducing the Amended School Act, during the last session of the Ontario Legislature. He says : " I propose to introduce a new machinery for the formation of Township Boards. Township Boards may now be formed under certain conditions mentioned in the School Law, but unfortunately those provisions are not sufficiently explicit to free any attempt of this kind from difficulty. I propose to make the formation

of Township Boards much easier and more acceptable than in the past. These provisions are entirely of a permissive character, and will enable school sections, if they think proper, to form Township Boards. It is optional with the school sections to adopt them, and cannot be imposed upon them by the department. I understand the cardinal principle of our system of education to depend upon the people themselves, in applying their own means and local knowledge in the management of the public schools."

The following is a brief synopsis of the special provisions of the Act relating to the establishment of Township Boards.

Clause 1 provides that the question of forming a Township Board may be submitted at the annual meeting in each section, and that if a majority in two-thirds of the sections shall so decide, the council of such township shall pass a by-law abolishing the section and establishing a Township Board.

Clause 2 provides for the division of the township into four wards.

Clause 3 provides that all the public schools shall be managed by one Board of Trustees.

Clause 4 provides that two fit and proper persons shall be elected school trustees in and for each ward.

Clause 5 provides for the time, place and manner of conducting the annual school meeting.

Clause 6 defines the name and the powers vested in the corporation, and states the duties and obligations to which they are subject.

Clause 7 defines the effect as to union school sections composed of parts of different municipalities. These cease to be united, but provision is made for re-forming them, if necessary.

Clause 8 provides for the adjustment of all claims between sections in the same municipality, by means of a committee, consisting of the County Inspector and two other competent persons, not resident in the township, whose duty it is to value the existing school-houses, sites, and all other school property, to ascertain the debts and liabilities of each and every section, or portions of the township, and to embody the same in a report to the Township Council.

Clause 9 provides for a similar adjustment of all claims in cases of union sections, where the portions of different municipalities composing such union section become disunited, consequent upon the adoption of the Township Board System in one or all of the municipalities affected.

Clause 10 makes provision for the repeal of the by-law establishing the Township Board, but not until the by-law has existed for five years.

Clause 11 makes provision for the adoption of the present system in townships where Boards are already in existence.

The machinery thus provided is of such a nature as to remove all fair and reasonable objections to the system, and to render its provisions capable of being carried into effect in any township wherein it may be adopted.

Objections doubtless may, and in all probability will, be taken to this system; and to some of the more prominent of these I now propose directing your attention. For example, the question may be asked,

shall we, who have already provided a suitable school-house, be required to assist in paying for one in another section in which the existing school-house does not meet the requirements of the law? We answer, that the committee appointed by the Township Council, under the authority of clause 8, will adjust such claims as these between sections in the same municipality, and report the same to the Township Council. The manner in which such committee will dispose of these and similar claims will depend to a very great extent upon the views held by the individual members of that committee. I can best illustrate the method that I would suggest by an example. Suppose, for instance, that a township consists of three sections—No. 1 being assessed for \$140,000, No. 2 for \$160,000, and No. 3 for \$120,000, making a total of \$420,000; the school-house, site, and other property belonging to No. 1 being valued at \$2,100, and the liabilities amounting to \$140, leaving a balance to the credit of the section of \$1,960. Similarly we find that the balance to the credit of No. 2 is \$1,600, and No. 3 \$1,440, making a total of \$5,000. Suppose, further, that the sum of \$1,300 is required to meet the expenses of the first year. This, added to the amount required to purchase the school property belonging to the three sections, would make a total of \$6,300 to be levied on an assessment of \$420,000, or a uniform rate of 15 mills on the dollar. Now, section No. 1 has \$1,960 placed to its credit, or a rate of 14 mills on the dollar on its assessed value of \$140,000, leaving only one mill on the dollar to meet current expenses. In a similar manner, we find that section No. 2, which has \$1,600 to its credit, or a rate of one cent on the dollar, would require a rate of five mills on the dollar; and in section No. 3, which has \$1,440 to its credit, or a rate of 12 mills on the dollar, a rate of 3 mills on the dollar to meet the current expenses. This method appears to me to be fair and equitable.

Another objection is that the Township System will be more expensive. The question of expense in connection with any corporation is at all times worthy of careful consideration, and I can see no reason why this system should be more expensive than the present one. Nay, I am convinced that it will be found the more economical of the two; for if we could obtain accurate information in regard to the losses sustained under the Section System, from uncollected taxes, the expenses incurred for collectors' fees, and the amounts paid the secretary-treasurer for services rendered, the balance would be found in favour of the Township System. The Act makes no provision for the payment of trustees. The only officials then that would require to be paid are the secretary of the Board, the treasurer and the collector. The township clerk and the township treasurer might very properly be appointed clerk and treasurer respectively, and a reasonable increase in their present salaries would be all that would be required. The services of a collector might be dispensed with, for the trustees have authority to apply to the township councils for the amount necessary for the support of the schools. The township collector would doubtless require an increased remuneration for his extra service, but this increase would be far less than the expense of appointing a special collector for school purposes.

Another objection is that of centralization of power. This is a favourite theme with those who are anxious to appear as the champions of the

people's rights ; but I fail to see the force of this objection, or how it can justly be applied to the Township System. The phrase "centralization of power" may mean much or little. If by it is meant the placing of greater power in the hands of irresponsible officials, then the objection is groundless, since no such change is contemplated. If, on the other hand, is meant the placing of greater power and responsibility upon the people through their representatives, then it may justly be applied to this system. This, however, changes it from an unanswerable objection to a strong argument in its favour. For instance, certain regulations issued by the Education Department are found to be impracticable, and cannot be carried into effect in our rural schools. Section Boards of trustees, representing these matters to the department, would not carry the same influence that Township Boards would, since their experience is limited to a single school, whereas Township Boards, having a number of schools under their jurisdiction, would be able to form a more correct opinion as to the utility of these regulations, and in this manner assist the department in framing such regulations as would meet the real wants of our rural schools.

Another objection that is sometimes raised is, that good teachers may be sent to certain schools, while inferior ones are sent to others. This is not really an objection to the system, but a reflection upon the persons who compose the Board of Trustees. If the trustees, when engaging teachers, would take the precaution to have a proviso inserted in their agreements to the effect that at the expiration of a certain specified time these agreements shall become null and void by either party giving the required notice, then this objection can be removed by the trustees themselves. Of course, in this system, as in every other, a great deal will depend upon the intelligence and public spirit of the men composing this Board.

Another objection that is frequently urged against this system is that public opinion is unfavourable to it. This altogether depends upon what is meant by public opinion. If by it we mean the conclusions arrived at by those who are actively engaged in carrying out the provisions of the law, or the judgment formed by our leading educators, or the weight of opinion as expressed through the columns of our leading newspapers, or by all of these, then we must conclude that public opinion is decidedly favourable to the proposed change. But if, on the other hand, we mean the opinion of the majority of the ratepayers in our rural sections, then public opinion is, for the present, against this system. This arises, however, more from the want of properly understanding the nature of this system than it does from any inherent defects in it.

I have thus far endeavoured to explain the provisions of the Act relating to this system, and to answer certain objections that have been urged against it. I now propose to consider some of the advantages that are likely to arise from its adoption. In every township there are certain sections in which the schools are in a more or less backward state, and which under the present system are likely to remain so. This state of affairs is, to a very great extent, caused by the indifference of parents in regard to the education of their children, and therefore

but little interest is manifested in the welfare of the school. As a natural consequence, cheap teachers are employed, and cheapness in this article means inferiority. In such a section the great object of the trustees is apparently to keep down taxation, and their highest aim to see how cheaply they can manage their school. Under the Township System schools of this kind would certainly improve, since a uniform rate of taxation would be levied over the whole municipality, and these sections then would demand as good a teacher as their neighbours. A good teacher in a school exerts a powerful influence on the opinion of the neighbourhood in regard to education, and in this way many of our inferior schools would be greatly benefited.

Uniform examinations for promotion could be conducted to much greater advantage under this system than under the present one. A generous emulation among the various schools would cause both pupils and teachers to labour more diligently. Trustees having greater responsibility placed upon them, would look more carefully after the interests of the schools, since the people of the whole township would be watching them. The inspector could place the results of his inspection before trustees, and through them before the people, and in this manner the people would know which schools were making satisfactory progress and which schools were not. All the teachers, in a township being engaged by the same Board of Trustees, and knowing that the results of their labours would be laid before that Board, would of necessity be compelled to do their work properly. The services of the faithful teacher would then be better appreciated than they are now, whilst those of the negligent or indifferent would soon be dispensed with.

There would be greater permanency in the profession, and a better class of teachers secured. One of the strongest objections to the Section System is the frequency of changing teachers. This is an evil inherent in the system, and cannot be eradicated until the system is abolished. Trustees are not alone to blame in this matter, since teachers are continually seeking changes in order to better their position. My observation leads me to the conclusion that competition between sections is a fruitful source of change. A good teacher is engaged in a certain section; some person in an adjoining section hints that if he should apply for their school, in all probability a larger salary would be given. The teacher is not backward in informing the trustees that he has had an offer of an increase of salary in another school. He perhaps may have several such offers, and concludes by taking the highest salary. And who can blame him? No one. He simply sells his labour in the highest market, the same as any other person would do. There is another phase of this competition between sections. The salaries of the teachers in several adjoining sections have been raised. One whose salary has not been raised demands an increase. This increase is refused. The teacher applies for another school, and gets it. The former school is very likely to fall into the hands of a raw and inexperienced teacher; the school goes down; troubles arise, and general dissatisfaction is produced. This is no fancy sketch, but simply a fact that I have observed for myself, and doubtless there are many present who can corroborate it from their own observation.

The principle of free schools has been conceded by the legislature, and with this, as a necessary complement, compulsory attendance is required within certain restricted limits. Now, in order that the Free School System may not become a burden in certain cases, and that the law relating to compulsory attendance may not be a dead letter, the adoption of the Township Board System has become almost a necessity. Scattered throughout our country are numerous small villages, whose inhabitants vary in number from 50 to 1,000. These villages usually form part of some rural section, and from the number of resident children of school age, the services of two or more teachers are required. The expense of keeping two or more schools open, as may from time to time be required, together with providing the necessary accommodation, causes a heavy burden to be laid on the farmers who may happen to own farms within the limits of such section, while in the adjoining sections, in which there are no villages, the expenses are comparatively light. To illustrate this point, I will cite a case that has come under my own observation. A rural section containing some 3,600 acres, has within its limits a village containing some 400 or 500 inhabitants. To meet the requirements of the law, three teachers are employed and three rooms provided, together with the fuel, caretaker's salary, and other necessary expenses. The value of the assessed property is about \$150,000, upon which a rate of 7 mills on the dollar is required in order to meet ordinary expenses. Adjoining this is another section containing 3,700 acres, assessed at \$145,000, in which only one teacher is required. The annual rate required to meet all expenses is 3 mills on the dollar. In the one case the people have as good a school as in the other, and at a much less expense. There are doubtless many such cases to be found in this Province, and the time is approaching when we will have to grapple with this question in earnest. A correspondent of the *Journal of Education*, signing himself "School Trustee," thus forcibly argues the matter. He says: "The present system is willing that I, who send no child to school, should pay three times the school tax of my grocer or my blacksmith for free schooling for the mechanic in possession of an income of from \$500 to \$900 per annum, but it shudders at the idea of any of my taxes going to the benefit of poorer sections. I thought that the grand principle constantly paraded by the advocates of free schools and compulsory education was the improvement of the people generally. Surely, then, if I and others in similar circumstances are to pay for the education of other people's children, we should be permitted the satisfaction of knowing that our money has been appropriated not to wealthy sections and people, but to poor or small sections. I would simply ask why, on the principle of free schools and compulsory education, the acme of philanthropy, the poor or small sections should not be assisted by the more wealthy parts of the township?" It will thus appear that the Township Board System is the natural complement of free schools, since it distributes equally the burden of taxation for the support of these schools uniformly over the whole township. The principle of decentralization has been carried too far under the rate-bill system; and now that that system has been abolished, we must retrace our steps, and enlarge the area for uniform

taxation. The area that will be found most suitable is the township, since it will be uniform for both municipal and school purposes.

Again, this system may be looked upon as the necessary complement to compulsory attendance. There can be no doubt but that the law relating to compulsory attendance is in many sections a dead letter. This may be traced to the fact that section trustees do not wish to get the ill will of their neighbours by enforcing the law, and therefore the matter is allowed to pass quietly by. Now, under the Township System, this could and doubtless would be removed, since fewer personal matters would arise.

Many additional reasons might be brought forward to show the superiority of the Township System, but we shall content ourselves with simply pointing out a few of them: the payment of teachers' salaries quarterly, more accurate statistical information, fewer difficulties in settling disputes about section boundaries, more liberal and comprehensive views of education, and many minor matters of detail in regard to the management of our public schools, which in the aggregate go very far to make this system one to be much desired.

If, then, the Township System possesses so many advantages over the Section System, how does it happen that so few townships have adopted it? To this we reply that all former Acts have been so beset with difficulties in getting the system into working order, that few have attempted it. Again, the working of this system and the advantages which it possesses are not sufficiently well known. Changes in our laws, especially those relating to our public schools, are not relished by the people generally. Great changes advance slowly. It took twenty years to come from a rate-bill of twenty-five cents per month to our present Free School System, and the same time to obtain a uniform standard of qualification for our teachers. Then old corporations die hard. People who have once tasted the sweets of office, or exercised a little "brief authority," or obtained a little public notoriety, do not like to see these sweet morsels snatched from their lips. From my experience in discussing this matter in rural sections, I am convinced that this is one of the strongest reasons why the Section System is so firmly fixed, and why so much opposition is manifested to the Township System.

The question is frequently asked, should the adoption of this system be made compulsory? We answer, by no means. The only point in which compulsion would be at all allowable is the one provided for in the School Act, and that is, that when a majority of the ratepayers decide in favour of this system, the Township Council shall pass a by-law giving effect to the wishes of this majority.

In conclusion, I would say that my object in discussing this subject has been to arrive at a correct solution of the problem of securing the most efficient system of local management for our public schools. Our school system is justly our pride, but there are certain weak points in it, to which we will have to devote our best energies in order that these defects may be remedied. To me, the Township System seems to be one of the "missing links." We have a Free School System so broad that it reaches every child in the land, and in which, by a compulsory

clause, these children have the right to be educated, a right of which every Canadian should feel proud. To complete this system we now require the Township Boards, so that the burden may be borne equally by all, and no one deprived of the rights which are inherent to us as Canadians. We must endeavour to rise superior to narrow views of education, and take in a wider scope than that of the few acres that may be in our own section. If we are to have a truly national system of education, then we must look upon it not merely from our own doorstep, but from that of our neighbours as well. To materially assist us in securing the better education of the masses, and in making our system a national one, seems to be the object aimed at in the establishment of Township Boards.



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