Hon. the Minister of Ed.

MINUTES

OF THE

TWENTY-FIRST ANNUAL CONVENTION

OF THE

Ontario Teachers' Association,

HELD IN THE

PUBLIC HALL OF THE EDUCATION DEPARTMENT, TORONTO,

AUGUST, 9th, 10th, and 11th, 1881.

TORONTO:
C. BLACKETT ROBINSON, PRINTER, 5 JORDAN STREET.
1881.

FACULTY OF
TORONTO SCHOOL OF MEDICINE,
1881-82.

HENRY H. CROFT, D.C.L., F.L.C., Late Professor of Chemistry and Experimental Philosophy, University College, Emeritus Lecturer on Chemistry.

WM. T. AIKINS, M.D., LL.D., Consulting Surgeon to the Toronto General Hospital, Surgeon to the Central Prison, Consulting Surgeon to the Children's Hospital, Lecturer on Principles and Practice of Surgery and Clinical Surgery.—282 Jarvis Street.

H. H. WRIGHT, M.D., L.C.P. & S.U.C, Consulting Physician to Toronto General Hospital and the Children's Hospital, Lecturer on Principles and Practice of Medicine and Clinical Medicine, Secretary of the Faculty.—275 Sherbourne St.

J. H. RICHARDSON, M.D., M.R.C.S., Eng., Consulting Surgeon to Toronto General Hospital and Surgeon to Toronto Gaol, Lecturer on Descriptive Anatomy.—46 St. Joseph Street.

UZZIEL OGDEN, M.D., Specialist in Midwifery to the Toronto General Hospital, Consulting Surgeon to the Children's Hospital, Physician to the House of Industry, Protestant Orphans' Home and Home for Incurables, Lecturer on Midwifery and Diseases of Women and Children.—18 Carlton Street.

JAMES THORBURN, M.D., Edin. and Toronto Univ., 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 Sts.

M. BARRETT, M.A., M.D., Medical Officer to Upper Canada College, and Lecturer on Physiology, Ontario College of Veterinary Medicine, Lecturer on Physiology.—204 Simcoe Street.

W. W. OGDEN, M.B., Physician to the Toronto Dispensary, Adjunct Lecturer in Midwifery, and Lecturer on Medical Jurisprudence and Toxicology.—170 Spadina Avenue.

M. H. AIKINS, B.A., M.B., M.R.C.S., Eng., Adjunct Lecturer on Surgery, and Lecturer on Primary Anatomy.—Burnamthorpe.

W. OLDRIGHT, M.A., M.D., Surgeon to the Newsboys' Home, Adjunct Lecturer on Medical Jurisprudence, and Curator of Museum, and Lecturer on Sanitary Science.—50 Duke Street.

L. McFARLANE, M.B., Surgeon to the Toronto General Hospital, Physician to the Toronto Dispensary and Home for Incurables, Adjunct Lecturer on Anatomy and Demonstrator of Anatomy.—16 Gerrard Street East.

GEORGE WRIGHT, M.A., M.B., Physician to the Toronto Dispensary, Physician to the Children's Hospital and Home for Incurables, Adjunct Lecturer on Materia Medica and Therapeutics, Demonstrator of Anatomy.—243 Simcoe St.

R. ZIMMERMAN, M.D., L.R.C.P., Lond., Pathologist to the Toronto General Hospital, Physician to the Toronto Dispensary, Physician to the Children's Hospital, Physician to the Home for Incurables, Demonstrator of Microscopical Anatomy.

F. H. WRIGHT, M.B., L.R.C.P., Lond., Physician to the Toronto Dispensary, Physician to the Children's Hospital, Demonstrator of Microscopical Anatomy.—275 Sherbourne Street.

J. E. GRAHAM, M.D., L.R.C.P., Lond., Physician to the Toronto General Hospital, Adjunct Lecturer on Practice of Medicine, and Lecturer on Clinical Medicine and Dermatology.—66 Gerrard Street East.

R. A. REEVE, B.A., M.D., Ophthalmic Surgeon to the Toronto General Hospital and Children's Hospital, Lecturer on Diseases of the Eye and Ear.—22 Shuter Street.

THOS. HEYS, Lecturer on Chemistry and Pharmacy for the Pharmaceutical Society, Lecturer on Chemistry, Theoretical and Practical.—42 Duke Street.

HENRY MONTGOMERY, M.A., B.Sc., Science Master in Toronto Collegiate Institute, Lecturer on Botany and Zoology.

A. H. WRIGHT, B.A., M.R.C.S., Eng., Physician to the Toronto Dispensary, Physician to the Children's Hospital, Adjunct Lecturer on Physiology, Demonstrator of Normal and Pathological Histology.—312 Jarvis Street.

JOHN FERGUSON, B.A., M.B., L.F.P.S., Glasgow, Assistant Demonstrator of Anatomy.—338 Spadina Avenue.

☞Clinical Lectures will be given at the General Hospital by Dr. H. H. Wright, Dr. Aikins, Dr. Richardson, Dr. Thorburn, Dr. Graham, Dr. Reeve, Dr. U. Ogden and Dr. McFarlane. Clinical Instructions will be given at the Toronto Dispensary by Dr. McFarlane, Dr. George Wright, Dr. F. H. Wright, Dr. Zimmerman and Dr. A. H. Wright.

Janitor of School—Residence on the premises.

MINUTES

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1881.

INDEX.

OFFICERS.

1881–1882.

President:

ARCHIBALD MacMURCHY, Toronto.

Vice-Presidents:

J. S. CARSON, D. C. McHENRY, and R. LEWIS.

Recording Secretary:

ROBERT W. DOAN, Toronto.

Corresponding Secretary:

ADAM PURSLOW, Port Hope.

Treasurer:

F. S. SPENCE, Toronto.

Executive Committee:

Messrs. ALEXANDER,
BOYLE,
CAMPBELL,
COLLES,
DAFOE,
DEARNESS,
FESSENDEN,
FOTHERINGHAM,
HUGHES,
MACKINTOSH,
MAXWELL,
McGREGOR,
MILLER,
RANNIE,
SCARLETT.

MINUTES

OF THE

TWENTY-FIRST ANNUAL CONVENTION

OF THE

Ontario Teachers' Association,

HELD IN THE

PUBLIC HALL OF THE EDUCATION DEPARTMENT, TORONTO

On the 9th, 10th and 11th August, 1881.

Tuesday, August 9th, 1881.

The Convention met at 10.50 a.m.

The President, Mr. Alexander, in the chair.

The meeting was opened with the reading of a portion of Scripture, and with prayer by Mr. D. Fotheringham.

Moved by Mr. MacMurchy, seconded by Mr. Mackintosh, That inasmuch as the Minutes of the last Convention were printed and distributed, the reading of them be dispensed with.—*Carried.*

Mr. Spence, the Treasurer, read his Annual Report.

Moved by Mr. MacMurchy, seconded by Mr. Hughes, That the Treasurer's Report be referred to a Committee to be named by the President.—*Carried.*

The President named Messrs. Purslow, Fotheringham and Duncan, as a Committee to audit the Treasurer's Report.

Moved by Mr. Hughes, seconded by Mr. Doan, That Mr. W. H. Colles be Minute Secretary.—*Carried.*

AFTERNOON SESSION.

The Convention met at two o'clock.

The President in the Chair.

The Minutes of the forenoon session were read and approved.

Mr. Hughes presented the report of the Committee on Legislation.

To the President and Members of the Ontario Society for the Advancement of Education:—

GENTLEMEN,—The Committee on Legislation appointed at the last Annual Meeting of the Association, beg leave to present the following report:—

1. After obtaining the opinions of the teachers throughout the Province with regard to important educational questions, your Committee had several interviews with Hon. Adam Crooks, Minister of Education, at which those matters which were to be submitted by him to the Legislature were carefully considered.

2. Prominent among these was the question of the Superannuation of Teachers. Your Committee found the Minister of Education was exceedingly desirous to secure the Fund for this purpose on a basis that would give greater satisfaction both to the country and to teachers themselves. He felt that it would be better that no change should be made, however, until the teachers throughout the Province had an opportunity of expressing their views concerning the proposed amendments, and at his request your Committee issued a circular, outlining the leading principles of these amendments, for the consideration of the Local Associations. Many of these have reported their views, and your Committee recommend that these reports be tabulated and forwarded to the Minister of Education by their successors. They would further recommend, that this Association representing as it does the several sections of the profession, and the various parts of the Province, should also thoroughly discuss the clauses of the circular referred to. Copies of the circular have been provided to facilitate the discussion.

3. Your Committee strongly urged the withdrawal of the amendment of 1879 restricting the powers of School Boards in providing school accommodation, and a clause was drafted giving Boards the right of appeal to the Minister of Education, if their estimates were not granted, and authorizing him to compel the section or municipality to raise the necessary funds, if on inquiry he found the school accommodation to be insufficient. This clause, your Committee regret to

state, was not embodied in the School Bill submitted to the House, and they recommend this Association to state clearly its views regarding this important question.

4. The necessity for granting increased aid in support of County Model Schools was also pressed upon the attention of the Minister of Education. In this particular important changes were made by the Legislature. The amount of the Government Grant has been increased to $150 per annum, and the County Grant to an equal amount has been made *compulsory*.

5. Your Committee have much pleasure in reporting that they were received by the Minister of Education with the utmost courtesy. He evinced the deepest interest in the welfare of this Association, and kindly promised to give in the future additional proofs of that interest by recommending an annual grant of $200 in aid of this Association, and by incorporating an account of its proceedings with the papers read before it in his Annual Report.

6. Your Committee are glad to note that some Local Associations have followed the example set by this Association in appointing a Committee on Legislation. This they believe to be of great value in bringing the views of the Associations directly under the notice of the individual members of the Legislature, and in forming a means of communication between the Legislative Committee of this Association and the Inspectoral districts throughout the Province, and they therefore recommend that the Secretary of this Association be instructed to issue a circular to the Local Associations of Ontario, showing the benefits which would be likely to result from the general appointment of such Committees on Legislation.

Moved by Mr. Hughes, seconded by Mr. Fotheringham, That the report of the Legislative Committee be adopted.—*Carried.*

Moved by Mr. Mackintosh, seconded by Mr. McGregor, That the thanks of the Association be presented to the Legislative Committee for their services during the past year.—*Carried.*

The President called upon the meeting to discuss the circular of the Legislative Committee in reference to the Superannuation Fund. (*See pages* 15—17.)

Mr. James Mills, M.A., President of the Guelph Agricultural College, delivered a very able and interesting address on Agricultural Education in Schools, and on motion of

Mr. Scarlett, seconded by Mr. Munroe, he was presented with a vote of thanks.

Mr. Johnston, of the Agricultural College, by the invitation of the President, addressed the meeting on the above-named subject. At the conclusion of Mr. Johnston's address, on motion of Mr. Dearness, seconded by Mr. Duncan, a vote of thanks was tendered to him by the President.

Moved by Mr. Knight, seconded by Mr. G. E. Wightman, That in view of the fact that the tendency of the education given in our schools is to draw an undue proportion of our population to commercial pursuits and the professions, it is highly desirable that a complete course of instruction in Agriculture be introduced into our Public Schools.—*Lost.*

The discussion on the Superannuation Fund was resumed, and was participated in by Messrs. Hughes, Dearness, A. Millar, J. Reid, Spence, P. C. McGregor, C. Campbell, Scarlett, Knight, A. S. McGregor, Coates, Stewart and Dafoe.

The Convention then adjourned.

Evening Session.

The Convention met at eight o'clock.

The President in the Chair.

The Minutes of the afternoon session were read, amended and confirmed.

The President read a paper on the Half-time System in the Public Schools, and referred also to Dr. Leigh's method of teaching Reading and to the subject of Ventilation of School Rooms.

Mr. Smith (Wentworth) moved a vote of thanks to the President for the very instructive address. This motion was seconded by Mr. Wood, and carried with applause. The Secretary, Mr. Doan, conveyed to Mr. Alexander the thanks of the meeting.

Moved by Mr. Boyle, seconded by Mr. F. C. Powell, That Messrs. Alexander, McAllister and Doan be a Committee to consider the subject of Hygiene in the Schools of this Province, having special reference to Ventilation and Light, and to report thereon to the Association during this meeting.—*Carried.*

The President in reply to questions by Mr. Boyle, Mr. Strang and others, stated that the Half-time System, as practised in the Galt Public Schools, is conducive to the progress, health and deportment of the children.

Moved by Mr. Dearness, seconded by Mr. Smith, That the last-named Committee do prepare a scheme to conduct experiments for the improvement of methods of teaching, and that said scheme be submitted to the Minister of Education.—*Carried.*

Moved by Mr. Doan, seconded by Mr. McAllister, That the names of Messrs. Dearness, Boyle and Smith, be added to those of the Committee last appointed.—*Carried.*

On motion of Mr. Powell, seconded by Mr. Smith, the Convention adjourned.

Wednesday, August 10th, 1881.

The Convention met at 2.10 p.m.

The President in the Chair.

The Minutes of last session were read and confirmed.

Mr. A. H. Morrison, of Galt, read a paper on Physical Education.

A vote of thanks was tendered to Mr. Morrison for his address, on motion of Mr. Reid, seconded by Mr. Scarlett.

Mr. J. L. Hughes explained and illustrated, in an interesting and practical manner, the method of teaching Drawing, employed in the Toronto Public Schools. A large col-

lection of the results of the system was on exhibition in the hall of the building.

Moved by Mr. Duncan, seconded by Mr. McKee, That the thanks of the meeting be tendered to Mr. Hughes for his address.—*Carried.*

The subject was further discussed by Messrs. Fotheringham, Boyle, Linton, P. McLean and Knight.

The discussion on the Legislative Committee's Report was resumed and some amendments made.

Mr. Doan gave notice that at to-morrow's session he would move, That in future the travelling expenses of the members of the Board of Directors, when in attendance at the Annual Meeting for the purpose of arranging the programme for the meeting of the Association and for other purposes, be paid from the funds of the Association.

On motion of Mr. Clendenning, seconded by Mr. Powell, the meeting was adjourned.

Evening Session.

The Convention re-assembled at eight o'clock.

The President in the Chair.

The Minutes of the afternoon session were read and confirmed.

Joseph Workman, M.D., of Toronto, delivered an address on the Morbid Results of Persistent Overwork.

On motion of Mr. J. L. Hughes, seconded by Mr. Mackintosh, a vote of thanks was tendered to Dr. Workman for his address.

Reports were received respecting County Associations from—

Mr. Geo. Henderson	East Grey	Representing	76	Members.
" W. H. Colles	Chatham	"	92	"
" A. S. McGregor..	South Perth ...	"	80	"
" C. B. Linton	Waterloo	"	62	"
" Wm. Rannie	North York	"	75	"

Mr. L. L. McFaul....	North Huron ..	Representing	50	Members.
" A. McNaughton..	Stormont	"	62	"
" J. W. Dafoe	South Hastings..	"	120	"
" James Duncan ..	North Essex	"	100	"
" B. Rothwell.....	Prince Edward..	"	80	"
" R. M. Munro	North Perth	"	110	"
" Robt. Coates	Halton	"	70	"
" G. E. Wightman..	South Essex....	"	65	"
" C. Campbell	Ottawa	"	50	"
" H. E. Huston....	West Huron....	"	80	"
" A. L. Parker	North Simcoe ..	"	80	"
" P. C. McGregor ..	No. 1 Leeds & Brockville..	"	70	"
" Thomas White ..	East Lambton ..	"	90	"
" Martin Gill.....	Toronto	"	150	"
" Jas. Bowerman ..	Lennox and Addington..	"	100	"
" John Millar	Elgin	"	100	"
" F. C. Powell	West Bruce	"	100	"
" J. T. Wood.....	Middlesex	"	112	"
" D. Bole	Frontenac	"	175	"
" — Henstridge				
" J. H. Knight	East Victoria....	"	50	"

The Convention adjourned at ten o'clock.

Thursday, August 12th, 1881.

The Convention assembled at two p.m.

The President in the Chair.

The Minutes of last meeting were read and confirmed.

The Secretary read the following report:—

The Board of Directors beg to report that they recommend that the following gentlemen be elected to fill the offices for the ensuing year:

President—Mr. Archibald MacMurchy.

Vice-Presidents—1. Mr. J. S. Carson.
2. Mr. D. C. McHenry.
3. Mr. Richard Lewis.

Recording Secretary—Mr. R. W. Doan.

Corresponding Secretary—Mr. A. Purslow.

Treasurer—Mr. F. S. Spence.

All of which is respectfully submitted.

Moved by Mr. Mackintosh, seconded by Mr. Dafoe, That the several clauses of the said report be voted upon *seriatim*.

Mr. Knight, seconded by Mr. Reid, moved in amendment, That the report be adopted as a whole.—*Carried.*

The Secretary presented the following report from the Auditors:—

TORONTO, *August 11th*, 1881.

The Audit Committee beg to report that they have examined the accounts and vouchers of the Treasurer, and find them carefully and correctly kept.

A. PURSLOW,
JAMES DUNCAN,
D. FOTHERINGHAM,
} *Audit Committee.*

Moved by the Secretary, seconded by Mr. Gill, That the report of the Audit Committee be received and adopted.—*Carried.*

Moved by Mr. McAllister, seconded by Mr. Knight, That the Finance Committee be authorized to pass the accounts for expenditure incurred by the Legislative Committee during the past year, and that this be a standing instruction.—*Carried.*

Moved by Mr. Hughes, seconded by Mr. Maxwell, That in the opinion of this Association, the minimum age for admission to Public Schools should be increased from five to seven years, or if this change be not made, that the students-in-training in the Normal Schools should receive training in the principles and practice of Kindergarten work.—*Carried.*

Moved by Mr. Hughes, seconded by Mr. A. S. McGregor, That in the opinion of this Association, the 29th clause of the Amended School Act of 1879 should be rescinded, or so amended as to place no restrictions on School Boards in providing additional school accommodation where the existing school accommodation is insufficient.—*Carried.*

Moved by Mr. Doan, seconded by Mr. Mackintosh, That in case the Government Grant of $200 be paid into the funds of the Association, the future travelling expenses of the Board of Directors when in attendance at its Annual Meeting for the purpose of arranging the programme for the meeting of the Association and for other business, be paid from the funds of the Association.

Moved in amendment by Mr. Maxwell, seconded by Rev. Wm. McKee, That the motion include the Legislative Committee also.

The motion as amended was *carried.*

Mr. J. M. Buchan read a paper on Religious Instruction in Public Schools, by Dr. Wilson, of University College.

Moved by Mr. MacMurchy, seconded by Mr. Lewis, That a hearty vote of thanks be presented to Dr. Wilson for his paper.—*Carried.*

After some remarks on the subject of Dr. Wilson's paper by Messrs. MacMurchy, Lewis and Spence, it was

Moved by Mr. Reid, seconded by Mr. Knight, That the thanks of the meeting be tendered to Mr. Buchan.—*Carried.*

Mr. Boyle presented the report of the Committee on Hygiene and Methods of Teaching.

The Committee on Hygiene and Methods of Teaching beg to report that they recommend—

1. That the Minister of Education be requested to prepare a circular of information for distribution in every school section, to set forth the importance of proper ventilation, lighting and heating of School Houses, and with a view of preparing the way to make it obligatory on every school corporation to secure the approval, by the Education Department, of the plans of any Public or High School building which is proposed to be erected.

2. That a Committee of this Association be appointed to consider proposed improvements in the methods of teaching and school management, for the purpose of submitting them to the Minister of Education, that they may be properly tested by experiment, under the direc-

tion of the Education Department, in case such proposed improvements commend themselves to the said Committee.

Mr. Kirkland proposed that the words "and the best methods of accomplishing the same" be inserted in clause one.

This proposal was agreed to, and the clause, as amended, was adopted on motion of Mr. Boyle, seconded by Mr. MacMurchy.

Clause two was amended by adding the words "and report to this Convention."

Moved by Mr. A. S. McGregor, seconded by Mr. Duncan, That the report of the Committee on Hygiene and Methods of Teaching be adopted.—*Carried.*

Mr. S. S. Herner read a paper on Uniformity of Text Books.

Moved by Mr. Boyle, seconded by Mr. Linton, That the thanks of this meeting be presented to Mr. Herner.—*Carried.*

Moved by Mr. Knight, seconded by Mr. A. S. McGregor, That the President nominate a Standing Committee of three on Hygiene and Methods of Teaching.—*Carried.*

The discussion of the Legislative Committee's circular on the Superannuation Fund was resumed and several amendments made in it. The following members took part in the discussion:—Messrs. Carson, Dearness, Spence, Campbell, Rothwell, Linton, McGregor, Reid, Knight and G. K. Powell.

The Convention then adjourned.

Evening Session.

The Convention re-assembled at eight p.m.

The President in the Chair.

The Minutes of last meeting were read and confirmed.

In accordance with the resolution passed during the

afternoon session, the President nominated Messrs. MacMurchy, Hughes and McAllister, as members of the Committee on Hygiene and Methods of Teaching.

Moved by Mr. MacMurchy, seconded by Mr. Black, That the name of this Association be changed from "The Ontario Association for the Advancement of Education," to "The Ontario Teachers' Association.—*Carried unanimously.*

S. P. Robins, LL.D., Montreal, delivered an address entitled, "The Relation of the Will to the Intellect in Education."

On motion of Mr. Hughes, seconded by Mr. McFaul, a cordial vote of thanks was presented to Dr. Robins for his address.

The discussion on the Superannuation Fund was resumed, and at the close of the discussion the following amended report of the Legislative Committee was adopted, on motion of Mr. Spence, seconded by Mr. Campbell (Ottawa):—

1. In lieu of the present provisions of the law respecting the Superannuated Teachers' Fund "The Teachers' Retiring Provident Fund" in this Act termed "The Fund," is hereby established, and such fund shall consist of all sums which may from time to time be appropriated by the Legislature out of the consolidated revenue of the Province and of all sums hereinafter provided to be paid by all persons entitled to a retiring allowance as hereinafter also provided.

2. The following are entitled to a retiring allowance, namely: every male teacher of a Public or Separate School holding a First, Second or Third Class Certificate of qualification under the regulations of the Education Department, or a valid County Board Certificate of the old standard; also every female teacher of a Public or Separate School holding any like Certificate, also every legally qualified master or assistant master of a High School or Collegiate Institute, and every Public or High School Inspector.

3. The conditions on which any such person shall be entitled to the retiring allowance are as follows:—Each person must have contributed annually the sum of four dollars, with the privilege of paying 8, 12, 16 or 20 dollars per year during service.

4. All persons enumerated in Clause 2 as entitled to a retiring allowance shall be required to comply with the conditions of Clause 3 during each year of the period of their service.

5. The said sum shall be made by way of abatement from the annual apportionment of the Legislative Public School Grant, and the Minister of Education shall in his certificate to the Provincial Treasurer of such apportionment also state the amount to be deducted from the salary of each person as his or her annual payment to the said Retiring Fund, and all sums so deducted shall be paid into and form part of the "Teachers' Retiring and Provident Fund."

6. All moneys from time to time payable to the said Fund shall be carried by the Provincial Treasurer to a separate account for this Fund distinct from the consolidated revenue fund and also any interest accruing thereon.

7. Every person who complies with the foregoing conditions as to contributions to the Fund may retire from the teaching service in his discretion after twenty-five years of actual teaching or having reached the age of fifty-five, and shall thereupon be entitled to receive an annual retiring allowance equal to the sums which such person has contributed to the Fund as provided in Clause 2.

8. The interest of any person in the Fund, or in any retiring allowance when granted, shall not be assignable by such person, or be subject to any execution, attachment or process of any court of law or equity, or judge's order under judgment in the division court.

9. No retiring allowance shall be made for any period of service of less than ten years, and no person who retires before having served the full period of twenty-five years will be entitled to a retiring allowance unless it has been established by evidence satisfactory to the Education Department that he has become incapacitated by bodily or mental infirmity from performing his duties as a teacher, master or inspector as the case may be, or unless such person has reached the age of fifty-five years, but any such retiring allowance is liable to be withdrawn in any year unless the incapacity continues, and the recipient is annually to present himself to his or her inspector in order that he may report thereon to the Education Department, and any teacher whose disability may cease and who resumes the service of teaching will become entitled to the benefits of this Fund when such person again retires.

(2) Any teacher or inspector upon reaching the full age of fifty years shall be entitled to his or her retiring allowance notwithstanding the periods hereinbefore provided have not been fully served by such teacher or inspector.

10. No person shall be entitled to receive back any sum contributed to the Fund, but in case of the decease or after two years' continued disability of such person without his or her having been placed on this Fund, he or she, or his or her wife or husband as the case may be, or other legal representative shall be entitled to receive back all sums

paid by him or her into the Fund with interest at the rate of five per cent. per annum.

11. The period or periods during which any teacher, before the passing of this Act, has been engaged in teaching, shall be allowed for as if served under its provisions, and any payments made by him on account of the former "Superannuated Teachers' Fund" shall be considered and taken as payments made *pro tanto* to the Fund hereby established, and any sum which is required to be paid to equal the amount annually payable to the Fund under this Act may be made up by payments in five equal annual instalments after the passing of this Act, or as otherwise provided by the regulations of the Education Department, but those persons enumerated in Clause 2 as entitled to participate in the Fund and who have not been compelled by any former act to contribute thereto shall be permitted to comply with Clause three for the period of service already completed.

12. The allowances to teachers who are now on the list of those superannuated, under the provisions of the former law, will continue to be paid to them under and subject to the conditions thereof.

Moved by Mr. James Duncan, seconded by Mr. W. H. Colles, That we desire that any scheme for the Superannuation of Teachers do also contain provision for the widows and children of Superannuated Teachers, the extent of such provision and the conditions thereof to be determined by the Minister of Education.

Moved by Mr. Boyle, seconded by Mr. Knight, That the reports of the Local Associations should be sent to the Secretary of this Association at least two weeks before the Annual Meeting.—*Carried.*

Moved by Mr. Doan, seconded by Mr. Knight, That the thanks of this Association be tendered to the daily newspapers for publishing each day very full and accurate reports of the meetings; to the passenger agents of the Grand Trunk, Great Western, Credit Valley, and Toronto and Nipissing Railways for the reduced passenger rates allowed to members in attendance here, and to the Minister of Education for his kindness in allowing the Association the use of the rooms in the Education Department.—*Carried.*

Moved by Mr. Carson, seconded by Mr. Powell, That a vote of thanks be tendered to Messrs. Campbell, of Ottawa, and Spence, of Toronto, for their energetic action in revising the circular on the Superannuation question.—*Carried.*

Moved by Mr. Spence, seconded by Mr. A. S. McGregor, That a vote of thanks be presented to Mr. Alexander for the able and courteous manner in which he has performed his duties as President of this Association during the past year.—*Carried.*

After singing the National Anthem, the President declared the Association adjourned.

ONTARIO ASSOCIATION FOR THE ADVANCEMENT OF EDUCATION.

Summary of Treasurer's Account for 1880–1.

DR.

To balance from last year	$162 76
" Interest on deposit	8 80
" Receipts from members' fees	41 50
" " sale of Minutes	42 38
" " advertisements in Minutes	20 00
	$275 44

CR.

By Carpenter's work	$2 50
" Minute Secretary	4 00
" Caretaker of Hall	5 00
" Advertising and programmes	16 75
" Gas account	10 00
" Printing Minutes	46 55
" Postage and express charges	6 88
" Balance on hand—cash, $16.92; in bank, $166.84	183 76
	$275 44

PUBLIC SCHOOL SECTION.

THEATRE, NORMAL SCHOOL, TORONTO,
Thursday, August 9th, 1881.

The first meeting of the Public School Section of the Provincial Teachers' Association was held in the Theatre of the Normal School this morning, beginning at 11.40 o'clock—the Chairman of the Section, Mr. David Boyle, presiding.

Mr. F. S. Spence moved, Mr. R. W. Doan seconded, That the Minutes having been printed be considered as read.—*Carried.*

Mr. Spence read the following report:—

Report of the Committee appointed at the last meeting of the Public School Section of the Ontario Teachers' Association to lay before the Minister of Education the following resolutions:—

1. That the discretionary power given to Public School Inspectors to permit Third Class Teachers, holding Intermediate and Third Class Certificates, to go up for their professional training for a Second Class Certificate, at the end of a year's experience in teaching, should be withdrawn.

2. That the present method of granting permits and permanent certificates to Third Class Teachers, is liable to abuse, and should be altered so as to afford a reasonable guarantee that those teachers securing these privileges are worthy of them.

3. That the vote for Public School Trustees should be by ballot.

4. That the age of candidates on entering the profession should be—for females eighteen (18), and for males, twenty (20) years.

5. That twenty-five years' service in the profession, or having attained the age of fifty, entitle a teacher to superannuation.

6. That no teacher who retires before ten years' service be allowed a refund of more than ten per cent. of his payments to the Superannuation Fund.

7. That the allowance to Superannuated Teachers be increased, and if need be, that the yearly subscription be increased also.

8. That provision be made for the widows of Superannuated Teachers.

9. That rotation of examiners applied to the various Departmental

Examinations would add to the improvement of education throughout the country.

10. That in the opinion of this section, it would be to the advantage of the Province to retain the apparatus part of the Depository for the present year.

The Committee, consisting of Mr. McAllister, Mr. Spence, and Mr. Doan, had no less than three interviews with the Minister of Education to discuss the foregoing resolutions with him. On the 8th of January last they laid them before him. In regard to the first, he pointed out that Inspectors had now no discretionary power, as the Department had decided by regulation that all candidates for Second Class Certificates might be admitted to professional training after one year's experience in teaching. He admitted that it was an open question whether the term was too short or not, and said he did not consider the present regulations as unalterable, and, upon the urgent representations of the Committee, he gave them to understand that the term of service should be lengthened so soon as the supply of teachers would warant it.

He assured the deputation that strict inquiry was made in every case before a permit was granted. When the Inspector did not certify a scarcity of teachers as a reason for the application for a permit, it was refused. The number was yearly decreasing, and he hoped permits would soon be things of the past, except in the remote districts.

He was, in principle, opposed to secret voting, and therefore could hold out no hope of proposing to introduce the ballot into School Trustee elections.

He admitted the desirability of making a higher limit for the age of both male and female candidates for the teaching profession, but doubted whether the respective ages should be twenty and eighteen, or nineteen and eighteen.

He did not think any good purpose would be gained by retaining the apparatus portion of the Depository, as articles of a better quality, and at less price, can be got from private dealers.

He had already adopted the principle of rotation of examiners, and proposed to have more Public School Inspectors among the sub-examiners. The fitness of Public School Masters to act as sub-examiners was brought before him, and he promised to give the matter his consideration.

The remaining and indeed the main portion of the interviews the Minister granted the Committee was taken up in discussing the Superannuation Scheme. The views of the Public School Section were first laid before him. He then submitted a scheme of his own to the Committee, and finally he asked them to lay any plan they could agree upon before him, and he would give it fair consideration.

The Committee gave a good deal of time and labour to the matter, and finally submitted to the Minister a scheme, of which the following are the principal features:—

An annual compulsory contribution on the part of all male teachers in our Public Schools of two per cent. of their salaries. An annual allowance to Superannuated Teachers of two per cent., or one-fiftieth of the average annual salary. Teachers to be allowed to retire and participate in the Fund after twenty-five years' service. No allowance to be made for more than thirty years' service, nor for less than ten, except in case of disability. No deductions to be made from the Fund in favour of those who retire before being entitled to an allowance. Those teachers who do not contribute to the Fund to pay an annual fee of not less than two dollars, which should go to the purposes of the Fund. Training in the Normal School to be accounted as part of the term of service. Provision to be made for the widows of Superannuated Teachers. Those teachers who receive less than three hundred dollars per year to have the privilege of making an annual contribution large enough to entitle them to a pension on a salary up to that amount.

The Committee thanked the Minister for his patient consideration of the matter it was their duty to bring before him, when they finally withdrew.

All of which is respectfully submitted.

The report, after discussion, was adopted.

Mr. James Duncan moved, Mr. Robert Alexander seconded, the reception and adoption of the report.—*Carried.*

Discussion by Messrs. Alexander, McAllister, Doan, Powell, Campbell (Ottawa), Bowerman, Boyle and Munro.

Section then adjourned till nine a.m. to-morrow.

Wednesday, August 10th, 1881.

Section opened at nine a.m., with devotional exercises by Mr. Duncan—Mr. Boyle presiding.

The Minutes of the last meeting were read and approved.

Mr. Alexander moved, Mr. McAllister seconded, That the Secretary procure a Minute Book for the use of the Public

School Section, the account of which to be sent to the executive of the General Association.

Mr. McAllister introduced the subject of Over Supply of Teachers.

The Section adjourned to Mr. Kirkland's Lecture Room.

An animated discussion ensued on Mr. McAllister's subject, participated in by Messrs. Duncan, Wightman, Powell, Colles, Miller, Linton, White, Black, Rothwell, Campbell, Lewis, Alexander, Spence, Harvey, Henstridge, Bole, Dafoe and Bowerman.

Mr. Rannie moved, Mr. Spence seconded, That Messrs. Alexander, McAllister, Wood, Lewis and Colles be a Committee to draft a resolution embodying the opinions of this Section on the subject of Over Supply of Teachers to the Minister of Education. Said Committee to report to this Section to-morrow morning.—*Carried.*

Mr. Smith, Inspector of Wentworth, read Mr. McQueen's paper on Representation at the Provincial Teachers' Association.

The paper was an exhaustive one, and showed great care and labour in its preparation. A vote of thanks was tendered to Mr. McQueen, and the Secretary was instructed to present the same to him.

Section adjourned on motion of Mr. Bole, seconded by Mr. Rothwell.

Thursday, August 11th, 1881.

Section opened at nine a.m., in Mr. Kirkland's Lecture Room—Mr. Boyle in the Chair. Opening religious exercises by Mr. Duncan.

Minutes of the previous meeting read and approved.

Mr. Spence moved, Mr. Doan seconded, That each Local Association be entitled to three delegates to the Provincial Association, who shall be full members of this Association: That any teacher or inspector may be a privileged member

upon payment of an annual fee of fifty cents, such privileged member to be entitled to all the advantages of this Association except voting at election of officers or when the 'yeas' and 'nays' are being called. For purposes of representation the Sections to be considered Local Associations.

Mr. J. Wood reported progress of the work entrusted to the Committee, and asked for an extension of time to finish, which was granted.

The Section proceeded to elect officers as follows:—

RICHARD LEWIS, Toronto, *Chairman.*
WM. RANNIE, Newmarket, *Secretary.*

C. CAMPBELL.....Ottawa, D. BOYLE.....Elora, R. ALEXANDER.....Galt, W. H. COLLIS.....Chatham, WM. MACKINTOSH..Madoc,	*Committee of Management.*
SAM. MCALLISTER..Toronto, ROBT. W. DOAN.... " F. S. SPENCE..... "	*Legislative Committee.*

Mr. Bole moved, and Mr. McLean seconded, votes of thanks to the retiring officers.—*Carried.*

Mr. J. Duncan, Windsor, delivered an address on Model Schools and Model School Work, which was listened to with great attention.

Mr. W. Rannie moved, and Mr. Ferguson seconded, a hearty vote of thanks to Mr. Duncan for the care bestowed on his paper.—*Carried.*

Owing to want of time no discussion of the subject followed.

The Committee appointed to draft resolutions embodying the views of the Section on the question of Over Supply of Teachers, submitted a series of resolutions, which as amended and approved by the Section are as follows:—

That distinguished success in teaching should entitle any teacher to

promotion to a higher grade of certificate, without examination, at the discretion of the Minister of Education.

That all candidates who write at examinations for Second Class Certificates, be required to take the Science Group in the Intermediate Course.

That the period of Model School training should be materially lengthened.

That all students-in-training at the Model School be required to pay a fee of ten dollars, half of which shall be refunded to unsuccessful candidates and the unrefunded portion to go to the support of the Model Schools.

That permits, except in remote and thinly settled districts, should be abolished.

That all persons going up for Teachers' Examinations shall pay a fee of ten dollars, said sum to go towards defraying the expenses of examination, and the balance to be placed in aid of the Superannuation Fund—no further fee being charged for passing to a higher grade.

WM. RANNIE, *Secretary.*

HIGH SCHOOL SECTION.

Tuesday, August 9th, 1881.

The Section met in Dr. Carlyle's Lecture Room at 11.20 a.m.

Mr. Seath occupied the Chair, and Mr. Strang acted as Secretary.

Present—Messrs. Seath, MacMurchy, McHenry, Millar (St. Thomas), Purslow, Fessenden, McGregor, Robinson, Spotton, Reid, Strang, Mackintosh, Millar (Bowmanville), Smith and Parker.

The Committees not being prepared to report, some time was spent in desultory discussion.

Mr. Millar (St. Thomas) brought up the motion, of which he had given notice last year, in reference to the regulations of Toronto University.

Moved by Mr. Millar, seconded by Mr. Reid, That in the opinion of this Section the regulation of the University of Toronto requiring attendance on lectures at an affiliated College has the effect of preventing many deserving teachers in our High and Public Schools from proceeding to a Degree, and should be rescinded.

After some discussion, the motion was put to the vote and declared lost.

After some further discussion of a general nature, the Section adjourned to meet again at nine a.m. to-morrow.

Wednesday, August 10th, 1881.

The High School Section met at 9.30 a.m. in the Minister's room—Mr. Seath in the Chair.

Members present—Messrs. Seath, MacMurchy, Millar (St. Thomas), Purslow, Turnbull, Reid, Strang, McHenry, Sutherland, McGregor, Parker, Mackintosh, Smith, Clarke, Jamieson, Birchard, Hodgson, Natting, Spotton, Millar (Bowmanville), Bowerman, Tamblyn, Tilley, Robinson, McBride, Hunter, Wightman, McGill, Fessenden.

The Secretary, Mr. Strang, having stated that his term of office had expired, and that he wished to be relieved, Mr. Fessenden was chosen to take his place.

The Chairman explained to the Section that the memorandum of the Minister of Education had been submitted to the Executive Committee in conjunction with the Special Committee appointed last session to consider the manner of distributing the Legislative Grant to High Schools, and that the joint Committee had prepared a series of resolutions which would be submitted to the Section.

Mr. McHenry, Secretary of the joint Committee, read the resolutions approved by them, which were as follows:—

1. That the fixed grant to each High School or Collegiate Institute be one-fourth of the amount paid for teachers' salaries.

2. That a portion of the grant be given on general average attendance, and that a further sum, say $3 per pupil, be granted on the average attendance during the preceding year of those who pass the Intermediate Examination.

3. That the clause in the Statute relating to the establishment of Collegiate Instutes should be repealed, in so far as regards the required attendance of a certain number of boys in Latin or Greek.

4. That any High School should be recognized as a Collegiate Institute, and should receive a special grant of, say, $400, on condition of its employing five teachers, four at least to be masters, and maintaining an average attendance of not less than 120; and that in addition to the other general conditions now required by the Department, some minimum Upper School attendance, say ten or fifteen, be demanded. Provided, however, that three years shall elapse between the adoption by the Department of any such regulation and the withdrawal of such grant from any of the Collegiate Institutes at present existing, which may fail to fulfil the above conditions.

5. That in the interest of secondary education, it is desirable that a minimum fee of, say, $5 per annum, should be established in all High Schools, provided some arrangement be made to meet the case of those towns which contain High Schools and whose Public Schools contain no Fifth and Sixth classes.

The report was received, and on motion of Mr. McGregor, seconded by Mr. Reid, it was determined to consider it clause by clause.

Mr. Fessenden moved, seconded by Mr. Millar, That the first resolution be adopted.

After a full discussion, the motion was carried.

The first clause of the second resolution was adopted without discussion.

On the second clause of the second resolution being brought under consideration, it was moved by Mr. Strang, seconded by Mr. Millar (St. Thomas), That the clause be struck out, and that the following be substituted for it:—That in the opinion of this Section, the Intermediate Examination being now sufficiently well established to stand on its merits, it is desirable, with a view to removing unhealthy pressure from teachers and pupils, that no further grant be made on the results of the Intermediate.

A warm discussion followed, in which nearly all present took part. The amendment, on being put to the vote, was lost.

The second resolution, as prepared by the Committee, was then adopted on the following division, many not voting at all :—

Yeas—Messrs. Hunter, Clarke, Hodgson, Parker, McGregor, Smith, Sutherland, Mackintosh, Spotton and Fessenden—10.

Nays—Messrs. Strang, Millar (St. Thomas), Jamieson, Turnbull, Wightman, Bowerman, Robinson, McHenry and Reid—9.

It was moved by Mr. Hunter, seconded by Dr. Purslow, That in the opinion of this Section a fee of $1 should be imposed on each candidate at the Intermediate.—*Lost.*

The Section adjourned to meet again at nine a.m. on Thursday.

Thursday, August 11th, 1881.

The Section met at 9.15 a.m. in the Minister's room—Mr. Seath in the Chair.

Members present—Messrs. Seath, MacMurchy, McGregor, Hodgson, Galton, Strang, Purslow, Millar, Hunter, Bowerman, McHenry, Spotton, Mackintosh, Smith, Turnbull, Jamieson, Clarke, Parker, Sutherland, Wightman, Robinson, Reid, Fessenden and others.

The Minutes of the previous session were read and adopted.

The consideration of the report of the joint Committee was continued.

Mr. Reid moved, seconded by Dr. Purslow, That the third resolution be adopted.

After a short discussion, the motion was carried.

On the introduction of the fourth resolution, Dr. Purslow moved in amendment, seconded by Mr Strang, That the principle of making an additional grant to any High School without, at the same time, imposing other and higher work on such school than that imposed on High Schools generally, is indefensible.

In amendment to the amendment, it was moved by Mr. Robinson, seconded by Mr. Turnbull, That in the opinion of this Section Collegiate Institutes should continue to exist, but that the basis of establishment and continuance should be broadened by including girls as well as boys, and by recognizing other studies as well as Latin and Greek.

The amendment to the amendment was carried.

On motion of Mr. Strang, seconded by Mr. Millar, it was resolved, That in the opinion of this Section no school should receive a total grant of less than $400 or more than the highest grant paid to any school this year.

Mr. Fessenden moved, seconded by Mr. MacMurchy, That the fifth resolution submitted by the Committee be adopted.

After some discussion, the motion was carried by a vote of 14 to 8.

It was moved by Mr. McHenry, seconded by Mr. Bowerman, That in the opinion of this Section the standard for admission to High Schools should remain as at present, but that some suitable elementary text-book in English History should be prescribed for Public Schools.—*Carried.*

Mr. Millar (St. Thomas) moved, seconded by Mr. Hodgson, That this Section is of the opinion that questionable advertising and other methods of like character which tend to induce students to remove from institutions to which they fairly belong for the purpose of building up large Collegiate Institutes and High Schools, have the effect of lowering the professional respect of teachers.—*Carried unanimously.*

After some discussion as to what should be called questionable advertising, it was resolved that the Executive Committee be requested to consider the same and report at the next annual meeting.

Mr. McHenry moved, seconded by Mr. Fessenden, That Messrs. Seath and MacMurchy be requested to prepare a resolution in reference to the retirement of Dr. Tassie.—*Carried.*

The Section then proceeded to the election of officers for the next year.

Moved by Mr. Strang, seconded by Mr. Reid, That the Executive Committee for the next year be composed of Messrs. McHenry (Chairman), Fessenden (Secretary), MacMurchy, Purslow, McGregor and A. Millar (P. S. Master, Walkerton), and that the Legislative Committee be composed of Messrs. Seath, Millar (St. Thomas) and Hunter (Waterdown).—*Carried.*

The Section adjourned to meet again at four p.m.

The Section reassembled at four p.m.—Mr. Seath in the Chair.

The Minutes of the previous session were read and adopted.

Moved by Mr. Strang, seconded by Mr. Robinson, That in the opinion of this Section it is desirable that the course of study prescribed for the Lower School should be revised so as to make it more flexible, especially in the case of girls, and to secure the payment of greater attention to the higher English branches.—*Carried.*

Moved by Mr. Robinson, seconded by Mr. Hodgson, That in the opinion of the High School Section the amount of Latin and French prescribed for the Intermediate is too great, and that the programme should be amended by striking out *Cicero pro Archia*, or some equivalent, and a portion of the French.—*Carried nem. con.*

Moved by Mr. MacMurchy, seconded by Mr. Strang, That this Section tender the cordial thanks to Dr. Tassie for the careful attention which he gave to the interests of the High School Section while he acted as their representative on the Senate, and express their regret at his withdrawal from a profession in which he has laboured so long and successfully. —*Carried.*

MINUTES OF PUBLIC SCHOOL INSPECTORS' SECTION OF THE ONTARIO TEACHERS' ASSOCIATION.

Tuesday, August 9th, 1881.

The Section met in Mr. Kirkland's room in the Normal School Building, Toronto, at eleven a.m.

Present: Messrs. Hughes, Carson, Scarlett, Knight, Fotheringham, McIntosh, McKee, Clendenning and Maxwell.

An informal discussion was held concerning the professional training of teachers, the general opinion being that improvement is much needed.

Wednesday, August 10th, 1881.

The Section assembled at 9 a.m., in the private room of Dr. Carlyle.

Present: Messrs. Hughes, Knight, Scarlett, Carson, Clendenning, McKee, Smith, Barnes, McIntosh, Fotheringham, Campbell, Agnew, McNaughton and Maxwell.

A committee consisting of Messrs. McKee, Carson and Knight was appointed to draft a resolution concerning professional training in the Normal Schools, to be presented to the Section on Thursday morning.

The following resolutions were passed:—

Whereas it is by law the duty of Public School Inspectors to inspect the accounts, classes, and working of Mechanics' Institutes;

Whereas the work involves considerable travel, labour, responsibility and time ;

Whereas the labour involved does not depend upon membership, nor to any considerable extent on the obtaining of the Government grant to each Institute ; and

Whereas the responsibility and time of Inspectors are worth at least $5 a day and actual travelling expenses :

Resolved,—That the remuneration proposed is wholly inadequate, and that the treatment of Inspectors in setting their services aside in 1880, and then in 1881 insisting upon their doing the work of inspection for remuneration which, when reduced by reasonable allowance for horse-hire and other expenditure, does not equal that made to ordinary day labourers, is not worthy of the usually reasonable and considerate course of the Education Department.

Resolved,—That in the opinion of this Section it is desirable that the Non-professional Examination of teachers be separated from the High School Intermediate Examination as at present established.

1. To provide for examination of candidates for Teachers' Certificates in the subjects of reading and penmanship.

2. To abolish the option of taking Latin or French or German in lieu of the Natural Philosophy Groups.

Thursday, August 11th, 1881.

The Section assembled at nine a.m.

Present: Messrs. McNaughton, Knight, Clendenning, Scarlett, Carson, McKee, Fotheringham, Smith, Hodson, Dearness, Agnew, Barnes, Burrows, Little, Campbell, McIntosh, and Maxwell.

Mr. McNaughton was appointed Chairman *pro tem.*

OFFICERS ELECTED.

J. S. Carson, Strathroy, *Chairman.*
D. A. Maxwell, Amherstburgh, *Secretary.*

J. L. Hughes.....Toronto,
J. Dearness.....London,
D. Fotheringham..Aurora,
E. Scarlett.....Cobourg,
J. W. Dafoe.....Belleville,
} *Directors.*

J. L. Hughes,
J. S. Carson,
D. Fotheringham,
} *Legislative Committee.*

Resolved,—That in the opinion of this Section the professional training of First and Second Class Teachers is quite defective and the attenfion of the Hon. the Minister of Education is hereby respectfully directed to the necessity of a thorough investigation into the character of the lectures delivered in the Normal Schools and into the methods of teaching practised in the Model Schools.

A general and profitable conversation was held on "A Day's Work in School," which was introduced by Mr. Dearness.

Resolved,—That it is the opinion of this Section that Clause 29 of the amended School Act of 1879 should be repealed, as detrimental to the best interests of education.

Resolved,—That whereas the present method of extending teachers' certificates has proved very unsatisfactory, therefore, in the opinion of this Section, the power of extending such certificates should be vested in the County Boards of Examiners; that the said Boards of Examiners should be empowered to require candidates for such extensions to attend any one of the departmental examinations or not, at their discretion.

Resolved,—That whereas in several counties there is at present a scarcity of teachers, this Section would respectfully recommend that in these the Boards of Examiners be authorized, on representing their necessities, to grant Third Class Certificates, on receiving the necessary Model School training, to a sufficient number selected from the best of those rejected at the Intermediate Examination held in such counties, in order to relieve such scarcity; and for this purpose the Boards, on application to the Department, be furnished with the marks obtained at this examination.

Resolved,—That in the opinion of this Section it is unnecessary to have the marks returned for every question in the Entrance Examination report, as these marks are put on the papers of the candidates, which are all sent to the Department.

PAPERS

READ BEFORE

THE ONTARIO TEACHERS' ASSOCIATION,

1881.

PRESIDENT'S ADDRESS.

Ladies and gentlemen, I purpose speaking to you about an experiment in teaching junior classes which has been in operation for the last year in the Public Schools of the town of Galt. The Galt half-time system, as it is usually named, was suggested by Messrs. Cowan and Mowat, members of the Public School Board of the town of Galt. It was these gentlemen who first suggested that the children should, during play hours, be placed under the charge of some person competent to control and oversee them. The plan was devised for the purpose of lessening the hours which the junior scholars spend in the school-room in the study of their lessons—I might more truly say in the pretended study of their lessons—and yet not have them sent home during any portion of the school day. A half-time school generally means a school in which the pupils are one half of the day at school and the other half of the day at home, so that one group of scholars attend in the forenoon, and another in the afternoon, of the same day. Such half-time schools are established in a number of places. They have such schools in the city of Washington, D C. The Superintendent in one of his reports says: "Eight half-day schools were in operation during the past year, and in September last three more were added to the number, making a total of eleven. In the first year of the school course, the children in these schools progress as rapidly and accomplish as much as those in attendance the whole day. In the second year a daily session of four hours would be better than one of three. The objections to half-day schools come chiefly from those parents who desire to be relieved from the care of their children through the day, and look upon schools as the legitimate and proper nurseries for them. These objections must fail to have weight while our school fund continues so inadequate to supply more pressing wants." Galt tried a

half-day plan similar to the above, but it proved unsatisfactory to a number of the parents. It was to prevent complaints from parents similar to those made by some of the parents in the District of Columbia, that caused the half-time system in Galt to take the form it has. While it may be a subject of doubt and debate whether the hours of attendance at school for the larger scholars should be shortened or not, I think it is generally conceded that for the junior scholars, say in the First and Second Readers, five or six hours per day is too long. Such long sessions for young children are fraught with danger to the health. The close confinement in an atmosphere more or less impure, the enforced quiet and irksome restraint are no less hurtful to the child's health than they are unnatural. The mind as well as the body suffers from the long sessions of the school. It becomes slow and inert from the want of suitable exercises. It loses its elasticity and natural curiosity, and is dwarfed by the unnatural repression and restraint under which it is placed. In the Galt half-time system the scholars are all day at school, but only one half of the time in the school-room, and the other half of the time in the play-room. A division of 100 or 120 is assigned to each of the teachers, who are engaged in teaching the half-time scholars. Each division is divided into two sections, one of which, on the opening of the school in the morning, goes into the school-room, for ordinary instruction, and the other section goes into the play-room. Each section remains in its room until the middle of the forenoon, when the sections change rooms. Those pupils who were in the play-room go to the school-room, and those who were in the school-room go to the play-room. The afternoon work is arranged in the same manner as the work of the forenoon. I need not say anything about the work done in the school-room. It is the ordinary work of the First and Second Readers, with which you are all familiar. During the time the pupils are in the play-room they are under very much less restraint than in the school-room, but still they are under control. There is a teacher who takes charge of the play-room, and who has usually about 100 children under his care. While the exercises of the play-room are called play, and they assume the guise of play, it is not rude nor helter-skelter play. It is play with method and design in it. The games are under the control and guidance of the teacher who has charge of the play-room. There are games intended to develop and strengthen the various parts of the body; these consist of simple exercises in gymnastics, such as extension motions, marching, and the Kindergarten songs with motions. There are also games with balls for teaching colour. We have nine balls, which are covered with worsted crocheted on each. One is covered with white, another with black, and each of the remaining seven with one of the seven prismatic colours. We also use some of the Kindergarten building blocks for the purpose of giving training in form, and also to develop originality in the child.

For training the voice and the ear we have singing and bell-ringing. The incidents of school life, with the reading of stories, are made the channels for teaching morality and manliness of character, and also kindness to dumb animals. We have another exercise connected with the play-room, and it is one which I consider very valuable for training and instruction; I refer to object lessons. Perhaps it would not be out of place to go a little into detail about these object lessons and how we teach them. We aim at training, through these object lessons, the observing or perceptive faculties, and also the conceptive faculties, and in the third place to give instruction in language. You will observe that we do not aim at imparting information or knowledge of the properties or uses of the object under consideration. Whatever information may be given about the object in regard to its properties or uses is incidental, and no importance is attached to it. Allow me to outline the method of giving an object lesson to your half-time pupils. The object, whether it be a representation of the thing or the thing itself, is handed to the pupils who, singly or in groups, according to the nature of the object, examine it as minutely as they can. This will occupy say fifteen minutes. Then the object is put out of sight, and they are asked to tell what they have seen. They usually tell the number of things seen, if more than one, the different parts and their number, the colour, etc. Their answers are required to be complete statements. Any incorrectness of speech is noted by the teacher, and corrected immediately. Great care and watchfulness are enjoined on the teacher in this matter. In this way we endeavour to give training in sharp and correct observation, in forming distinct conceptions, and training and instruction in the use of language suitable for the expression of the ideas or conceptions formed of the objects seen. Thus, to observe correctly, to form clear ideas, and to use correct and proper expressions are the things aimed at in our object lessons. In the above sketch I have outlined the work done in the play-room. But you are not to suppose that there is anything like a time-table to follow, or any routine in these exercises. The person in charge of the play-room is untrammelled by time-table or any other thing of that sort. He has to determine what is most suitable at any particular time. He is requested not to fall into routine, so as to keep up interest in the plays. The pupils, therefore, cannot tell what is to be the next exercise. They often make requests for one or another of their games. In the exercises the idea of lesson or task is never brought before the pupils. In fact, the word lesson is never mentioned in connection with any of the exercises of the play-room. It may not be amiss to tell what kind of a room our play-room is. It is a room about forty feet long by about twenty-four feet wide. It is supplied with a row of benches ranged along the walls of the room. It is also well supplied with blackboard from the baseboard to a height of about four feet from

the floor, so that the pupils may be able to use it when required. In this room all the marching and games are usually carried on. Adjoining this room and connected with it by two doors is a gallery-room, in which singing and object lessons are given. There is also a large room in the basement used for play by the half-time pupils. And now to sum up. We aim at giving training or instruction in the following :— Training of the physical powers, by means of simple exercises in gymnastics, etc. ; training of the ear and voice, by means of singing simple songs and bell-ringing ; training of the observing faculties, by means of object lessons ; instruction in language, by means of object lessons ; instruction in morals, manners, etc., by means of stories and incidents. Thus you will observe that we have aimed to give the child a well-regulated system of combined study and play, bringing into action both the mental and physical powers of the child in accordance with the nature of the child. We have given, we think, due attention to the child's love of activity. It is plainly written in the nature of all young children that enjoyment is a portion allotted to them by nature. The search for pleasure and enjoyment seems to be their chief employment. Whether the child be in the house or in the fields or on the street, it seems to be always in eager search for that which will minister to its enjoyment and add to its happiness. If this be a part of the young child's nature, should it be ignored and disregarded as a trivial matter, or as a characteristic of the child's nature to be suppressed and extinguished ? Or, should we make an ally of this feature of the child in our attempt to educate it ? I think the wiser plan is to make an ally of the child's love of amusement, at least during the earlier years of its school-life. And without doubt the pleasanter we can make school-life to scholars of all ages, and at the same time maintain an interest in school work the greater will be the progress of the scholars. Another feature of the system of which I am speaking is its social character. Madame Necker says :—"The dominion which children exercise over each other is almost unbounded. Whatever may be the difference in their future destiny it vanishes before their present community of feeling and equality of situation. Their influence over each other must, therefore, be either very dangerous or highly useful ; and by obtaining the direction of it we secure to ourselves the advantage of a most powerful instrument in education." Currie, in his "Early and Infant School Education," says : "We know the almost boundless influence which children have upon each other, especially when they are of the same standing and engaged in the same pursuits. It is a power in the school as great as that of the teacher himself. Where it is exercised to promote the common comfort, the circumstances of the school are favourable to the child's happiness ; where used with an opposite design there is a blank in his happiness which nothing can supply. Children suffer no misery like that which they deliberately inflict on

each other when actuated by the spirit of mischief. Our provision for the child's happiness is incomplete, therefore, till we have considered the social aspect of the school. Unless this be healthy, moral training is impossible." During the time spent in the play-room there are frequent breaks in the exercises, and time and opportunity are thus given to the children to talk with each other. Their deportment towards each other is noticed, and, if necessary, corrected. But the supervision of the scholars during their games has also a good effect. It is in the case of the shy and timid scholar that the play-room is an important matter socially. When the games and plays are engaged in under the eye and in the presence of the teacher, the nervous or the strange child is not molested nor intimidated by the more boisterous or mischievous scholars. In the freedom that the play-room gives, we have a good opportunity to see how they conduct themselves, and to become acquainted with their dispositions and their excellencies and faults of character. The knowledge thus acquired is very important and useful in guiding the teacher in regard to what hints and talks are necessary, and most likely to have a practical and beneficial effect for the scholars as a whole. It is also a guide how to deal with the individual members of the class. The freedom of intercourse which the scholars have with each other in the play-room, has, we think, a good effect on them, in making them forbearing to each other and more considerate of each other's feelings. I suppose the question you are wishing to ask and to hear answered is: How has the experiment succeeded? Before answering the question, I wish to state that we have had some hindrances that affected the working of the school, and consequently the results have been modified by these hindrances. The plan was put into operation last September. For about three months, beginning with last October, a large number of the junior scholars were sick, the town having been visited with measles, whooping-cough, and scarlet fever. One of the teachers who was teaching the half-time scholars resigned at Christmas. I am now ready to answer your question. We know that the listlessness and indifference that were too common among our junior pupils have almost all disappeared, and we attribute that result to the half-time system. Instead of being lifeless and inert they are full of life and activity; quick and prompt, as well as apt in giving answers to questions proposed to them. You may wish to ask, how have the pupils got on with their book-work? We think they will compare favourably with the scholars who attend school, and are engaged all day with their books. Do you wish to ask me how about the interest the children evince in the school; or in other words, do they like the schools? We think we are fully warranted, by all we know and have seen, in saying, without any hesitation, they are very fond of school. In reference to the results of the physical training it is not so easy to note changes or improvements on the children. We

know that the children enjoy the games and exercises of the play-room, and the results, we think, cannot be other than beneficial, as all the games and exercises tend to strengthen the body, or to impart precision or dexterity to its movements. The system must therefore have a good effect on the health of the children. One of the benefits is the relief which the eyes of the pupils get, as they have not the strain which steady application to book or slate-work for six hours per day entails. In view of the facts brought to our knowledge by the experiments of Professor Cohn and others (as given in an article entitled "Eyes and School-books," in the May number of the *Popular Science Monthly*) such relief cannot but be a boon.

The question has come into my mind, should experiments for the improvement of the methods of teaching be made by Boards of Trustees, or by the Education Department? It seems to me that the Education Department should have some place where methods that claim to be an improvement on existing methods of school work might be put to a rigid test and the results made known to the public. As the school law at present stands there is very little liberty given to either teachers or trustees to deviate from the programme. But the uniformity should not be maintained so rigidly that it would tend either to discourage or to prevent improvements. Because of the great uniformity that now obtains in education throughout the Province there is a necessity—if that uniformity is to be maintained at a high degree of excellence—that there be some central authority to test and pronounce upon whatever may have claims to be a new or improved method of imparting instruction.

The school system of the Province should be so progressive that reforms in teaching would be given a courteous welcome, and an immediate and hearty recognition. Some persons might go further and say that it would be a proper function of the Education Department to search for and introduce such reforms. The writer of the article on education in the "Encyclopædia Britannica" says that "The science of education is still far in advance of the art." Would it not tend to remove in part this reproach, and also have a stimulating effect on the profession if it were known that the Department was ready to receive suggestions for the improvement of school work, and that it had the necessary appliances whereby all suggestions that are likely to prove beneficial would be put to a practical test? I think it would. I know that the profession is very conservative. It takes a long time and a great amount of perseverance for any one who claims to be a reformer in education to receive recognition. Names will readily occur to all of you, of men who pressed upon the attention of their contemporaries, educational reforms which were either slighted or decried during their lives, but adopted and extolled after their death.

I wish to direct your attention to a new system of teaching reading to

junior classes. For a number of years it has been claiming recognition and adoption from the teachers and school authorities of the United States. The author of the system thinks the ordinary plan of teaching junior classes is not as time-saving nor so fruitful of good results as his. I refer to Dr. Leigh's "Pronouncing Type." I quote Dr. Leigh's description of the system as I find it in the Report of the Superintendent of the Boston Public Schools for 1872:—"What is it? It is orthography, the ocmmon orthography of our books and newspapers. It is not phonotypy; the spelling is not changed, every word being printed and spelled according to our standards, Webster and Worcester. But it is a pronouncing orthography. It shows the exact pronunciation of every word. A special form of a letter is used for each sound of it. Letters which have no sound are printed in a hair-line or light-faced type. It thus shows the pronunciation without changing the spelling, and even preserves the familiar form or face of the words as we are accustomed to see them in our books and newspapers. Words printed with this type differ less from those on this page in the common Roman print than Italic words do, or those printed with most of the fancy types so much used in our newspapers and advertisements. In this way, without doing any harm, it does great good. It does for the reading lessons in the child's primer what Webster's or Worcester's accent marks do for the words in their dictionaries; only it avoids the use of the accents, which would be a blemish to the page, and would not be practical or useful enough for the children. It is designed and used, not for the dictionary merely, but for the primer, making every word, and line, and page, a pronouncing dictionary for the learner, always under his eye, that he can use with ease and certainty at the very time he needs it. It thus combines in one or two English languages—the written and the spoken—which have been hitherto so widely separated by our difficult and irregular orthography. It is not a new book, but a way of printing any primary book, the very same books which have long been approved and used in our schools."

The author of the system claims that the following results have been produced in the Boston schools by the trial of the system. I find these, among others, in the report of 1872:—"Their [the pupils'] rapid progress in learning to read; their correct and distinct pronunciation; that in learning to read in this print they are learning to read in common print, there is really no transition to make; the correction of foreign brogue, accent and bad pronunciation; the distinct utterance of every sound; the correction of careless utterance; the cultivation of self-reliance and self-help. The pupils can do and study themselves and not look to and lean on the teacher; the cultivation of the eye and ear in discriminating the various forms and sounds of the letters, and the habits and power of observation thus acquired, with their future influence, extending, as it must, to all their future reading,

writing and spelling; the cultivation of the vocal organs by this constant practice and drill; the training of the mind to order, regularity, consistency, truthfulness in school, and in books, such as the child meets with in nature out-of-door. The importance of the immense saving of time (doing two years' work in one), especially to those children who, in Boston, have but four or five years' schooling, and in most cities and towns but two or three; the uniformity of these results in all the schools here and elsewhere where this print has been used, and the very strong and decided testimony of most, if not all of the teachers; the difficulties and objections have been only in anticipation and have vanished before experience. Teachers who began with reluctance and doubt, have uniformly succeeded before reaching the end of the primer, and have become decidedly in favour of the method." Dr. Philbrick, the Superintendent of the Boston schools, in the report of 1872, says of the system:—"For several years it has been optional with the district committees to adopt this system or not. Its success, where it has been used, has been so decided that it seems desirable that it should be made obligatory in all the districts." Dr. Leigh, in a memorial sent to the National Education Association in 1879, stated that by his system "the lowest classes in the St. Louis Public Schools do the work in one year, which used to consume two and a half years, and that the Principal of the Boston Training School has carried her pupils through the Second Reader in the same time that before was used in mastering the First Reader."

I know nothing practically of the above system. But, if what is claimed for it be true, think what an immense saving in time it would be to have it adopted in the schools of this Province. But its claims should first be tested by some competent authority. I say the Education Department of the Province. No Board of Trustees can legally put such a plan to the test, as it would involve the use of unauthorized text-books. Neither should experiments be made at the charge of any Board of Trustees. They should be made for the benefit of the Province, and the expense be borne by the Province. There are indications in many places that some of the friends of our schools think that the programme should be modified or changed in some way. Why not get these persons to point out the changes desired, and then apply to them the test of experience, and if found beneficial, then make the changes general? Such an institution as an experimental school would do much to prevent schism or dissent among the present friends of our Public Schools. It would be a pity if too great conservatism in school matters should give just ground for dissent.

I wish to direct your attention for a moment or two to another subject, which I think should receive more direct supervision from the Department; that is the ventilation of school-rooms.

Health is so important a factor in education and in a happy and

successful life, that I think it is high time for some central authority to see and enforce that adequate provision be made for the ventilating of school-rooms. Would it not be well that the Department should require in the case of every new school building, that the plans be submitted to some competent person, specially appointed for the purpose, for approval in regard to the provision made for the thorough and sufficient ventilation, and perhaps it would be well to say lighting of the building?

I am aware of the regulations on the subject. But from my observations and some inquiry, I am of the opinion that even in many of the more recently erected school-houses there is no provision for ventilation. The regulations recommended 120 cubic feet at least of air space for each pupil in rural schools, and other schools 100 cubic feet. Why the difference? In Ontario we have not had, that I am aware, any skilled investigation in the ventilation of any number of our school-rooms. But in some of the cities of the United States they have. Allow me to quote from the report of the Committee appointed by the Board of Public Education to inquire into the sanitary condition of the schools of Philadelphia. The Committee consisted of eleven physicians. They visited the schools in the winter and early spring. They reported upon forty four schools. They say: "The space allowed to each pupil is too small. The average of rooms reported is 143 cubic feet per pupil. The range is from 272 down to 66, in different schools. Even with efficient ventilation, the space should not fall short of 200 or 300 cubic feet. The percentage of carbonic acid is stated in regard to thirty-one rooms The ratio of ·56 in 10,000, reported in one room, is very extreme. The average for thirty-one rooms is ·18 per cent. The examination of ten schools by a professional chemist exhibits an average of ·1315, and a range of from ·06 to ·21 per cent. In these last, and in nearly all the other cases, it is expressly stated that windows were open. Two analyses of external air showed the presence of ·0288 and ·03205 per cent. C O 2, the proportion normally varying somewhat with the weather and other conditions. A score of the schools examined have no system of ventilation whatever. The rooms examined by Mr. Thomson, the chemist, are said to be very favourable specimens of our schools, being all of recent construction. Even here windows were constantly open." Who can possibly estimate to what extent the laws of health are violated by compelling these 92,000 persons (the number of scholars and teachers in the city schools) to breathe day in and day out an atmosphere surcharged to the extent of five, six, or seven times the sum of carbonic acid that normal air contains, and then superadded to this a sum of organic impurities which may be expressed by the same numbers as indicate the excess of carbonic acid? Who can, in numbers, express the degree of violence done to health, the sum of human suffering engendered, and to what extent life may be shortened by the

respiration of the unnecessarily impure atmosphere of school-rooms? A similar report might be made of other cities. Allow me to give you one example from Brooklyn, N. Y. :—"No. 15, constructed for 800, has 1,900; ceiling low, air renewed only through windows. In one room 67 children, 30 cubic feet to each child" Dr. Thomas F. Rochester, of Buffalo, says :—"From 800 to 1,200 cubic feet of air is the amount of space that is required to be allotted to each individual in the United States military hospitals. In Public School No. 15 (Buffalo) each poor child has but 56 cubic feet of air. No wonder that scarlet fever, diphtheria, typhoid fever, and blood poisons of every description are more or less prevalent A large proportion of these dread disorders are generated in and propagated by our public schools." In circular No. 4, issued last year (1880), by the Bureau of Education, United States, and prepared by Mr. T. M. Clark, a well-known architect of Boston, and which treats of school architecture, he says :—"The amount of fresh air which is allowed to hospital patients is about 2,500 cubic feet per hour. Criminals in French prisons have to content themselves with 1,500 cubic feet per hour. Assuming that we care two-thirds as much for the health of our children as we do for that of our thieves and murderers, we will make them an allowance of 1,000 cubic feet each per hour. Forty-eight children will then need an hourly supply of 48,000 cubic feet. Definite provision must therefore be made for withdrawing this quantity of foul air. No matter how many inlets there may be the fresh air will only enter as fast as the foul escapes, and this can only escape through ducts intended for that purpose."

My apology for venturing to direct attention to the subject of ventilation is its great importance in education and individual and national prosperity.

RELIGION IN THE PUBLIC SCHOOLS.

BY DANIEL WILSON, LL.D., PRESIDENT OF UNIVERSITY COLLEGE.

Canadians are justly proud of their school system. It commends itself to approval on various grounds, but on none more so than as a truly national system, available for all, without distinction of class or creed. But in its adaptation to the requirements of a country where no special creed or established form of religion is recognized, and to a Province in which the leading Protestant denominations and the Roman Catholic Church are all alike largely represented, it has been indispensable to secure the exclusion of everything that could be reasonably objected to by any of them as encroaching on their province of religious instruction. But does it necessarily follow that

religion is excluded from our Public Schools and Colleges, as a thing which the State, and all who are under its control, are bound to ignore? That this is a question which you view with sensitive jealousy I may assume to be proved by the request you have made to me to discuss it at this Convention.

The profession of the Teacher is not only an honourable one; it is also a most responsible one. If you fully realize what education is your duties are only second to those of the Christian minister. You have entrusted to you the moulding and fashioning of the rising generation; the making, in no inconsiderable degree, of the future of this young country. Is it then the intellect alone with which you have to deal? Will it be the fulfilment of your high duty to send forth the boy or the girl committed to your training

> "A reasoning, self-sufficient thing;
> An intellectual all-in-all"?

In other words, can that be regarded as a perfect, or even in any true sense a satisfactory system of education which deals only with the intellect and leaves to other sources, or to chance, the moral and religious elements?

I venture to assume that the great body of the teachers of Ontario are at one on this question. Knowledge is indeed power; but the fruit borne by the tree of knowledge is both good and evil. Moral and religious training must go hand in hand with intellectual culture in the education of our youth if they are to be fitted for the citizenship of a free country. Do we then acknowledge that in any sense there is truth in the epithet "*godless*" applied to our Public School system? Are we content to speak of our Provincial system of education, in its Schools, Collegiate Institutes and Colleges, apologetically as a mere compromise or evasion of a difficulty?

This, I assume to be the question which you invite me to discuss; nor do I feel any reluctance in facing it. The system as applied to the Provincial College over which I preside has my fullest approval, and is indeed the only one that can be called truly national. But it is a system designed for the secular training of the rising generation in a community not less Christian than that of the mother country There, indeed, a constituency has been found to elect an avowed Atheist as its representative in the House of Commons. It may be confidently assumed that no Bradlaugh, however high his intellectual attainments might be, could offer his services to any Canadian, nor indeed to any English School Board, with the slightest chance of acceptance. The moral character of a teacher is indeed all-important, for it is not the formal inculcation of creeds and catechisms, but the daily, hourly influence of precept and example which moulds the character and makes the man.

Here then, I conceive, lies the distinction on which the development of our system of teaching should be based. It is no part of the duty of a Public School Teacher to set forth denominational catechisms or creeds, or in any form to inculcate dogmatic theology. It is no disparagement to him to say he is not the fit person for such dogmatic teaching. All matters of special denominational diversity of opinion; questions relating to the sacraments, to church order, ministerial or priestly authority and power, in so far as they are in any sense a fit part of youthful education, pertain to the home-training, the Sunday school, or to other church organizations. The attention now paid to Sunday school work is one of the most healthful features of the age; and to the Sunday schools of the various denominations may be safely confided the training of their own children in all which they specially value as distinctive in creed and church order. But much still remains as the legitimate work of the teacher in the Public School.

The best of all moral culture is the informal teaching which goes on in the daily and hourly intercourse of the teacher with his pupils. If he has the lesson of love and constraining moral power in his own heart he cannot fail to communicate it to them. "It droppeth like the gentle rain from Heaven upon the place beneath." It is by teaching such as this that men like Arnold have left an enduring impress on a whole generation of Englishmen, while their memory is cherished with loving gratitude. No Parliamentary enactment, no school law, no Board of Trustees, nor Minister of Education can interfere with you or prevent such vital moral training, were they so inclined; and the School Board which looks beyond the evidence of University Honors, First Class Certificates and Testimonials of Acquirements, and insists, above all, on having a teacher of such high moral qualifications as ought to pertain to the man or woman who is to have the moulding of the character, and the forming of the minds of their children, only shows thereby a proper sense of its responsibilities.

Canada is a Christian land. The parents of the rising generation desire no godless education for their children, and will gratefully recognize the services of the teacher, who, animated by a sense of the high trust confided to him, is ever ready on the daily occasions which offer, to drop the wise and seasonable word. Speaking, as I now am, to teachers, I need not remind you of the art of instilling information. The gentle admonition, the tender, loving rebuke, the word in season, will do more to form the future man than all the formal dogmatic routine of enforced lessons. A boy is reported to have responded to his Sunday school teacher's question, "What is persecution for righteousness' sake?" with the answer, "Being drove to school, and being drove to church!"

Not in formal routine, nor by enforced coercion, were God's statutes to be instilled into the youthful mind. "They shall be in thine

heart," is the first requirement, "and thou shalt teach them diligently unto thy children, and shalt talk of them when thou sittest in thine house, and when thou walkest by the way," etc. And cannot you, in like informal, yet genial fashion, drop here and there the good seed as you go the rounds of daily scholastic toil? No one will object to your teaching courtesy; good manners; making your boys gentlemen. But the Christian is the true gentleman. The whole essential essence of true gentlemanly conduct lies in the golden rule to prefer another to yourself; and beyond this, in the example of Him who "came not to be ministered unto, but to minister, and to give his life a ransom for many." I address you as fellow-teachers, and would urge upon you that we cannot place too high a standard before ourselves, or overestimate the influence of our office as the instructors of the rising generation. To the teacher who recognizes in his daily work nothing beyond the impressing on the minds of his pupils correct orthography and syntax, accuracy in numbers, a facility in languages and a mastery of Euclid, the return of the same routine from year to year, can scarcely fail to become a wearisome task-work; and if so, then success, in any very high sense, is beyond his reach. A teacher, as you well know, if he is to succeed must have his heart in his work; must feel it, however laborious, to be a pleasant duty. But if he realize fully the unquestionable truth that he has to a large extent the fashioning of these youthful minds, not merely in intellectual culture, but in moral worth, in purity of thought, in truthfulness, manly sincerity; in all that makes the good citizen; he will then feel encouraged through many a weary hour, even as the husbandman who in the early seed time is gladdened with the hopes of a rich harvest in store for him. The gentle poetess, Mrs. Hemans, in her visit to a girls' school, as she looks on

> "Childhood's lip and cheek
> Mantling beneath the earnest brow of thought,
> Sees there what earth must nurture for the sky,
> What death must fashion for eternity."

In all the fashioning for a higher life, both here and hereafter, the teacher inevitably bears some part. It rests with himself how great and how beneficial a part he has taken in giving a healthful bias to the eager, impressible minds left from day to day in his care, like clay in the hands of the potter, to fashion into vessels of honour or dishonour.

Trinity College, Dublin, is now adorned with a fine statue of Goldsmith; but had schools and colleges done all for him that they might a richer harvest would have been reaped from his genius, and a happier life secured for himself. Oxford will rear no monument to Shelley, for it is her shame that with that fine genius given her to train in the critical years of early manhood, she had no better antidote for the speculative doubts of a young inquirer than expulsion. It is with

me from year to year, a thing of intense hopefulness to scan the array of youthful aspirants who matriculate at college. Who knows but there may be a Goldsmith or a Shelley among them, for whose intellectual and moral training we shall yet be called to give an account.

I was originally asked to take as the subject of this address to you "The Bible in the Public Schools." I preferred the more comprehensive title of "Religion in the Schools." As to the daily reading of the Scriptures, and the opening and closing of the school with prayer, the recommendation of their use "with a view to secure the Divine blessing and to impress on the pupils the importance of religious duties, and their entire dependence on their Maker," was embodied in a regulation of the late Council of Public Instruction, and is still in force. But a discretion is wisely left with the Trustees or School Board, to whom this is only presented in the form of a recommendation.

This question receives interesting illustration from a case appealed to the Minister of Education in 1877. The practice had been to open the school daily with the Lord's Prayer and to close with the Benediction. Certain Roman Catholic children, acting under the directions of their parents, refused to stand up along with the other children during those brief and simple religious exercises, and with the very limited accommodation of a rural school there was no other room to which they could retire. The teacher insisted on their standing up, the trustees sustained this action of the teacher, and the inspector on being appealed to evaded the difficulty by stating that "if any objected the law provided that they might retire," which in this case meant to turn out of doors daily, in all weathers.

I confess to a difficulty in believing that this was a case for appeal to the Minister, or to the letter of the law. I have had a great deal of intercourse with both clergymen and laymen of the Church of Rome, and have had students of that faith under my care. I can scarcely doubt that a wise conciliatory course on the part of the teacher, if he took the trouble to appeal to the good feeling of the parents, would, in such a case, remove all difficulties. Members of the Roman Catholic Church have no objections to the Lord's Prayer, but both Roman Catholics and Protestants resent coercion, and in such a case as that referred to no less evil would be done to the Protestant than to the Catholic pupils, either by enforced conformity or by any demonstrative dissent. If the moral and religious influence aimed at by the teacher exhausted itself in that brief daily service, and all the interval was nothing more than a literal effort at the prescribed tasks in the authorized text books, then it would, on the whole, be better that the Lord's Prayer be omitted altogether than that it be made the occasion of strife and sectarian division. Few things are more to be deplored than that either by Separate Schools or by denominational separation in our Public Schools the elements of sectarian antagonism should be

prematurely developed in the minds of the rising generation before they are able to form an intelligent judgment on the questions in dispute.

As to the use of the Bible in our Public Schools I will only add that, in any school section where the entire community are so far of one mind that, without causing offence, the school can be opened daily in accordance with the recommendation of the Council of Public Instruction, with the reading of the Scriptures and prayer there can be, no question as to its desirableness. But my own early recollections of the Bible as a school book do not greatly incline me to insist on its use as a "Reader" or lesson book, especially if by so doing a barrier is to be raised against the free use of our Public Schools by Catholic and Protestant alike. But where there is a teacher of high principle with the constraining love of Christ in his heart, neither school regulations nor Acts of Parliament can shut out the Bible from the school, for its precepts will be hourly on his lips and its principles in all his actions. It is no less important to add that we may feel well assured that neither Roman Catholic nor Protestant parents have any desire that such precepts or such principles should be withheld from their children.

There need be no clashing between the functions of the Christian minister and those of the school teacher; nor between the distinct and diverse work of the Sunday and the Public School. But without trenching in the slightest degree on the functions of either, the Bible is full of delightful lessons which the wise teacher will not fail, whether formally or informally, to turn to account.

The Christian morals taught at our Public Schools should be altogether distinct from questions of Sacramental Grace, of Baptism, or the Eucharist. Questions of grave importance on which the Churches of Christendom are at issue can find no proper place in the national school system of a free people. But is there no such apt lesson as "Consider the lilies of the field how they grow;" or that of the sparrows—now no strangers in Canada—"not one of which falleth to the ground without the will of our Heavenly Father;" or the young ravens that "neither sow nor reap, neither have they storehouse nor barn, and yet God feedeth them;" there is "the rain coming down on the mown grass;" "the hen gathering her chickens under her wing;" the good shepherd leaving his ninety and nine to go in search of the lost sheep; and all else of moral beauty and wisdom so aptly fitted to the young mind eager for knowledge, open to all impressions, and receiving the bias for good or evil on which the whole future life so often depends. He must have little in him of the true teacher who cannot turn to account the parable of the wise and foolish builders; or the story of the unforgiving servant; or the buried and useless talent.

All this, if done as the man or woman possessed of the true teaching faculty well knows how to do it, instead of involving any wearisome sermonizing, will give a life and charm to the whole work of the day.

Nor need he pause on the threshold of higher moral lessons. He too may claim as his own that of the wondrous boy disputing with the doctors in the Temple; of the little child set in the midst of His disciples; or the exquisite story of the prodigal son, so tender in its touching beauty and power. These, and so much else in the lessons of the Great Teacher lie fully within the legitimate compass of your daily work. There is the Lord's Prayer—catholic in every sense—"Thy will be done on earth as in heaven;" "give us day by day our daily bread;" "forgive us as we forgive;" "amid temptations deliver us from evil."

In all this there is surely ample room for a Godly National System of Education which shall trench on no denominational creed or dogmatic teaching. Let me add that a manly courage in the confession of an honest belief may, with those whom you are now training, be largely influenced by your own example. If we never drop a hint of our belief in the divine fatherhood of a personal God, or our recognition of His rule and governance, but speak only of force, law, evolution or nature, such silence, be assured, speaks volumes. You cannot silence the teachings which such negation conveys.

I have referred to the lofty moral precepts and to the apt lessons of the parables of the New Testament as available to every teacher. But also, in an equally unobjectionable form, the skilful instructor will find many a suitable occasion to turn to account the lessons of Christ's own miracles; His stilling the tempest; His feeding the multitude in the wilderness; His speaking the word of power that healed the servant of the believing centurion; the responsive faith of the man with the withered arm; the ten lepers—one only returning with gratitude to the healer; the daughter of Jarius; the widow of Nain; the brother and sisters of Bethany.

But above all let me again say, we must teach by example. Let us apply to ourselves the parable of the talents, for the use of which an account had to be rendered. We, as teachers, hold a stewardship with no mean responsibilities. On your training may depend the moral standard by which the commerce of our young country shall be regulated, or that by which our future statesmen shall mould the decrees of our legislature, and inaugurate that righteousness which exalteth a nation. Your influence as teachers is enormous if you use it wisely. The minds of a young generation are submitted to you, unstained as the parchment on which you write what can never be wholly effaced; impressible as the wax by which its attestation is sealed. Ever remember how wonderfully observant children are. You teach them, whether you will or no, by your daily life, in word and deed. Every display of temper; every tampering with the strictness of exact truth; every rude act or irreverent word, is so much of tares sown among the young wheat, to grow up at times rankly and choke the good seed.

Dr. Arnold, one of England's model teachers, not only cultivated the utmost exactitude of truth; the yea, yea, and the nay, nay, even in trifles, but he repelled all asseveration in support of any statement made by a pupil, until at Rugby every boy abhorred the disgrace of telling Dr. Arnold a lie, because, said they, "*he will believe us.*" I need not tell you that this arose from no easy credulity, but from the astute foresight which by refusing to admit of the assumption that a boy would lie, made falsehood disgraceful and mean.

I will only add in conclusion that while I heartily sympathize in the daily reading of the Scriptures in our Public Schools, where it can be done without offence, not as a lesson book, but reverently as the Word of God and the inspired embodiment of the Divine law, given to us to be "a lamp to our feet, and a light to our path." I would not necessarily limit it to this. I have great faith in conciliatory co-operation, and it would seem to be by no means beyond the range of probabilities that a selection of approved Scripture lessons, unobjectionable to Catholics and Protestants, might be determined on for such a simple daily school service. Nevertheless I do not regard this as an essential feature of our Public School system, nor its absence as constituting any real impediment to the conscientious instructor legitimately using his influence, and inculcating anew the lessons of the great Teacher:—"Blessed are the merciful; the peacemakers; the pure in heart." More than eighteen hundred years ago He abrogated the law so truly accordant with our innate instincts: "Thou shalt love thy neighbour, and hate thine enemy;" yet the perfect law of love needs, no less than of old, to be still repeated. Rarely indeed will the day pass in which, with gentle, kindly words, it may not be the privilege of the teacher to practically enforce the law of kindness, of forgiveness, of disarming with gentle word and deed those "who despitefully use them," that so you may urge on your pupils in the words of the great Teacher: "that they may be the children of your Heavenly Father, who maketh His sun to rise on the evil and the good, and sendeth rain on the just and the unjust."

THE RELATION OF THE WILL TO THE INTELLECT IN EDUCATION.

ABSTRACT OF A LECTURE BY S. P. ROBINS, LL.D.

He that would answer the question, In the sphere of Education how does the will stand related to the intellect? must be prepared for two things. First, to say what is this marvellous complex of material organs, instinct with life and aglow with spiritual fire, which we call man. Secondly, to trace the mysterious course of development along

which an infant advances until in physical powers, in refined sensibilities, in a richly endowed intellect, and in a disciplined, yet unconquerable will, he becomes an educated man.

To answer the question, What is man? each must know himself. For each to himself is the measure of the universe. The maxim of Thales, "Know thyself," is both the earliest and the most imperative command of philosophy. Only through our knowledge of ourselves can we understand others. We immediately know ourselves, but others are but mediately known, are mere shadows on the wall, thrown from unseen realities. The pleasures, pains, hate, love, sensations, conceptions, desires, determinations of others, are intelligible only because we ourselves enjoy, suffer, hate, love, feel, think, hope, and endeavour.

What then am I? The great central fact of my being is consciousness. I feel and I know. This is an ultimate fact of my being of which I can give no account. But I do not merely passively receive into the sphere of consciousness influences that originate beyond me. In the external world I see the inevitable and fateful play of laws of cause and effect. But I am conscious that I lie outside the operation of these laws. I am no mere transmitter of influences from without. I am a first cause. I will and do. This, too, is an inscrutable, unaccountable, ultimate fact, admitting neither analysis nor explanation. Here then are two inexpugnable facts: I am conscious, and I will.

One of the earliest data of consciousness is the possession of a body existing in space, acted upon by its environment in many ways which are distinctly and successively recognizable by me, and so directed by me as to react upon the external world. It has in relation to me two functions. It is the servant of my consciousness, and it is the servant of my will. It is the passive recipient of manifold impressions from the material world, so that by it alone I am conscious of the existence and properties of a world exterior to me. And again, it is a part of the objective material world mysteriously subject to my will so far as this, that I can compel its members to take different positions relatively to each other. This power, and this only, has my will of revealing itself in the material world. I can move the body, and so can experiment upon the course of Nature, and can compel her unconscious forces to do my bidding.

The question here emerges, How far is the education of the intellect an education of the bodily senses? There is but one intellectual act, perception, which is directly dependent on the senses. Perception when analyzed shows the following elements:—

1st. The production of an impression upon the organ of sense. This is purely physical, and is commonly quite intelligible.

2nd. The reception of this impression by a nervous structure and

its propagation to the brain along a nervous tract. Of this we know very little more than the microscopic structure of nerve and brain, and the rate of propagation through the former, the mode of reception and of propagation being quite unknown.

3rd. An act of the mind by which it receives, selects, interprets, remembers the reports furnished by the brain.

4th. An act of the mind by which it directs the organ of sense in its investigation, through the subservience of the muscular system to the will.

Where amid these four elements lies that susceptibility to education by which the perceptive powers are improved? Not in the first and second particulars, but in the third and fourth, as is shown by an examination of perception through any sense. Take sight as an illustration.

First, there is the formation of a picture representing surrounding objects by the perspective projection of their forms, with appropriate hues and shades upon the retina. Upon the formation of this picture no system of training can produce an effect. Sometimes the picture is distorted in form, or is improperly focused upon the retina by some malformation or misadjustment of the lenses of the eye; or it is partially obscured or obliterated by some lack of transparency of the tissues; or it is suffused with an unnatural tint by some diseased colouration of the fluids. In any of these cases all that the educator can do is to guard against such misuse of the eye as would tend to produce or to aggravate these evils.

Secondly, the retina takes up the picture and the optic nerve reports it to the brain. As education cannot produce a sharper, clearer or more vivid picture on the retina, so it cannot cause the optic nerve to report that picture more faithfully. Some part of the nervous tract may be paralyzed or disorganized more or less extensively. It may be incapable of receiving or of conveying certain colours. In none of these cases does education avail. In the sensory and nervous apparatus of sight education cannot remedy defects nor increase the original keenness; except that judicious use favours the health of every organ through the exquisite adjustment of supply and repair to need, and that we may be taught to avoid such disuse or improper use as leads to disease.

But, thirdly, the reception, interpretation and retention of the picture is an act of the mind which, as all experience demonstrates, may by diligent and wise discipline be improved to a surprising extent in the rapidity, accuracy, fulness and permanence with which it is accomplished.

And, fourthly, the use of the eye as the mechanical organ of vision is the result of many nice muscular adjustments, some of which, being automatic, cannot be improved by training; others, being subject to

the will, are capable of being trained by the discipline of many directive acts to more prompt and precise obedience.

If we are to decide upon a wise course of training for the senses, it is clear that we must inquire into the laws of the psychology of perception rather than into those of the physiology of the senses. The only laws for the guidance of education that the physiologist can furnish are, on the one hand, certain prohibitory laws, the infringement of which lead to harm and pain ;and, on the other, one law of positive action that such use of any organ as is not fatiguing conduces to its well being and efficiency.

Psychology is in relation to education both more important and more interesting to the teacher, for it suggests most valuable rules for his practical guidance.

It has been said above that one of the earliest data of consciousness is the possession of a body existing in space. But intimate as is the connection between this body and myself, thought cannot blend them into a single conception. Consciousness distinctly separates between my body and myself. One ground of this distinction I find in this, that extension—space—is not a condition of the existence of the I myself of which I speak. Time—duration—is a condition of all existence; space, of material existence only. Feelings, thoughts, volitions, have no length, nor breadth, nor thickness. The physical world is conditioned by extension and duration; the psychical world by duration alone. Consciousness then distinguishes the I myself as unextended from the body, which is the instrument I use, and which has extension.

This unextended I myself it is that passively is conscious and actively wills. But consciousness sometimes merely recognizes the affections—states—of the subject, in other words it feels; or it distinguishes between the subject and object, in other words it thinks. Hence the threefold manifestation of myself. I feel, I think, I will. So all the powers of my mind are divided into sensibility, intellect and will.

It is to be remembered that I myself am one and inseparable. The whole mind thinks, the whole mind feels, the whole mind wills. All these it does not always successively, but sometimes simultaneously. From this essential oneness of the mind it will be rightly inferred that there exists a relation, intimate, important and inerasable, between the intellect and the will, and that it will be impossible in tracing that relation to ignore the common relation of these faculties to feeling.

My will is I myself originating action. Its sphere of influence is both physical and psychical. In the physical world all that I can do is to contract my voluntary muscles. In the psychical world I can control thought in four ways. 1st, I can direct my mental operations

by my control of the muscular system. I can bring into use any one of my sensory organs. I can place myself amid surroundings specially favourable to my desired train of thought. 2nd, I can reject one impression of sense or suggestion of recollection after another, dismissing them as irrelevant. 3rd, I can detain before the mind such impressions or suggestions as I wish to examine more closely. 4th, My will can choose from certain formal schedules of knowledge which my mind has acquired in the course of my education. Most of the thinking of an educated man is the application to the matter in hand of one or another of these familiar schemes.

Will, in so far as it is conscious effort, tends to its own effacement. Every repetition of an act makes the act more easy, more effective, and at the same time less conscious. At last the most complicated and exact operations of body and mind come to be effected with unconscious ease. The act has become habitual. The formation of correct habits of carriage of body and of mind in his pupils is the most important of a teacher's duties. It can only be done by enforcing frequent repetition of proper acts, performed in the right way, always remembering that fatigue delays the formation of correct habit.

Will is weak in childhood. The paroxysms of obstinacy, strong as madness, sometimes exhibited by children, are usually a paralysis of will through terror and pain. For the resistance is always silent, sullen, passive. It is an apparent refusal, a real inability to do, never so far as I have seen, a persistence in doing. Strength of will is shown in doing when difficulties are great, when effort must be prolonged, when solicitations to cease are instant, and when ends sought are remote. The will of a child cannot continue to act against pain. It yields easily to fatigue. It cannot resist distractions. It needs present motives.

The effort of will expended in accomplishing a given result can only be rightly estimated when not only the result but the resistance against which the work is done is considered, that resistance being the excess of all dissuasive above all soliciting motives. When in school work we make the tasks of pupils pleasurable, we are diminishing the resistance, and rendering possible greater attainment without increased cost. Every increase of motive towards, every diminution of motive against, labour not merely renders the performance of that labour more probable, it diminishes the expenditure of effort; it helps will. The child is in some respects at a great disadvantage in that work of preparation which is his duty in life. He is labouring for results that are not only valueless to him because of his inexperience, but that are to him too remote to be regarded. The countervailing advantage of childhood is that its wavering impulses and feeble endeavours are steadied and strengthened by the mature will of parents and teachers.

Now, submission to kindly authority is not merely salutary, it is pleasant. A well-governed child is delighted in and by his obedience. The influence of a wise, loving, inflexible authority is an immediate motive, helpful to the weak and vacillating purposes of childhood to a degree so great that it stands in place of that greater power of comprehending future good, and of representing it clearly and forcibly as a present motive that belongs to the matured mind of a man.

Duration is the universal condition of existence. Throughout the world of being to affirm of anything that it has existed in a point of time only, is precisely the same thing as to deny its existence altogether. Existence is conceivable only as protensive. From this condition consciousness does not escape. Consciousness exists only as it endures. An impression that perishes as it is produced is all one with no impression at all. Retentiveness is then an essential property of consciousness, and therefore of that special form of consciousness which is called intellect. But clearly another essential property of consciousness foreruns retentiveness. Impressions must be received in order to their retention. We may conceive a consciousness that is now retentive only. But, though now insensible to or oblivious of impression, once, if but once, it must have been receptive. To us, whose consciousness daily enlarges its sphere, receptiveness is as conspicuous a property of consciousness as is retentiveness. It is obvious that so far as it can be revealed, consciousness in general, and with it the intellect in particular, will be known when its laws of receptiveness and retentiveness are fully known. And the relation that subsists between the will and the intellect will be disclosed when the relation of the will to reception and retention shall have been shown.

Though not strictly accordant to the order of nature, it will be convenient to consider retentiveness first. Retentiveness, as shown above, is essential to consciousness, and not alone to that form of it which we denominate thought. Impressions of every kind endure in consciousness beyond their exciting causes. This endurance is sometimes a continuous persistence of an impression. Dr. Carpenter gives an instance of this. If the clock strikes while one is immersed in reading, attention may be roused only by the last strokes. Yet the aroused reader, mentally repeating the series of strokes thus, one, two, three, etc., will instinctively stop at the right number. But there is another and more important phase of retentiveness. An impression may have seemed to pass entirely away from consciousness. Yet it is not utterly gone. It lies latent in the mind. Years after it has seemed to disappear it flashes back upon consciousness—sometimes we know not how, sometimes in ways that are traceable. In the latter case some impressions recur spontaneously, others are recalled at the summons of the will.

These considerations present retentiveness as a mental faculty—

memory, yielding its stores spontaneously; reminiscence, or when the will demands recollection.

The laws to be enumerated as governing memory are partly applicable to consciousness in general, whether it be feeling or thought, partly to intellectual operations alone. These laws may be given as three in number.

1. An impression is lasting as it is deep. Some experiences plough up a man's being. They remain for ever.

2. An impression becomes more enduring by repetition. An impression is not usually deeply engraved by one stroke, but if often renewed each repetition will deepen the lines until the footsteps of many years cannot efface them. The repetition that favours retention takes many phases. It may be an immediate repetition of the impression in all respects unchanged. The danger in this case is that the will may be less strenuously engaged in the later acts of repetition than in the first. Hence repetitions are often and advantageously repetitions under variation. Here the danger is that the varying accessory impressions may compete too powerfully with the primary impression. Again, the acts of repetition may be merely mental—a recalling of the impression before it has faded. Or again, repetitions that impress may be separated by considerable intervals of time. It is indeed much better to stop when wearied, and return to a subject when recruited, than to persist in repetitions when attention flags. All these acts of repetition are dominated by the will. It is right to attribute blame to those who forget. They remember anything who are sufficiently interested in it to perform the volitional repetitions needed to give depth to the impression.

3. When able to trace the manner in which a latent conception rises before consciousness, we find it to be linked by a common element to some conception that immediately precedes it in consciousness. Whatever conceptions have been before consciousness together, or in immediate succession, so cohere that when one is renewed its attendant conceptions emerge with it. This is association of ideas. The conceptions linked in consciousness are not necessarily associated in the nature of things. Associations may be arbitrarily made by others, as in the learning of our mother tongue; or they may be made mentally by ourselves, as when I firmly fix in my mind together conceptions of some business and of the man with whom it must be transacted, so that my next accidental meeting with him may suggest to me my opportunity. The will thus establishes beforehand such mental associations as are likely to be serviceable, so that a need and the resource that meets it linked together arise in conception together. Education forms such chains of association in the minds of the young as the experience of their elders has shown to be valuable. No effort of will can recall anything unless the links of conception have been

pre-established, and one end of the chain be in hand. Hence, for convenience and certainty of recollection, the utility of binding by many connections each important fact to every related fact.

We now approach our last topic of consideration. How do we receive impressions? and how is receptiveness related to the will?

Professor Bain, to whom I am much indebted for his original and simple analysis of mental operation, has said: "The real fundamental separation of the powers of the intellect is into three facts, called (1) discrimination, the sense feeling or consciousness of difference; (2) similarity, the sense feeling or consciousness of agreement; and (3) retentiveness, or the power of memory or acquisition." And again, "It can be easily made apparent that discrimination is the very beginning of our intellectual life." According to these views of Dr. Bain, then what we have called receptiveness = discrimination + similarity, discrimination being the first act of the intellect. To this I cannot but demur. Both discrimination and similarity imply previous knowledge. Discrimination is a separation between similarity, a partial identification of two conceptions, one at least having been previously entertained and remembered. I know no better name for the act by which the necessary first conception was received than the word intuition, so long in use with similar meaning. I feel compelled to assert that conceptions are received by one primary act of the mind, intuition, and two secondary acts, implying memory of the results of intuition, discrimination and identification.

Intuitions are usually complex. The external world appeals to our several senses, and to each in distinct ways, not necessarily successively but often simultaneously. These complex presentations we disentangle by an act of analysis separating out the distinct elementary notions. But what are elementary notions? How do they agree? How do they differ? The answers to these questions must be brief, and cannot here be argued.

An elementary notion is the notion formed in the mind in response to a stimulus that travels to the brain along a single nervous filament. The notions formed in response to successive excitations of that single nervous filament are alike in kind—they may differ in degree. But there are many nerves capable of conveying precisely the same report to the mind. Whether I touch a given surface with one finger or with another, the mind receives precisely the same information. There are then many nerves of similar office, and we may found identifications on the reports of these similar nerves. There are, however, nerves which, by reason of their terminating in different sense organs, are incapable of responding to the same influences. Moreover, they do not report to the same part of the brain. They are dissimilar nerves. The conceptions formed in answer to their excitation are totally unlike in kind; they can in no way be united by gradation. To blueness and

shrillness there is nothing in common—one conception being in response to the excitation of an optic filament, the other to that of an auditory filament.

When a filament reports variously in succession, conceptions of number and of arrangement in time arise. Every sense, therefore, gives these conceptions. When two or more nerves of similar office report distinctly and simultaneously, conceptions of arrangement in space arise. Touch, including muscular sense and sight, these two only, give conceptions of arrangement in space—that is, of shape, size and motion. Each particular sense gives us its own peculiar information, in relation to which none other can replace it. Taste speaks of sapors, smell of odours, hearing of sounds, touch of temperature, muscular sense of resistance, sight of colours.

Number, sequence, shape, size, motion, taste, smell, sound, temperature, resistance, colour, in their several varieties and degrees, are elementary notions, and exhaust our knowledge of the external world.

All these are received in conscious distinctness when we by the will direct the mind successively to the several impressions of sense. When the will thus uses the senses, sensible objects are analyzed, and this is the only ultimate analysis of an object possible. The results of this analysis are abstractions. It must be remarked that all acts of the mind, except the reception of intuitions through the senses, can be performed with only our recollection of the object before us.

It is evident that analysis—the forming of abstractions—is conditioned on will. One mind loosely holds vague and uncertain impressions. Another has firmly grasped clear and sharply cut conceptions. Both may possess acute senses. Both have minds capable of perceiving—looking out through—the impressions of sense. Both were originally gifted with the power of orderly self-direction which lies at the foundation of precise analysis. But one will has grown strong, being daily exercised in choosing and rejecting impressions; the other will has been enfeebled and grown torpid through long disuse.

Abstractions are retained in memory if the original impression be deep. This depends on the strength of that act of the will that shuts out all competing impressions. But if, through distractions, the first impression be faint, it will be deepened by every repetition. In every act of careful thought abstractions recur again and again. Once having been distinctly presented to consciousness, all the experiences of life renew them. The difficulty is to keep them distinct, and this is secured by the giving of a name to each abstract conception. Every teacher should see that each child is furnished with a vocabulary accurately expressive of every distinct abstract conception given by sense. In relation to early education, the most important of all schedules of knowledge is a scheme, with names, of the senses and their capabilities; and the most important discipline of the will in relation to the

acquisition of science is practice in the systematic and exhaustive use of the senses in the acquisition of intuitions.

Discrimination is the recognition of difference ; it may be difference of kind, it may be difference of degree. Obviously our power of discriminating complex phenomena depends upon our power of separating out and discriminating between differing elementary phenomena. The discrimination of kinds is easy to him who possesses all his senses. It is not difficult to see that one phenomenon has an element which another wants. Nice discrimination consists in distinguishing minute gradations. For this there appears to be a certain original power proper to each individual, and dependent on the excellence of the organ of sense. This physical endowment does not seem to be susceptible of improvement by cultivation. Education, properly so called, does not improve the physical organ. It teaches and trains the mind to use that organ to best advantage. It teaches, that is, it gives information respecting the best state of the sensory organ and the most favourable conditions of employment. It informs us that for acute discrimination the body, and especially the nervous system, must be well nourished and in health; that the organ of sense must be bright and fresh, not overtasked by previous exercise. It teaches us further, that the most favourable conditions of use are the removal of all competing impressions, and the bringing into close proximity in time and space the impressions to be discriminated. But education trains to discrimination by a discipline of the will in causing discriminations to be made over and over again under judicious direction, until accurate discrimination has become habitual. For the will can secure the best external conditions in accordance with instruction given. It can by its own power exclude competing sensations by refusing to attend to them. Thus it sets itself in direct opposition to the tendency of great and sudden differences to preoccupy the mind. Victorious over distractions, it brings into prominence shades of difference undiscernible by the untrained, holding up before consciousness continuously the phenomena to be discriminated.

Identification is the recognition of common elementary abstractions in two complex intuitions. It rests upon analysis even more strictly than discrimination. For two phenomena might be discriminated by the totality of the impression made by each, but identifications can be effected only by the recognition of unity amid diversity. The element of retentiveness is far more prominent in identification than in discrimination. This necessarily. For differences are always established between two. Identifications unite many. An act of discrimination is final. An act of identification is only preparatory. The similarity we at first detect in two things we by subsequent observation find in three, in four, and so on in an aggregation that is never final. So the memory holds as many threads of unification on which to string our accumulating experiences as there are separate abstractions possible

to the mind. Again, each of these separate abstractions noted in our identifications serve as links of association to recall together the several phenomena in which they occur. In other words, like things form coherent groups in the mind. We classify. We substitute conceptions of these groups for the too numerous conceptions of individuals; and so we relieve the memory of a burden that otherwise would become intolerable. Still greater is the relief to memory when we observe, as we constantly do, that our groups have many common conceptions. Then we generalize. And many such generalizations being made, each group is recalled by many associations. In still another mode retentiveness and identification are bound together in a special relation. While we discriminate better with objects themselves before us, we frequently identify better when dealing with conceptions of things. This largely arises from the tendency of differences to obtrude upon and preoccupy the senses. But differences fade and identities become relatively more conspicuous in our conceptions of things.

Rightly has identification been regarded as a higher exercise of mind than discrimination. It engages the analytic power more thoroughly, and exercises memory in a much higher degree. Besides, the results of identification constitute the great and ever-increasing body of truth that belongs especially to ripened culture.

All that has been already said respecting will in relation to analysis and retentiveness applies to identification, and need not be repeated. But the just combination of these faculties in identification must be secured by training. Pupils should be exercised in tracing resemblances between things when differences are not great, increasing the difficulty by proceeding to phenomena that have fewer points of resemblance, and these the result of abstractions not readily made by the untrained mind, as, for example, order in sequence. Such identifications extended to an increasing number of objects must be formally entrusted to the keeping of memory by giving names to classes. The precise use of words is a cultivation of this faculty.

In concluding abruptly, I may be pardoned for saying that I should have liked to resume the conclusions I have reached in such slightly different form as would have accommodated the classification of mental powers adopted by Sir William Hamilton. But the facts to which I have endeavoured to direct attention are independent of any particular terminology of mental science.

The conclusions I have reached will doubtless be canvassed in the light of the intelligent experience of my auditors. Nothing could give me greater pleasure than to learn the results of your thought, for I am much of the opinion that education will be advanced intelligently only when we, as teachers, learn to read the mental habitudes of our pupils in the light of our own consciousness, and bring our individually contributed observations into a common fund—a fund that in the aggregate will be priceless, although no separate offering be large.

PHYSICAL EDUCATION.

A. H. MORRISON, GALT.

All educational processes may be classified under four heads: Physical, which relates solely to the development and training of the body; Intellectual, which embraces those operations necessary for the proper cultivation of the mental powers, so that their possessor may be enabled to fight the battle of life with success to himself and with profit to his kind; Moral, pertaining to the duties of life considered from a social standpoint; Religious, treating of the doctrines of creed, the relationship existing between man and his Maker, and the nature of the service deemed essential to be rendered to Deity by this or that section of humanity. Now, I have arranged these four subdivisions in the above order advisedly; great desideratum as an enlightened and tolerant religion must ever be considered, the religious instinct is not the first developed in man; our creeds are not formed by intuition, but by habit; the masses are not Christian, or Mohammedan, or Pagan through conviction, but by teaching; they are in ninety-nine cases out of a hundred what society or their parents make them. So morality is but a minor phase of religion, a social creed which is the foreshadowing of a Divine One and the outcome likewise of education: in a Christian community forgiveness is considered a virtue, but in a savage one revenge is not reckoned a vice. I doubt whether a South Sea Islander is troubled with any scruples of conscience when feasting upon missionary *à la mode*. Again, intellect must be developed before either morality or religious sentiment can be appreciated; to the mentally unsound all creeds are alike, all forms of morality equally incomprehensible and null. Lastly, I think it not too much to say that without physical wellbeing neither intellectual, moral nor religious perfection is possible. A sound mind in a sound body is an aphorism as old as the everlasting hills, and there is a deep truth contained in the sentiment which all who run may read, for it points to the inevitable conclusion that without a sound body absolute mental, moral or religious wellbeing need not be expected. Is this statement borne out by fact? Cases have been known where, with loss of corporeal vigour, mental activity has degenerated into helpless imbecility, moral rectitude been dwarfed into ethical apathy, and religious fervour supplanted by enervate infidelity or perverted into mistaken sectarianism or fanatical persecution. Every rule has its exception. There is an old saying, the exception proves the rule: there may be a sound body and an unsound mind. On the other hand, I cannot but admit that many of our grandest intellects have been housed in emaciated and suffering bodies. Perhaps the very nature of vast and comprehensive intellectual research necessitates

in some measure this condition; but consider what misery is entailed—how very many great men have been eccentric, singular in their notions and habits, crotchety, dyspeptic, morose, fanatical; and might it not be possible to trace much of this irregularity of disposition to an abnormal condition of mental being engendered or aggravated by disordered bodily systems? Were I to compile a dictionary, I would not hesitate to represent indigestion and ill-humour as interchangeable terms, nor fear to designate persecution by its lawful synonym, bile. Consider some results of physical neglect or abuse, as illustrated by modern biography, Byron, Kirke White, Keats, dying almost in their boyhood, at least before their prime, worn out by their passions or their folly in overtasking nature—for I deem that a man who abuses his intellect abuses his body—it is the body that dies as the result of mental abuse, not the intellect; that, if we are to believe Scripture and revelation, survives—for what would the soul be without the intellect? Here are Milton and Prescott stone blind through inordinate application to study. There, Johnson, with his wonderful learning, a hypochondriac, the result of a diseased infancy and a habit contracted in maturer years of devouring food like a wolf and absorbing tea like a maelstrom. De Quincey, that transcendent intellect, master of English prose as he was, drugged, enervate, almost demented from the effects of opium. Swift dies insane, Cowper becomes a melancholy enthusiast, Hugh Miller and Chatterton commit suicide; Poe, Rousseau, Shelley, Savage, Scott, Burns, stars of the first magnitude, often eclipsed by the clouds of mental and physical suffering. Napoleon, we understand, lost a victory by partaking too freely of a shoulder of mutton stuffed with onions; and Nelson, who was more than peculiar, could not, I imagine, have been blessed with a very vigorous physique. Is it too much to say, think you, that much of this morbid peculiarity and sensibility of temperament was the direct result of ill-regulated physical appetite, or positive physical neglect or abuse? To-day might not much suffering be averted, lives even be spared, by a judicious exercise of the reasoning faculties and a careful attention to bodily welfare?

Man is born a passive agent; he comes he knows not whence, his end is he knows not where; neither beginning nor end are as yet to him appreciable facts. His mental activity has not yet been awakened nor his moral nor religious feelings aroused. The instinct of a physical want is the first instinct developed—it is the first law of nature. The babe cries and makes strange grimaces, or indulges in queer contortions of limb—observe, not because his sensitive and orthodox prejudices have been shocked by the innovations or eccentricities of sectarianism. Not because, having been born an aristocrat and conservative—for all babes are aristocrats and exclusives, even those with pug noses, and conservatives, for they make stentorian clamourings for maternal protection—their political feelings have been outraged by the radical ten-

dencies of cradledom. Not because his language, being as yet nascent, perhaps hybrid, has been misconstrued by the philologists of the nursery. No; it is because he experiences ignoble bodily pain, or suffers the pangs of a vulgar physical appetite, and these need assuaging. Look at our nursery hero and follow him through the ailments of babyhood—the diseases incidental to a maturer infancy and the accidents of youth. Does Madame Grundy complain of her nursling's want of intellectual precocity? No; all her thoughts are centred in the colic. Does Mrs. Gamp fret over the heretical proclivities of her embryo agnostic or latitudinarian? Not at all; her one idea is the cutting of the first tooth. Through what agency does the babe receive his first instructions, and of what do those instructions consist? His earliest schoolmaster is nature, installed in the sanctum of self; his earliest teachings, the results of promptings which are emanations from the simple presence of that same instructor. He stretches his limbs, gapes, opens wide his wondering eyes, snatches huge handfuls of airy nothingness, and environs with circling arms the boundaries of indefinite space. His physical instincts are so grandly and precociously developed that he attempts *per force* to eradicate at one fell swoop every hair from the unhappy head of his much-enduring attendant; sprawling like a Brobdignagian frog on the broad of his back, he makes herculean efforts to insert his great toe into the innermost recesses of his œsophagus, and, supreme and culminating effort of instinctive embryo physical prowess, stretches his puissant right hand towards the heavens and bids to snatch from her exalted throne the luminous Queen of Night herself, doubtless with the catholic and laudable intention of conveying her when captured to that same universal receptacle for childhood's treasures—his cavernous and insatiable maw. Now, what are all these motions and contortions indicative of? Physical progress. The child wants growth. Activity is his religion, hunger his morality, and the deglutition of his doubled fist or the stomachic interment of his big toe his highest intellectual aim in life for the time being. Before a religious sentiment is formed, a moral attribute developed, an intelligible sound uttered, physical need is felt, muscular force exerted, and animal growth instinctively provided for and attained. The teaching, I think, is plain that as physical need is the first experienced, if the infant is to pass from healthy childhood to robust youth and perfect maturity, this need must be carefully and persistently administered to through life, till at length all necessity for such shall cease with the cessation of the great boon of life itself. Though, strange to relate, even with death physical development and effort only cease to exert an influence so far as self-exertion and individual volition are concerned, indirectly the process of physical effort in connection with this same being goes on. The body has to be removed and interred by alien physical intervention. Physical forces disintegrate the substance of the now inert and mouldering clay, re-

ducing it by chemical analysis to its constituent elements and dispersing these through space. Physical agency at once commences the work of reassimilation. These same elements are once more by sympathetic processes converted into organized fabrics, which live, and move, and develop and exert organic force in turn, thus continuing the process of physical culture in different forms or orders of being, through the circling æons of all time to come.

Admitting the teachings of Holy Writ and the doctrines of Christianity, our souls have been bequeathed us to save, our minds have been entrusted to us to improve, our moral perceptions have been given us to perfect. But the body is the casket of these separate treasures. So far as this world is concerned, and so far as we are cognizant, no soul, no intellect, no moral nature, can exist irrespective of corporeal agency, and therefore I take it for granted that our first and holiest care should be the preservation and improvement of this human form divine, on which the image of animated superiority is indelibly stamped, and without which we cannot even exist as vital, sentient beings.

Speaking from a Public School point of view, I maintain there are defects, and grave ones, in our methods of treating each one of the correlative branches of general education already alluded to. With intellectual, moral, and religious culture here, however, I have nothing to do. With regard to physical training, I think I am safe in saying that in our Public Schools, especially those in country districts, there exists a great necessity for the introduction of some definitely planned and well-conducted system for corporeal development and muscular exercise in a certain direction—I say in a certain direction, for mere bodily vigour, concentrated brute force, can be obtained irrespective of true physical culture in a variety of ways—at the blacksmith's anvil, between the plough handles, swinging the woodman's axe, etc. Physical culture has for its aim higher developments. Strength and vigour unquestionably, but trained strength and systematized vigour. Enduring hardihood certainly, but organized and educated hardihood. Muscular development and physical prowess indubitably, but muscle companioned by grace, and prowess associated with dignity of comportment and elegance of motion. A sledge hammer, though a powerful and a dangerous weapon, is but a blundering and plebeian instrument with which to perform the exploits of a hero on the battle-field. The keen and polished rapier made of tempered steel, which will bend double at a turn of the wrist, has yet strength sufficient to accomplish the same end with infinitely less labour and with far better grace. What are we to understand by physical education? Why, the training of the body irrespective of the mind by certain well-fashioned laws of exercise —exercise which indulged in tends to promote corporeal growth, to strengthen and develop nerve and muscle, to expand the lung system, to enure the body to hardships under which an unseasoned or debili-

tated frame would succumb, to fortify it so as to enable it to resist the insidious attacks of disease, to make it in short a fit tabernacle for the reception of a strong and useful intelligence, capable of permitting the full exercise of that intelligence without endangering bodily health or mental acumen, able to defend itself in case of need from exterior inimical influences, and while accomplishing these objects to acquire simultaneously grace, ease, dignity, to the end that a healthy human form may be rendered a fit associate of a healthy human mind. I am hardly yet prepared to say whether I do or do not advocate the Darwinian theory, "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy." I, in common with most of my countrymen, confess to prejudices of ancestry. I am willing and ready at any moment to believe that my paternal ancestor in the long ago was John of England, who was a murderer, a liar, a craven, and a renegade; or that I am maternally related to Boadicea, who was doubtless a half nude, wholly uncivilized, vindictive Amazon. Even Bloody Mary, the most despicable woman who ever assumed the English crown, would look well as an eighteen hundred and eighty-first cousin. I am not so certain whether a paternal gorilla or a maternal chimpanzee, however guiltless of treason, bigotry or bloodthirstiness, would fit the easy chair of ancestry as well. But, joking aside, I *am* prepared to admit this at all hazards, that the ourang-outang is the natural effect of a natural cause. That the ourang-outang is at best but a poor mathematician—natural, too, you will say. That the merest tyro of an ourang-outang as an athlete would knock our doughtiest gymnast—if I may be allowed the expression—into a cocked hat, and this, I presume, is natural also. I never heard of an ourang-outang—unless in confinement—suffering from gout, indigestion or the blues—natural again, altogether natural. Nature then is evidently the true mother, the true nurse, the true first preceptress; *ergo*, we should obey the teachings of nature and follow physically the example of the ourang-outang, spend much time in the open air, take a large amount of exhilarating out-door exercise, run, leap, swing, climb; live temperately; religiously, abjure strange gods and the worship of individuals in creeds; socially, renounce class prejudices and backbiting one's neighbours; morally, abolish whiskey stills and their associated evils; intellectually, reject competitive examinations as tests of scholarship, and too much mathematics as an intellectual cultus, and go a step farther, wear a remnant besides our own hair. Pay school teachers decent salaries, and study the humanities, but not to the perversion of our intellects or the deterioration of our muscular systems; of such folly even an ourang-outang would be guiltless.

I must say I am not an advocate for muscular Christianity; I may add, I am no admirer of an awkward, shambling gait. I have been lately led to ponder upon this subject of gait by the strange opinions

which, during a residence of three or more years in the country districts of Canada, I have heard time and again formulated by country residents. There seems to be an idea prevalent that a perfectly upright, free, confident carriage; is inseparable from pride and self-conceit. This is no mere fancy; the sentiment has found expression in words over and over again in my hearing. Conversing one day with an old resident, our conversation happened to turn upon a young man of my acquaintance, a farmer's son, who had received a tolerable education, and who was by far the smartest-looking young man about those parts. "Ah," said my companion, "he is too big for his cloth, he walks as if he owned the whole world." The stricture was a most unfair one.

I have not known whether to be more amused or angry at such and similar utterances—promptings of an ignoble or perverted taste. I suppose it has become so much the fashion in country districts for youth to struggle from the cradle to the grave with "lack-lustre eye" and hand in "poke," that anything in the shape of an erect posture, swinging gait, and independent front is looked upon as an abnormal and offensive state of being, a metaphysical challenge to personal combat, or an unspoken assertion of physical superiority, and this because one presumes to lift his eyes above the level of the rut, and prefers to swing his arms in the glorious daylight rather than bury one half of them in the cavernous recesses of his breeches pockets. Now, I would ask, is an erect carriage a fault that it should be thus censoriously criticised by any section of a civilized community? In the beginning God made man, and He made him a little lower than the angels. He made also the beasts of the field. But observe the difference. He placed man erect, firm planted in such a position that without effort or diminution of grace he could lift his god-like front and scan the heavens—the wide-spread epitome of all that is loftiest and most wonderful in the created universe; but the beast, grovelling on all-fours, progresses ever with face to earth, its present home and type of its grosser and irrational nature. Let me here put a leading question. Is an upright, dignified carriage consistent with healthy action? is it a thing to be desired in itself as a mere means of locomotion? With regard to the first point, I unhesitatingly answer that there can be no really healthy action, no physical perfection, without erect, free, open-shouldered carriage; and as to the second point, I think it very much better to progress through life as though unburdened with any particularly heavy load of conscience, than to grope from infancy to dotage in a position which might lead the uninitiated to suppose we were staggering under plethoric sacks of individual iniquities committed in the flesh, weighing us to the earth, or, in the anticipation of our *particular* friends, possibly still lower. I do not think I am using a too severe form of expression when I denounce the carriage of the majority of

our country school-going youth as slouching, and this careless, awkward, inelegant gait is obviously the result of a want of proper physical training. Where will you find a firmer tread or better port than in the ranks of the British army? As a stranger and an American has well said, the British soldier has the swing of conquest. He should have said rather, he appears to have the swing of conquest—but it is in reality the swing of the parade ground and the drill shed. Yet from what class are the ranks of the British army largely recruited? Why, from the very class we have now under consideration—young men engaged in rural pursuits, whose gait, as I have had ample means of witnessing, is at least as clumsy and heavy as is that of the occupants of Canadian farm lands. A few months or years under the drill instructor converts the green, shambling, ungraceful rustic into the trim, erect, alert warrior. A wonderful metamorphosis truly, and one which would have been still more thorough had the change been effected in earlier youth. I maintain that the erect position is the normal position of man. When the body is upright, the shoulders well back, the head erect, there is more room for the lungs to perform their office, the limbs fall more naturally into position, the vital functions of every member are more regularly performed, and this erect, easy, graceful, and withal natural and healthy position, can be acquired by training, or can be lost for want of proper culture. I deem that in one sense at least men, with few exceptions, are born equal, with like physical instincts, with like corporeal parts, which can be educated and perfected. Why, then, do we see one man, say at the age of twenty-five, walking like a hero of romance, and another, at the same age, slouching like a Californian hoodlum? Because probably one has paid more attention to physical development, or has at least not been influenced by agencies antagonistic to such; the other has neglected physical culture, or has had to follow a vocation inimical to healthy physical development. It has been a recognized axiom with all great thinkers for many centuries that bodily training should go on concurrently with mental exercise. Montaigne, a celebrated French moral philosopher, who lived in the 16th century, was a strong advocate for physical culture. He says, "We have not to train up a soul nor yet a body, but a man, and we cannot divide him." Locke, again, the author of the *Essay on the Understanding*, advises plenty of out-door exercise with plain food, and condemns the practice of straight lacing and tight clothing. Pestalozzi and Frœbel, the great fountain-heads of popular education, combined, as you all know, intellectual culture with physical exercise in their methods of tuition. And Rousseau, in his Treatise on Education, says, "Nature has destined us for the offices of human life, antecedently to our destination concerning society. *To live*, is the profession I would teach him (alluding to a youth). *Let him first be a man*; he will, on occasion, as soon become

anything else that a man ought to be as any person whatever. Fortune may remove him from one place to another as she pleases; he will always be found in his place." It has thus become a recognized principle in all modern educational systems, that no course of instruction can be regarded as thorough unless it includes some provision for the exercise of the physical energies as well as means for the development of the mental faculties.

Granted, then, that physical training of some sort is an absolute necessity in our school curriculum, that the body must be developed concurrently with the mind, how shall we best effect this object?

In the consideration of physical education taken in connection with our Public School system, there are four phases of the subject which should come under discussion:—

1st. Position in school, sitting or standing.
2nd. Change of position in the schoolroom.
3rd. Systematic out-door exercise—gymnastics.
4th. Systematic out-door exercise—drill.

In thus dealing with the subject, I presuppose suitable school accommodation, adequate ventilation and every necessary appliance for at least personal comfort and healthy in-door action. I also take it for granted that when speaking of physical culture, all these influences are included in the term which combine to produce a healthy, vigorous frame with an active, graceful deportment. Assuming this much, we may be readily enough led to apprehend that there are two phases of physical education, an indirect and a direct one. Under the first aspect I propose to discuss Nos. 1 and 2 of my aforenamed subdivisions, and under the latter Nos. 3 and 4. But first I would like to define the term "indirect physical education." It is simply this, that positional training, which, without being *special*, is, or should be, conducted at all times concurrently with whatever other *special* subject of instruction may be the theme of discussion. It relates chiefly to attitude and personal demeanour in the class-room—positions, in fact, when the body is absolutely quiescent, or when motion is limited to the simplest movements made involuntarily for mere change of posture, or under the direction of the teacher for purposes of class recitation. What can be more painful to the senses of a disciplinarian upon entering a schoolroom than to see one scholar sprawling over his desk like a gigantic human frog, and another huddled into a heterogeneous mass of flesh and small clothes not unlike a sitting anthropomorphous hen; a third with legs extended or doubled under him, as the case may be, hands in the inevitable pocket, head sunk low between elevated shoulders, hair standing erect like quills upon the fretful porcupine, is contemplating with a malignant frown or a harmless stare of innocent vacuity three-eighths of a third reader or four-fifteenths of an authorized misspelling book; a fourth, again, with elbows on desk and head buried

between hands, whose complexion eloquently, though tacitly, establishes the truth of at least one inspiration of Holy Writ, "Dust thou art, and to dust shalt thou return," or to mud pies; is evidently seeking to imbibe the rudiments of knowledge as the celebrated character in Dickens' "No Thoroughfare" imbibed moisture through his pores, situated in this case at the extremities of those necessary and often denuded joints which now make dimples in the soiled and dog-eared page before him? Let us turn to a writing lesson. How often do we see our pupils with elevated shoulders, contorted nether limbs, crooked fingers and mouths to match, eyes close to book, painfully attempting to delineate characters which they find it impossible to form aright from the very perversity of their positions? But setting the possibility of correct penmanship aside, how injurious to health must these unnatural and inelegant positions be! what habits of laziness do they engender! and of what physical evils may they not be productive!—round shoulders, weak chests, defective vision. In standing classes the same evils in varied forms may be noticed. Here we have one ambitious youth striving might and main to emulate the grace and dignity of deportment of that amiable, if unpretentious, barn-yard fowl, whose cackling, we are told, once saved the Capitol, by balancing himself on one leg. There a girl, too enamoured of her sitting place to part with it entirely, clutches the cross-bar with a fond desperation, or leans with insouciant ease against the side of the desk, without whose kindly aid she would certainly sink enervate and prone to mother earth. So many men so many minds seems here to be travestied, and so many pupils so many positions is the experimental apothegm of the hour. All this is wrong, and demands remedying. I think it not too much to say that something of true physical culture can be communicated at the desk or in the recitation class. Scholars should be compelled to sit naturally, gracefully and easily, and to stand erect, heels together, toes out, shoulders back and head up; such training is but a preliminary step to the gymnasium or drill-ground.

Secondly.—It is the fashion in many graded schools to permit scholars in the advanced classes to occupy their seats without change of position, save that incidental to purely mechanical desk movement, from the time they enter the class room till the hour arrives for them to disperse for recess or for dismissal. Does not this fashion of itself encourage in youth an idle, slovenly, often listless and sleepy habit? Speaking for myself, I feel it burdensome to sit in the same position for two hours together. I believe many of my professional brethren—voluntary students—will have experienced the same restless longing for a stretch and walk round after an hour or two's intense application to study. What, then, must it be for youth—lively, mercurial, energetic youth—to be thus cribbed and doomed to durance vile? They write sitting, they read sitting, arithmetic still sitting, geography,

history, etc.—all sitting exercises. I think that even with our most advanced classes such a course of sedentary discipline is hardly judicious. Change is a law of nature, an imperative necessity with young nature. Half of the school-room languor, ill-performed recitations, covert mischief, etc., more especially in sultry summer weather, is directly traceable to the inert and positively hurtful custom of planting our scholars like celery in trenches, and dropping upon their devoted heads loads, not certainly of earth, but of foul air, and leaving them to vegetate and bleach and assimilate all indigestible elements, without once stirring their inactive forms with the hoe of reason, or refreshing their stultified intellects with an enlivening douche from the can of common sense. I really think that movement—regulated, systematic, unostentatious movement—should be a feature of class routine from the lowest to the highest grades. Change of position, especially in warm weather, is essential to continued effort, healthy tuition, and alert, open-eyed application. So much, then, for indirect physical culture, or the physical culture of the school room. Let us in the next place proceed to consider what means are to be adopted directly in furtherance of the same object.

Subdivisions 3 and 4 of my text treat of out-door exercise—trained exercise. And first as to gymnastics. Running, jumping, skipping, snowballing, lacrosse, cricket, boating, etc., etc., are all good aids to physical culture. Were all boys and girls constituted alike, and did like athletic tastes prevail the year round, these means might prove sufficient wherewith to develop at least a moderately robust physique, and maintain a normal state of healthy being. Unfortunately, all boys and girls are not constituted alike. We have the mercurial, all activity and vim; the ordinary, all method and mediocrity, in school and out; the studious, all black letter and white paper; the shy, the retiring, the melancholy, the delicate, all nervousness, diffidence, mope and biliousness. Again, sports—even healthy boy-like and girl-like sports—are mutable. The skipping rope has to be changed for tag; tag is eventually discarded for puss-in-the-corner, which in turn has to succumb to the prowess of something less rompish and consequently more sedentary. There comes a time when even the vivacious, bright-eyed darling of the chevy ground or the steeplechase course is seen suspiciously lurking in shady corners, and stooping with dubious moral intent in dark and uncanny spots, over secret and occult delvings in mother earth. The cabalistic sounds of knuckle-down, and taw, and fudge, greet the ear of the tutorial detective on his casual beat through the haunts of the idly-busy young tenants of the playground. The open is deserted, every fence has its row of juvenile human wall-flowers, who blossom in groups, in lines, in couples, even in units, all intent on the same fell purpose. No longer do we see twinkling feet speeding across the green sward, leap-frog is dead, baseball buried, and the

whole family of cognate recreative pastime in deepest mourning. Hour in and hour out the devotee of taw stands, sits, kneels, bends, stoops, squats—now shivering, now glowing, now despondent, now jubilant, according as cold or warmth, loss or success, acts upon his external frame or inner emotions. It is the marble season; it comes as regularly as the March winds or the measles, the spring bonnets or the summer roses, and while it lasts, good-bye to healthy, racing, open-shouldered exercise. It is at seasons like this, and more particularly with certain classes of scholars, that the need of some compulsory means of hygienic exertion is best appreciated. How many schools are there in the Province of Ontario with even the faintest elements of a gymnasium attached thereto? Even in those which happen to be supplied with bars and poles and similar apparatus, how many scholars avail themselves of the opportunity afforded of using them in a systematic manner? How many among their preceptors are competent to give instruction in the simplest athletic movement, or to supervise an elementary gymnastic course? It may be answered, the preceptors are not engaged to instruct in physical athletics; the athletics of the brain are all they are required to supervise and direct. So much the worse for instructor and instructed. But with regard to the apparatus—could not a few bars and poles be erected and ropes suspended without entailing ruinous expense on the ratepayers in every school yard in the Province? Could not a few simple yet healthy movements be taught to the scholars without necessitating a very deep insight into the laws of athletics? No matter how humble the apparatus, no matter how elementary the instructions, could not every pupil, boy and girl, be compelled as a matter of duty, where such apparatus is provided, to perform occasional exercise during certain days of the week.

Upon one most vital topic in connection with gymnastics I would like briefly to touch—I allude to the art of swimming, or at least to the method of preserving life while in a state of immersion, voluntary or involuntary. The blindness of humanity in some respects has become proverbial; it is amazing and utterly incomprehensible. Our nationality is threatened by exterior and inimical influences—the voice of warning goes forth, and tens of thousands of bristling bayonets line our defiant shores to resist the aggressor. A disastrous explosion occurs in a coal mine through the destructive agency of fire damp, and a Humphrey Davy at once sets his scientific constructive genius to work to invent an instrument whose use shall tend to avert such calamities for the future. A stately man-of-war with her noble crew founders some murky night in the tempestuous waters which lash a rock-bound coast, and the inventive wits of ship-builders, engineers, and philanthropists are at once enlisted on the side of humanity—with what results? Watertight compartments, magnificent lighthouses, life boats, floating beacons —life-saving apparatus of every kind and degree is multiplied. News

of a terrific railway accident is telegraphed through the length and breadth of a startled continent, and measures are at once adopted to prohibit undue speed, check negligency of officials, repair roadways, perfect signal codes, compensate sufferers. A pleasure boat, out under a sunny sky, floating on an unruffled plane of azure, freighted with thoughtless, happy, priceless human souls, capsizes through inadvertency, neglect, or over-crowding, and those souls are hustled into eternity. A sigh of horror is wafted to the ears of the shuddering public, which lingers for a brief instant and then dies away ere the ripples have well closed above the spot from which the poor human forms bereft of life have been lifted for the last time to the light of heaven; and what measures are taken to prevent a repetition of this most awful catastrophe? None; none that are truly effectual. Laws may become for a season stricter, vessels examined a little more closely, avaricious owners of unworthy craft forbidden, under the minacious terrors of a possible penalty, thus to admit humanity by the gross into the most awful arcana of the invisible world at such a ridiculously low figure as twenty-five or fifty cents, or perhaps a dollar, a head. Think of it—the beginning, a *cheap* holiday excursion; the ending, two hundred open graves and the funeral expenses, and then the waste of tears and life energy and heart action; these

> "Sudden partings, such as press
> The life from out young hearts, and choking sighs,
> Which ne'er might be repeated."

Repeated! What decisive and effectual step is ever taken to baffle the destroyer's death and greed, and rob them of their victims? Another bright day, another tempting way-bill, another holiday crowd. Hoary age and russet prime, golden youth and rosy childhood, step on board, all flutter and excitement and high hope. How many as individuals able, if occasion requires, to strike out a limb to save themselves if suddenly immersed in the treacherous element which now woos them with its placid smile; how many so inured to the contact of the water that mere presence of mind will suffice not only to prompt exertions for self-preservation, but will prove efficacious to withhold the deadly clutch which drags down a fellow-being to his death, who, unencumbered, had been able to save himself and perhaps others? It is time, and high time, that something were done in this matter. Why, a dog if thrown into a pond will paddle to the shore, and is a rational human being less able to preserve his invaluable life than a dog? London disasters with their manifold editions are becoming too notoriously frequent, and, I repeat, something should be done to compel humanity, especially young humanity, so to train itself that under exceptional circumstances, and in a foreign element, it may not hopelessly founder like a waterlogged hulk within sight of the smiling earth and the glanc-

ing sunlight, and the hills which possibly circle the home where loving hearts are anxiously awaiting the return of—what?

There is but one way to avert these terrible visitations. All the boat-building and examining is futile. The remedy must be with individual self. Life preservers cannot be forever around the necks of pleasure seekers; these must carry with them at all times prompt, in all emergencies, a trained and ready self-possession and a physique so educated that if need be it may, if only like the brute, be taught to make an effort for the salvation of its animating spark of life, and not sink like a stone beneath the eddying waters of a despairing death.

To my next and last subdivision, No. 4, which treats of drill, I would also direct special attention, both because drill can be efficiently taught without other apparatus than the natural mechanical belongings of the human body—to wit, legs and arms—and need not necessitate a very recondite knowledge of abstruse professional technicalities. Drill is of all agents for out-door physical instruction the one *par excellence* for any school, of any nationality, in any climate. If there is a means of building up a man's physique more than another it is drill. If there is an artist more competent than another to put the finishing touches to that sentient statue of clay, which, rough moulded, has been handed in for completion and polish, it is the qualified drill instructor. What says La Rochefoucauld, that shrewd, calculating intellect and master of human nature, in No. 393 of his celebrated Maxims: "L'air bourgeois se perd quelquefois dans l'armée, mais il ne se perd jamais à la cour." And how is this cockney, or, if I may be allowed the enallage, *slang* air lost? Why, by the manly, independent, morally elevating nature of the discipline which is received through the agency of this same drill instructor. In his hands the veriest clod, the most plodding plod of the plodding sons of the ploddingest population that inhabits this round earth, the English rustic, and I, their countryman, say it, may be, and is frequently, transformed, under that magic wand, the military pace-stick, to something having the shape of a human biped. Hodge the ploughman, though he shamble like Ursa Major, or shuffle like a seal with the elephantiasis, may be taught to stand erect, be led by the loving voice and gentle hand of martial authority—supplemented, if need be, by the salutary dread of a tête-à-tête with an offended and avenging adjutant—to contemplate loftier objects than the toes of his high-lows. The magnetic affinity which is ofttimes observed to exist between his fraternally inclined knee-joints may be overcome by the force of moral regimental suasion, and the clodpole who, upon his first appearance upon the parade-ground in all the panoply of warlike vestments, might not inaptly have been taken for a human embodiment of the old-time fable reversed, viz., a sheep in wolf's clothing trussed for the slaughter, not of national enemies, but of himself, turns out in very fact, after a reasonable interval of judicious discipline, to have

been intended for a man and a brother indeed, supreme and culminating effect of modern military evolutions—the Darwin of the drill-ground has reclaimed and classified the wild man of the turnip-fields.

In the military schools of the British army, at least while on foreign service, half an hour—usually the last half hour of the school day—is, or used to be, set apart for physical exercise, under the systematic direction of the schoolmaster and his assistants, a plan, I think, which might be followed with advantage in schools which are non-military. I see no reason why boys and girls of all ages should not be drilled. Drill might be made a part of the regular school curriculum. Half an hour daily, or say three times a week, in fine weather, might be set apart for this exercise.

It is not, be it observed, a difficult task to master the rudiments of military movement; it is far from being an unpleasant one. Healthy, manly, captivating, there is no bodily exercise which so trains the limbs and muscles, no species of physical discipline with which is connected so salutary a morale. It is the stepping-stone to military renown—the germ of national independence and self-existence—the fountain-head of its prestige, and has been ere this the foundation on which has been raised the glorious structure of civil and religious liberty. "The British soldier has the swing of conquest," remarked General Grant with admiring emphasis. He has, as I before observed, the swing of the parade ground, which trained him to conquest. Without hesitation, I affirm that many of our greatest victories have been the results of an incomparable system of army discipline—many of our lamentable reverses directly traceable to a lack or relaxation of it. I do not intend to enter into any very lengthy argument here as to the advisability of this or that method of drill—any drill is good; I would merely lay down as a broad and fundamental principle that drill, including extension motions, marching, simple evolutions, etc., might be introduced with advantage into our Public School system; it might be conducted under the supervision of the ordinary teacher, during a part of the ordinary school day. With the assistance of a good book—such as, for instance, the little manual compiled by Mr. Hughes, Inspector of Public Schools for this city—any individual of ordinary capacity, and with a will, might soon render himself competent to instruct a class of boys or girls, or both, and the results, I conscientiously believe, would soon be evident in a firmer tread, a more erect and open carriage, a bolder front, a more dignified personnel, a healthier physique. Such absurd remarks as "he walks as if he owns the whole world" would cease, or, at least, would cease to bear an invidious meaning, and all appearance of a desirability to become sole proprietor of the nethermost portions of this material universe would vanish too. It may be asked, "How shall we find time for this innovation? We have already a full programme." Admittedly so; by far too full. So

full, that the fragile craft of elementary instruction is already settling under the freightage.* Oust, I unhesitatingly say, one of our half-hour subjects. Renounce for thirty minutes per diem whitewashed walls and philosophic speculations, and devote them to the light of heaven and physical development; throw ologies and onomys to the winds; let the laws of natural philosophy at this stage give place to the laws of natural, healthy action and growth. We have too much cram and too little digestion; our entrées are too numerous; but where is the *piece de resistance!* Are stultified intellects and unhealthy frames any compensation for a smattering knowledge of geometric deduction, or a bowing acquaintanceship with the signs of the zodiac? Subject is crowded upon subject, algebra follows arithmetic, geometry runs amuck with algebra, mensuration handicaps geometry, and so on, *ad infinitum*, till bewildered childhood wonders, with the English charity boy, who it appears found some difficulty with the alphabet, whether it is worth going through so much to gain so little. Give our pupils a taste for sensible reading, a taste for virtuous enjoyment, a taste for physical culture, and we may not indeed have manufactured a perfect humanity in embryo, but we shall at least have put a good many of our fellow-mortals in the right track to become enlightened, healthy, and happy members of society.

Do not misapprehend me. I do not undervalue mathematics—far from it—but for childhood I value language more. Is it not a pity to see a young man or young woman able to solve an equation and unable to speak grammatically, to read fluently, or to compose correctly? I, like Oliver Wendell Holmes, have an immense respect for a man of talents *plus* the mathematics. Shakespeare and Milton are great, but honour be to Newton and to Herschel. I speak only according to my convictions when I say that to language should be accorded the first place in primary education, and in an elementary school there are many things of more value to the ordinary scholar than mere mathematical formulæ. For why? The average pupil must talk and read to the end of time, but how many require euclid or algebra in after-life?

There is an eternal fitness of things, and, in a country like Canada, to stuff an ordinary girl's head with mathematics when she cannot by any written or unwritten formula whatsoever make her own garments, or initiate her into the mysteries of the corn laws when she cannot so much as bake a loaf of bread, is, I deem, an eternal unfitness—'tis "wasteful and ridiculous excess" indeed. Teach her how to stand, to sit, and to walk like a rational human being with an immortal soul, to talk without murdering the Queen's English or vilifying her next-door neighbour, to read fluently and intelligently our best English Classics, to total up correctly an ordinary market account, to demean herself gracefully and modestly before all men, to fit herself for the highest duties of life which the Almighty has designed erring humanity to

perform as loving daughter, as tender sister, as devoted wife, as "ministering angel," woman! We shall have better maidens, better matrons, and, if need be, better heroines. I am aware that I am treading on dangerous ground. There is at present a strong advocacy for higher female education. I say nothing against it for a certain class. Let those who can afford time and money—the latter always an essential, be it borne in mind—obtain the highest education that money can procure or time admit of, and God prosper them. I advocate the cause of those who can never reach a high education, whose paths lie apart from the din of the great world. I speak not on behalf of the favoured few, but of the lowly many, who will not, cannot hope to attain to anything beyond a common school education. We the educators of such have a sacred duty to perform. The many and the lowly are *our* clients, and how shall we, their advocates, account to our consciences in the silence and the gathering gloom of the twilight, if, under the noon-day sun, we neglect our noblest, our holiest trust, and apathetically or ignobly refuse to lift up our voice in earnest, heart-felt pleadings on their behalf?

THE MORBID RESULTS OF PERSISTENT MENTAL OVERWORK.

JOSEPH WORKMAN, M.D., TORONTO.

It is a matter of too much certainty that you are all well acquainted with the tremulous condition of those idle boys who present themselves in class with badly prepared lessons. I am not sure that you often apply your ears to their chests, to listen to the rapid and tumultuous beatings of their affrighted hearts; but if you ever indulge in this deviation from magisterial dignity, you will be able to form some conception of my present trepidation, when, on the verge, if not indeed over the threshold, of second childhood, I present myself as a reader before an assemblage such as this—an assemblage which I might not hesitate to style the "assembled wisdom" of our land, did I not know that this designation is usually given, and not always in a respectful sense, to a very different, though by no means a more useful, body of public servants. In our mother land we were wont to hear of the three estates of constitutional authority—King, Lords and Commons. We know that the Press has taken to itself the title of the Fourth Estate. Let us hope that it may not aspire yet higher, and let us leave it, therefore, undisturbed in its glory. But does not our Ontario constitution present a vacancy? We have no Lords. Why

then should the modesty of our order demur to acceptance of the vacant niche? I would be sorry to know that you, though the real moulders and founders of our national strength, should usurp a loftier position, for we cannot with safety abandon the palladium and only true safeguard of *our* constitutional liberties, our cherished limited monarchy, even though we continue to see it represented but in miniature resemblance. But seeing how largely your body is now constituted of ladies, who, we all are constrained to admit, are the rulers of the lords of creation; and knowing, as we all happily do, that the British throne has never been more wisely, more ably, or more virtuously filled than by our present gracious sovereign Queen Victoria, may I not trust that my suggestion of your acceptance of the title and dignity of our third or second constitutional estate will not be declined, merely because some few recalcitrants among you, of the male persuasion, may still be reluctant to enrol themselves as women's rights men? Well, be your decision what it may, and be the estimation by your fellow-subjects of your intrinsic worth and your public service whatever a high public intelligence may award to you, or a low vulgar instinct may deny, I, for one, would have every member of your noble band feel that your calling is one of the very highest excellence and usefulness, and that every member of it is honourably bound to contribute his quota to the augmentation of its treasury of well-earned public esteem. To you society is unquestionably enormously indebted, but you are not to forget that this indebtedness has accumulated from the hard industry and untiring zeal of your meritorious predecessors; and he who contributes not to the fund of honour can draw no honour from it. Every calling in life is honourable only in proportion as it is honourably filled.

When I look back over my two and fifty years of residence in Canada, of which forty-five have been passed in this city, and try to compare the present state of education with that which then obtained, I feel utterly bewildered, and almost inclined to question the continuity of my own identity; yet I have a lingering consciousness that however changed have all my surroundings become, I am still the same personality as I was when Toronto had only 9,000 inhabitants, and not one public *city* school. At that time, indeed, Upper Canada College had been a few years in existence; but, as we all know, it was doing, as in truth it was expected to do, nothing in the line of common elementary education. We had, however, two lower public schools, one called the District Grammar School and the other a District Common School; the former was located in an old shaky wooden building on the corner of Nelson and Marsh Streets—now Jarvis and Lombard Streets,—the other on the corner of Nelson Street and Newgate, which was soon after raised to the dignity of Adelaide Street; the latter edifice was a worthy associate of its adjacent sister. Rennie's seed store now occupies its site. There

were a few useful private schools in which the children of our shopkeepers and well-doing mechanics picked up, and their parents paid for, such an education as in those days of frugality and unfledged scholasticism served their turn passably well, and enabled them to keep their accounts quite as correctly, and to steer as clear of bankruptcy as their descendants in later years have done.

As to distinct schools for girls, or, as we now have learned to style them, ladies' seminaries, I can say little, and I believe their paucity left little to be said. I remember, however, one. It was kept by a talented lady who did her work well and unostentatiously. I well remember two pretty bright boys, sons of this lady, whom I used to see accompanying her and their father to church. I have no doubt they received from her their earliest elementary lessons, and she must have so taught them as to inspire their young minds with an abiding love of learning, for in after years they attained to eminent distinction in their University curricula, and both have since achieved and adorned very high positions in public life. Their father never blushed to be reminded that his wife had once taught a school, or to know that to her good sense, industry and conjugal devotion, he was himself, to some extent, indebted for the acquirement of an honourable profession, in which, by his assiduity, integrity and superior talents, he earned for himself a reputation which led the way to his elevation to the highest judicial position in the land.

The inception of our system of city common schools took place in the year 1844, when the population was only 18,500. I had the honour of being one of the first elected, or appointed, trustees. We had then no school-houses, and we had to content ourselves with rented rooms, or small frame houses, in the several wards of the city. In the ward of St. Lawrence, which, in conjunction with the late Dr. Widmer and Wm. Cawthra, Esq., I represented, we hired two rooms on King Street east, and we selected for our first teachers one Mr. Mair and his wife, to whose memories I would here pay the tribute of well-merited acknowledgment of their ability and able service. I am sure that I do no discredit to our present educational staff when I say that as a teacher of writing, and of the most useful branches of common school education, Mr. Mair might justly be classed as *secundus nulli*, if not, indeed, *facile princeps*.

In the other city wards the commencement and the progress were similar. It was not until a change was made in the school law, by which the ward trustees were organized into an authoritative Board, that any movement could be made towards the erection of school-houses. The first built were those of the Park, George Street, and Louisa Street. Others followed at discreet intervals; and now I am pleased and proud to see, by the last issued report of our able Inspector for 1879, that, exclusive of the three charitable "Homes" of the city,

the number had risen to twenty-one, and I believe augmentation is still progressing. When I try to compare these schools, as regards their size, elegance of structure, neatness of surroundings, and internal arrangements and furnishings, with the corresponding conditions of those of my early observance, I feel almost as much astonished as if I had landed from a balloon that had carried me from some distant sleepy land, where the schoolmaster was a rare phenomenon, or but a flitting bird of passage.

And it is not in Toronto only, or in our other cities and large towns, that this wondrous change has taken place within the last thirty odd years, for our whole country is bespangled with neat and substantial school-houses, and an education which in my early days would have been regarded as the privilege of only the children of the rich and high, is now attainable by those of every class in society. Surely so marvellous a transformation cannot have owed its accomplishment to any catenation of accidents, or any progression of evolutional spontaneity. It would be just as reasonable for an admirer of the British Constitution, or of the edifices of St. Paul's in London and St. Peter's in Rome, to imagine that the former had framed itself, or the latter had built themselves, as to suppose that our great common and high school system has been a thing of mere spontaneous development. Just as surely as we owe our present liberties to great thinkers, hard workers and many hard sufferers, and as surely as St. Paul's needed a Christopher Wren and St. Peter's a Michael Angelo, and both these many intelligent and faithful assistants, for their erection and completion, so surely has the noble fabric of our school system been the work of a far-sighted and long fore-sighted social architect, and he has been well helped by the men whom he selected as his aids. It must be superfluous that I here tell you I allude to the venerable Egerton Ryerson, who has sought late repose from his long and arduous labours, and has, I am happy to know, retired upon a comfortable annual allowance, for which he is indebted no less to his own worth and popular weight than to the discriminating liberality of a cautious Government and a tremulous Legislature. How happy should I be, and how comfortable would you all feel, could you but look forward to a similar recognition of long and faithful service! Let us indulge the hope that some droppings of the golden shower will yet fall on the withered and close-shaven pastures, where they are certainly much needed.

But some of you have probably begun to think that in demonstrating "the morbid results of persistent mental overwork," it is rather cruel to set out with a prefatory illustration, in the form of an overstraining of the patience of my hearers. For this trespass I can offer, in apology, only the frailty of old age, whose conceded or usurped prerogative has always been that of garrulity; so, trusting on your indulgence, I shall now proceed with my subject.

Considering the severity of the ordeal through which you have all had to pass before obtaining your certificates of qualification entitling you to the position and privileges of public school teachers, it is, I think, fairly assumable that no small proportion of your number have had practical experience of the physical and mental effects of protracted close application to the studies required of you, before venturing to present yourselves for any of the examinations prescribed by our educational authorities. So far, therefore, as you are concerned, I may reckon on your considerate appreciation of all that I may now venture to address to you on the important subject which I have chosen for the present auspicious occasion.

Overwork of mind, equally as overwork of body, is a relative term, whose value may be hardly alike in any two persons, and is certainly very different in different classes of persons. That which may, to one person, be but a light or even an inviting study, may be regarded and felt by another—by many others, indeed—as a heavy and wearying labour or a repulsive drudgery; so that, whilst some are found to revel in easy mental victories, and to long for wider fields of conquest, others lag slowly and reluctantly on, and look despondingly forward for the close of their exhausting toils. If this be true of those who have reached adolescent or adult life, how much more so must it be as to those of earlier years, whose general organization is only in the plastic stage, when every undue pressure on the tender animal structures may crush them into morbid enfeeblement, and lay the foundation of enduring functional incompetency. The age has passed away when the human mind was regarded as an independent entity, capable of acting by its own distinct inherent powers, without any regard to the functional integrity of the bodily organs. Every student of physiology, and, still better, every student of pathology, knows that, whatever may be the abstract nature or essence of mind, it requires for its sound manifestation a well-organized and healthy brain; and every experienced physician well knows that the brain is linked in close functional affinity with every other organ and structure of the economy. The prick of a pin in the most distant part of the skin, the pain from a corn on a toe, the burning of a finger tip, the bite of a mosquito, or the tickling of a fly, and, in fact, the incursion or assailment of every agent inimical to the well-being of the individual, is, with electric speed, reported to this grand central, sympathising, and directing governor of the animal machine. In its normal condition, and while its telegraphic conductors—the nerves—continue in unbroken connection, it feels for all, and with paternal promptitude it issues its admonitory and protecting behests to all; but let its telegraphic wires be broken, or its wondrous electro-magnetic cell-batteries be thrown out of working order, and then it no longer discharges its wonted functions. It would then seem no longer to sympathise with

or to counsel its dependent subjects, but to leave them to their own unguided management.

It may seem strange to those who have not given their attention to the subject (and yet no fact is now more decidedly established), that the brain, which feels for all other parts of the animal frame, and promptly responds to their complaints, shows no feeling for itself. Like an affectionate mother, bowed down by ceaseless toils, through wearying days and sleepless nights, over the couch of her suffering child, utterly forgetful of all her own physical needs, just so is it with the brain; it is utterly oblivious of its own sufferings and wants. I have seen many a case in which *post mortem* examination has shown that the brain had been intensely and extensively diseased, and yet all enquiry of the patients during life failed to elicit from them any admission of pain in the head. Every experienced surgeon knows that in cases of serious wounds of the head, when considerable portions of brain have been extruded through the broken skull, the protruding parts have been cut away without the patient feeling the least pain from the process. Experimenting physiologists know that the brain of animals may be sliced away by the scalpel, down to the very base, and that it may be torn and lacerated, burned with hot irons or concentrated acids, without the animals operated on evincing any sign of pain. Is it not, then, abundantly manifest that this organ may often be a long, though silent, sufferer, and that serious or irreparable injury may be done to it before suspicion of the evil may have been aroused?

After a protracted observance of a certain form of brain disease, which is, unfortunately, every year becoming more common in this country, and which invariably in all countries terminates in death, I learned to make the crucial enquiry of the patients whether they felt any pain in the head; so far as I can recollect, the stereotyped reply was "None at all." It was not, therefore, at all surprising that their friends, or even their consulted physicians, should regard this immunity as a sufficient assurance that the brain was not fatally affected. I held a different opinion, and I am sorry to say that it never failed of ultimate confirmation.

The morbid results of persistent mental overwork (which is but the equivalent of overwork of brain) may declare themselves at varying periods of life, according to the primary resisting powers of the organ; and let me here interpose the important qualitative observation that these results do not always first manifest themselves in the overthrow of the physical or the psychical integrity of this organ itself. I have said that the brain sympathises with every other organ or structure of the animal economy. This would be a very one-sided arrangement were there no reciprocity of sympathy; but such is not the fact. The dependent subjects do unquestionably sympathise and suffer with their afflicted or outraged sovereign. Show me an overworker of the brain,

and I will hardly fail to find in him a victim of dyspepsia, bilious derangement, costiveness, muscular lassitude, high nervous susceptibility, periodic mental gloom, or some one or dozen more of the various ills to which abused human flesh is heir.

When the brain itself succumbs under the overweight imposed on it, we see the morbid results either in the physical or the psychical department of its functional relations, or very often in both concurrently, or in necessary sequence.

We have all seen instances of brain break-down ushering in paralysis of one side of the body, or of some more limited portion, holding on, perhaps, for years without any marked enfeeblement of mental power. This may, from primitive organic defect, which is frequently inherited, occur in persons who have never been signalized as hard students or deep thinkers. When, however, the victims of paralysis have been persons who have long overtaxed their mental powers, although the mind may hold out even through several paralytic seizures, it almost invariably yields at last, and then is presented the most saddening and admonishing picture of human infirmity which it can ever be our lot to witness. In the whole range of English literature there is not perhaps a more thrilling depiction of bodily and mental decadence than that which has been handed down to us from the pen of Mr. Lockhart, of the case of his father-in-law, the immortal, but too early mortal, Sir Walter Scott. This case was subsequently availed of by the distinguished Forbes Winslow as one of his most thrilling illustrations of the sad consequences of "overworked mind," in an article under this title, which appeared in the 5th volume of the *Psychological Journal*, in the year 1852. I might, with much aptitude, quote largely from both Mr. Lockhart's and Forbes Winslow's details and remarks, but I presume that many of you are already familiar with the mournful records of the last days of that mighty Wizard of the North, who might be said to have created a new literature, and to have opened up a new firmament in the world of creative fancy—a literature of which the richest poetry is its prose, and its verse the despoiler of its finest beauties. It was not until Sir Walter was utterly broken down and worn out by a series of apoplectic seizures, that seemed to bring in their train a torturing host of painful physical disorders, which he bore with Spartan endurance, that his giant mind at length laggered and tottered, and lost its pristine equipoise and unhalting pace; or at least it was only then that his loving and admiring friends could bring home to their reluctant minds the sorrowful conviction that the mighty intellect, which had so long commanded their wonder and veneration, was now nearing its sunset and passing behind the cloud whose gloom was in truth due to the evening condensation of the vapours it had raised in its noonday fervour. Truly pathetic and simple are the words of Mr. Lockhart, when describing this mournful period of his friend's

closing days: "A more difficult and delicate task," says Mr. L., "never devolved upon any man's friend than I had about this time to encounter. I could not watch Scott from hour to hour—above all, I could not write to his dictation—without gradually, slowly, most reluctantly taking home to my bosom the conviction that the mighty mind which I had worshipped through more than thirty years of intimacy had lost something, and was daily losing something more, of its energy. The faculties were there, and each of them was every now and then displaying itself in its full vigour; but the sagacious judgment, the brilliant fancy, the unrivalled memory, were all subject to occasional eclipse.

'Along the chords the fingers strayed,
And an uncertain warbling made.'

Ever and anon he paused and looked round him, like one half waking from a dream, mocked by shadows. The sad bewilderment of his gaze showed a momentary consciousness, that, like Samson in the lap of the Philistine, 'his strength was passing from him, and he was becoming weak like other men.' Then came the strong effort of aroused will—the clouds dispersed as if before an irresistible current of purer air—all was bright and serene as of old, and then it closed again in yet deeper darkness." Scott died at the comparatively early age of 63. His father and an elder brother had died of paralysis, so that he must have had rational admonition of an inherited liability to this form of disease. It is, however, a rather melancholy, yet, to those well versed in the subject of cerebral disease, by no means a surprising fact, that persons predisposed to brain affections are, as a rule, utterly regardless of their inherited danger. The amount of work which such persons will perform, and the difficulties they will encounter and surmount, are something incredible; and their disregard of the requirement of relaxation or rest is, to men of ordinary mental powers and slower action, little short of a mystery. It may truly be said of these that "increase of appetite hath grown by what it fed on." This *work-crave* is a veritable disease of the mind—a want of the brain—as tyrannous and insatiable as the craving of the inebriate for his alcoholic cup, or that of the tobacco slave for his cherished pipe. You have all known, or heard of, prodigies of this type. I was long acquainted with one whose name is not unknown in the annals of our country. His mental energy seemed to be inexhaustible, and he appeared, like the stormy petrel, to rest only on the wing. He was an active and fearless politician, and, as a matter of course, he held a seat in parliament. He once told me that on one very stirring occasion he had gone without sleep for an entire week, and had worked incessantly night and day, but was at the end admonished of the necessity of repose by finding that his legs were dropsically swollen. At the time of our conversation he had regained apparent sound health, but I advised him to moderate his work devo-

tion, for he was then advanced in life, and I knew there was a strong taint of insanity in his family. A few years after he died with a softened brain. Did that disease commence only when his physical powers began to fail? Does the lamp begin to burn when its flame flickers from want of oil? or does the miner's fuse take fire only when the explosion takes place? Verily, the freer and brighter the lamp burns, the sooner will its light go out; and the longest and the slowest creeping fuse spark will in due time reach the charge.

A far sadder illustration than the case of Sir Walter Scott, of the consequences of mental overwork, was that presented in the tragic close of the life of Hugh Miller. He was preëminently a self-made man. Those who reach the elevated regions of literature or science aided by the advantages of a liberal education, can but ill appreciate the difficulties and toils that beset the rough and thorny paths of the man who must be his own schoolmaster. The quarryman of Cromarty, to obtain the eminence reached by him, both in science and literature, must have taxed his brain endurance far beyond the limits of safety. It is my belief that even in early life a latent germ of insanity was present in his cerebral organization. If I remember aright, he has told of himself that in his boyhood he experienced visual illusions, or hallucinations. In Smiles' biography of Robert Dick we find recorded, on the authority of Professor Shearer, a very instructive incident which was communicated to him by Dick, whose words are thus given: "His mind was touched somehow by superstition. I mind," he continued, "after an afternoon's work together on the rocks at Holborn Head, we sat down on the lee side of a dyke to look over our specimens, when suddenly up jumped Hugh, exclaiming, 'The fairies have got hold of my trousers!' and then sitting down again, he kept rubbing his legs for a long time. It was of no use suggesting that an ant or some other well-known beastie had got there. Hugh *would* have it that it was 'the fairies.'"

Robert Dick regarded this occurrence as evidence of Hugh Miller's superstition; but to those who have well studied the early phases of mental disease, and have carefully scanned the biography of this wonderful man, it must present a different aspect. It was, in truth, but a morbid embryonal brain creation, in perfect affinity with those of more advanced and horrid development, which proved the tortures of his latter days, and finally precipitated the act of self-destruction.

On the day before his death he was, by request of his wife, visited by Professor Miller and Dr. Balfour. He acknowledged to them that he had been working, night after night, till very late in the morning, hard and continuously, at his new book, which, with much satisfaction, he said, he had that day finished.* On the very night preceding this

* "Testimony of the Rocks."

interview he had, in some horrific pause from his drudgery, passed through one of his terrible brain storms. He described it "as a vague and yet intense horror, with a conviction of being abroad in the night-wind, and dragged through places as if by some invisible power. I felt," he said, "last night as if I had been ridden by a witch for fifty miles, and I rose far more wearied in mind and body than when I lay down." His professional visitors tell us they "came to the conclusion that he was suffering from an overworked mind," and they gave him some very proper advice. "To all our commands," they say, "he readily promised obedience. For fully an hour we talked together on various subjects, and we left him with no apprehension of impending evil, little doubting but that a short time of rest and regimen would restore him to his wonted vigour." Such was their knowledge of insanity. The Hugh Miller that conversed with them so pleasantly and promisingly was not the same personality as that one who, before next morning, shot himself through the lungs. The brain of the former was in the calm that lures before the hurricane; that of the latter was torn and rent by the resistless fury of the electric brain storm. I have myself witnessed a few—too many, indeed—of these deceitful brain calms, and I learned never to trust in them. I remember once, in a summer evening, sitting for half an hour by the bedside of a very intelligent minister of religion, who laboured under the delusion that he had committed the unpardonable sin. He listened to all I said with calm docility, and gave assent to all I urged. To any one unfamiliar with this form of insanity, the impression left by that interview would have been that he entertained no purpose of suicide, or if he previously had, he now had totally relinquished it; and yet that man hanged himself next morning in a noose made of his own white cravat, which we afterwards discovered he had carried in his pocket for some weeks. When found he was kneeling, for on his feet he could not have succeeded in strangling himself.*

It was not many hours after Hugh Miller's friends parted with him in apparent mental cheerfulness and calm, that he penned to his invalid beloved wife the following lines:—

"DEAREST LYDIA,—My brain burns; I *must* have *walked;* and a fearful dream rises upon me. I cannot bear the horrible thought. God and Father of the Lord Jesus Christ, have mercy upon me. Dearest Lydia, dear children, farewell. My brain burns as the recollection grows. My dear, dear wife, farewell. "HUGH MILLER." †

* Whenever religious insanity lights on the delusion of the sin against the Holy Ghost, or the conviction of unpardonableness, it is as surely suicidal as that fire will burn or water drown.

† This letter, I think, shows that H. M. was free from the delusion of the unpardonable sin. He must, indeed, have been a strong believer in the mercy of God.

The discharged pistol, found in the morning lying in the bath, and a wound in the chest that had perforated the lung and cut the pulmonary artery at its root, revealed the tragic close of the storm. It is much to be regretted that we have not a fuller and more minute report of the condition of the brain by the gentlemen who made the *post mortem* examination, which gives the following conclusion :—

"From the diseased appearances found in the brain, taken in connection with the history of the case, we have no doubt that the act was suicidal, under the impulse of insanity.

"JAMES MILLER, W. T. GAIRDNER,
"A. H. BALFOUR, A. M. EDWARDS."

From the statements often made by Mr. Miller of the intense paroxysms of head pain long suffered by him, it is my belief that the brain substance was not the seat of his disease, but that it was located in the covering membranes, and most probably in the external one, the *dura mater;* for had the brain substance proper been diseased he would have suffered little, if any, pain ; and there would have been physical symptoms, such as partial paralysis, impairment of speech articulation, failure of memory, etc., etc., of which no mention is made, and the intellectual powers would not have remained active and apparently sound, as they did up to his very last day, when he completed his last famous work, the "Testimony of the Rocks." The intermitting character of his head pain is perfectly accordant with a chronic inflammation of the *dura mater.*

One fact is very manifest—the brain of Hugh Miller was not fitted to hard work. It is hard to say what his end might have been had he remained a quarryman or a stone-mason ; but in that case who would have gifted us with "The Old Red Sandstone," "The Footprints of the Creator," and the "Testimony of the Rocks," to say nothing of his powerful religious articles in support of the Non-Intrusion party in the Church of Scotland? We know what *has* been ; we know not what *might* have been. Had he remained in humble life, and avoided mental overstrain, he might have escaped a suicidal end ; but are we sure that he might not have passed through that lingering living death which so many regard as the gravest of all visitations? One thing we know : every lover of the science of geology will hallow his memory, and thank him for the light shed in his works on the pages of the great stone book which he loved so well to interpret.

I could very easily, from the materials at my command, multiply these illustrations of the disastrous consequences of persistent overwork of brain. The list of victims is a long and mournful one, but I am warranted in supposing that to most of you the names that would make it up, and the histories of the individuals, are already not unknown.

It may be better that I now enter upon the part of my subject which more immediately concerns yourselves, as members of the profession of teaching, and the youthful members of society who are committed to your charge. As regards yourselves, I do not imagine that it is necessary to indulge in any high flights of rhetoric, or to marshal any formidable array of facts or arguments, to impress you with the conviction that monotonous mental toil, too richly spiced—as I know with you it often is—with mental worry, is a very poor sharpener of the appetite, a very lame invigorator of muscular tone, and a very unreliable soother of nervous excitability. Whatever may be our sphere of work, or whatever may be the toil undergone in the performance of it, if we but know that our efforts are duly appreciated and gratefully regarded by those we serve, the load is wonderfully lightened, and we are cheeringly stimulated to persevere in our course. The physician, when he succeeds in freeing his patient from suffering, and restoring him to good health, generally secures his gratitude and good opinion. The tradesman who does good work, and charges low, is praised by his customers. Even the day-labourer, who works faithfully, is respected by his employer and has his wages paid to him cheerfully.

But how is it with you? The very people whom you work hardest to serve are those who most revile you, and who reward your efforts with the greatest ingratitude. They would have you give to their children that which they have themselves failed to endow them with—good brains and the love of learning. They would have you engraft into their wild stocks those qualities of obedience, order, industry, moral probity, self-respect and self-control which, neither by precept nor example, have they ever tried to inculcate on them. If you fail in these stern requirements, as you certainly must, then you too well know what awaits you. What! tell a fond, ignorant mother, or a rude, swine-headed father, that his boy is dull, lazy, inattentive or ill-mannered! O, no! for if you do you are, so far as that woman's and that man's eloquence and offended majesty can reach, a doomed pedagogue; and Heaven only knows how many more wasps may be in the hive.

As to your clever boys, whose domestic training is well looked to by intelligent parents, everybody knows how little trouble you have with them. They *will* learn, even in spite of your laziness, should you unfortunately—or, may I say, fortunately?—be gifted with that conservative quality. Happy the teacher whose quiver is filled with such arrows! He must make many bull's-eyes; I would very much like to meet with him. Barnum would make a mint of money out of him.

I recently cut from a city newspaper the following paragraph, which I would fondly hope depicts an experience to which only an unfortunate few of your body have been subjected; for if the occurrence narrated be not very exceptional, our conception of the moral and intellectual attributes of rural school trustees must be of a very painful character:

"The head master of a public school in a wealthy western county has been receiving $425 a year, or a trifle more than $8 a week, in return for his services as instructor of the youth of the neighbourhood. Just before the holidays an educational tramp offered to undertake the work for $400 per annum, or at the rate of fifty cents per week less than the master was receiving. Now, if the trustees had been mean men they would have accepted the offer at once. But as there is not a spark of meanness in their composition, they determined to wait upon the schoolmaster and inform him of the lower offer they had received. They waited upon him accordingly, and told him that he could either continue in his position at a reduced salary or give place to a cheaper man. As the schoolmaster had a family depending upon him, he was compelled to accept the lower salary. Next year the trustees will be wondering how it is the schoolmaster does not perform his duties so heartily and so cheerfully as formerly. But they will have the satisfaction of knowing that they are keeping him humble. There is nothing like compelling the minister and the teacher to practise humility."

It is my belief that the men who entered into the above negotiation should be closely watched when nearing a neighbour's hen-roost, and that their butter should always be tested by the market weigh-master. They would haggle with the gatekeeper of Paradise, or try to slip in, toll free, by the back door.

How is it to be wondered, when the mental and bodily wear and tear and worry to which your profession are subjected are considered, that the average duration of the lives of its members falls so much below that of many other classes of the community? This fact is made abundantly manifest by the figures shewn in the annual reports of our Provincial Registrar. I trust you will not suspect that I desire to create alarm by the statements I am now about to make, for I merely desire to show you the truth, which can never do ultimate harm; and if I may, to any extent, impress on the public mind the destructive results of your peculiar labour, and the moral and physical disadvantages under which it is performed, and thereby awaken a warmer sympathy with your misfortunes, I shall hope to have atoned for any wounding of your feelings, or any trespass of politeness which I may undesiringly commit.

In the columns of the Registrar's tables of deaths of teachers in this Province, for the four years ending with 1879, the numbers stand as follows:—

In 1876	there were	reported	.....	51 deaths.
" 1877	"	"	.....	45 "
" 1878	"	"	.....	38 "
" 1879	"	"	.....	56 "
		Total	.....	190

I am aware that the returns made to the Registrar have been, as yet, imperfect. They do not show the actual full mortality of the Province, but I may assume that they are not more defective as regards teachers than as relates to other classes; consequently they are, for purposes of comparison, approximately reliable.

The aggregate of the ages of the above 190 deceased teachers was 8,391 years, which would give, as the average to each, about 44 years and 2 months. The average age of 2,290 farmers who died in 1879 was $63\frac{8}{12}$ years, and that of 1,651 wives of farmers was $60\frac{1}{2}$ years; of 46 clergymen it was 62 years; of 39 tailors, 64 years; of 32 masons, 60 years; of 27 gardeners, 63 years; and of 184 gentlemen, 68 years. The returns for the three years preceding 1879 show figures pretty nearly corresponding to those above quoted. The disparity between the average ages attained by teachers and persons of the classes here named is certainly very striking, and yet I am convinced it does not fully represent the actual inequality, for it will be found that in 1876, 4 so-called teachers died, whose aggregate ages amounted to 294 years, or $73\frac{1}{2}$ each; in 1877, 5 gave an aggregate of 358 years, or $71\frac{3}{5}$ each; in 1878, 9 gave 629 years, or 70 each; and in 1879, 14 gave 972 years, or 71 each.

Now, I have not had the pleasure of a very extended personal acquaintance with the members of your profession, but from that which I have had I am constrained to believe that the number to be found in active service at the age of 70 years, or even at 60, is very small; and I think you will all concur with me in the belief, that any man or woman who had taught school from the age of 20 up to 60, and who lived on to 70 or 80, or, as I have found five to have done, up to 81, 83 and 89, must have been gifted with a very superior and tough organization, and beyond all question not one of these veterans had to pass through the severe preparatory ordeal to which teachers of the present day are subjected. What a comfort to all of us it would be to believe that the lives of these lingerers were elongated by the sufficiency of their retiring allowances!

I think that in order to arrive at a just conclusion as to the average age attainable by teachers of the present day, in active service, we should eliminate from our calculation those averaging seventy years or over; indeed I question if we should not draw the line at sixty. Putting it, however, at seventy, and deducting, for the 32 long-lived teachers, their aggregate of 2,253 years from the total 8,391 years, we get, as remaining for the 185 shorter-lived, an aggregate of 6,138 years, or an average of $38\frac{12}{12}$ for each. This is the average probable life-span that may be expected by five teachers out of every six, even embracing in the latter figure those rare specimens which, I fear, will every year become scarcer and scarcer. Only ten other occupations given in the Registrar's tables show worse figures than those legitimately falling to teachers.

In view of these gloomy facts, it becomes very natural that we should inquire as to the causes of the comparative brevity of the lives of teachers. In one of the reports of the Registrar I have found that he estimates the proportion of deaths from consumption, in teachers, as equal to one-third of their total deaths, and this proportion was much exceeded last year. Let us compare your proportion with that shown by a number of other occupations, and we cannot fail to be struck with its magnitude. The following are the figures for the year 1879:—

Gentlemen...	total deaths,	184,	of which from	consumption,	13= 7 %
Paupers.....	"	41,	"	"	3= 7.3 %
Physicians....	"	29,	"	"	3=10.3 %
Farmers.....	"	2290,	"	"	246=10.8 %
Shoemakers..	"	94,	"	"	13=14 %
Clergy.....	"	46,	"	"	7=15.2 %
Labourers.....	"	681,	"	"	117=17.2 %
Carpenters...	"	125,	"	"	22=17.6 %
Merchants....	"	113,	"	"	21=18.6 %
Masons	"	32,	"	"	6=19 %
Milliners and Dressmakers.	"	30,	"	"	10=33⅓ %
Teachers.....	"	56,	"	"	23=41 %
Bookkeepers and Clerks..	"	66,	"	"	34=51.5 %

Might it not be well that our aspiring young people of this time, who are turning their backs on the plough and the milking-pail, and who, thanks to your hoisting efforts, have crammed their brain cases with such a quantity of tip-top learning as to elevate them some fathoms above their hard-working, tight-fisted, ungrammatical fathers and mothers, would cast their eyes over the above figures? Nine-tenths of them cannot promise to themselves positions higher than the last three on my list, and if they would but duly weigh the killing-off capabilities of these, they might consider it more discreet to cultivate muscular strength than to struggle after nervous enfeeblement and premature bodily decay.

As relates to the total deaths from consumption in Ontario within the four years mentioned, a very important fact is presented in the preponderance of this fatal malady among females. Of 8,480 deaths from consumption registered in these years, 4,735, or nearly 56 per cent., were of females, against 44 per cent. of males; in other words, more than 5 females to 4 males. Now, in the mortality of the Province, the proportion of total deaths was 39 of males to 35 of females; and the number of living females in the year 1871 was 36,000 less than that of males. The births of male children have, in the last 10

years, exceeded those of females in the proportion of 108 to 100. It is evident from these figures that women are more liable to consumption than men, and hence it follows that they are less capable than men of resisting the morbific agencies which tend to its development.

We have seen that the occupation of teaching is an eminent consumption factor. The report of our City Inspector of Public Schools for the year 1879 shows that in the total of 148 teachers employed, no less than 126, or 85 per cent., were females. In a Toronto evening paper, under date Ottawa, July 8th, the following announcement appeared:—"Some important changes are announced in the *personnel* of the teaching staff of the Model School. The services of all the male teachers are dispensed with, with the exception of Mr. Parlow. Those of Miss Walsh have also been dispensed with." A happy dispensation, let us hope, for Miss Walsh! But are not Mr. Parlow's new aids unsafely above par in the school market? The man who fails to foresee the ulterior results of this school femalization must be very poorly versed in hygienic and sanitary science; and I feel well assured that the final economy will prove very fallacious. That women have a perfect right to fight their way up to the same position as men, or even to don the same garments as men, I would not for a moment dispute. Our most gracious Queen is a good woman and an excellent Sovereign; yet her ministers and high officers are all men; she has sent some of her male children and grandchildren into the army and navy, but none of her daughters or granddaughters; much less has she ever dreamt of manning her ships with women, or recruiting her army from their sex; and considering that 8 per cent. more males are born than females, it would be very unfair to expose the lives of the latter to as much danger as men are called on to encounter. Should we not apply the like rule to our educational army? I am thoroughly persuaded that women are unable to bear the tug and toil and worry of teaching as long and as well as men can do, and I think I shall, before closing this paper, adduce statistical proofs of this opinion in another department of disease, to be presently taken up, which will be found irrefutable, and should convince my hearers of the gentler sex that though it is quite fit and proper that they should assume and enjoy all those prerogatives and preferences which the chivalry of our sex and our good manners can never contest, whether they may be called for in our theatres and concerts, our railway and street cars, or any place else where they may condescend to bless us with their approving smiles and their refining society; yet it is not advisable that they should seek those killing-off positions in life which, in bygone days, have been less perilously, and, perhaps, not less efficiently, held by men.

A few months ago you all may have read in the newspapers the narrative of a female prodigy of learning, whose achievements, under

difficulties which rendered them truly marvellous, might put hundreds of male students to the blush, whilst they must have been dwelt on by thousands of her own sex with high exultation. The heroine of the story was one Ellen Watson, daughter of a schoolmaster of Reading, in England. Her circumstances were only moderate, so, to enable her to prosecute her own studies, she was obliged to act as a teacher of others. In the end she carried off, at the close of the session of 1877, the highest possible mathematical distinction then open to her, in University College, London. She followed up her victory by presenting herself at the London University examination of 1878 for the degree of Bachelor (not Maid—that title is now bad grammar) of Science, and "she was among the first of her sex" to capture that honour. Poor thing! I wish she had captured another sort of bachelor, for the one she set her cap for proved a very bad match, as the sequel will show, for, in the words of the elegiac editor of our Toronto daily: "Between studying and teaching she had been overworked. She was sent to South Africa to recuperate, and there she continued to teach and study until she succumbed, on the 3rd of December last, to consumption."

Yes, Ellen Watson "succumbed to consumption." What of that? So did Kirke White succumb, and so have succumbed, and will succumb, hundreds more. But is not the glory of the thing worth the sacrifice? And then, the *example!* Just think how noble and stimulating is that. Hear our sage editor's peroration on *that*:—

"At all events," writes he, "the example set by Miss Watson is a lofty one, and something will be gained if it should prove an incentive to even a small number of young girls elsewhere, to devote themselves more to intellectual pursuits and less to the acquisition of accomplishments that are at once trivial and costly. On the girls themselves, more than on any *one* else, it depends whether they will yet find their way, on terms of equality, into all seats of learning, however venerable or exclusive."

Is not this very fine writing? I wish, nevertheless, that I could discover whether the writer desired to be understood as indulging in a little irony, or as penning his serious convictions. I am wicked enough to suspect, when he speaks of "something being gained, if it should prove an incentive," etc., that he must have some interest in a coffin factory, or that he intends to become a doctor. That fling at "accomplishments that are at once trivial and costly," would indicate that he is some miserly curmudgeon, or cynical celibate, who, in revenge for some dozen of refusals, would kill off as many pretty girls as he could, and rejoice in the survival of the fittest to become old maids.

"On the girls themselves," he says, "more than on any *one* else, it depends whether they will yet find their way, on terms of equality, into all seats of learning." Begging his august pardon, I should rather say,

it depends very much on some *one* else, whether a girl shall find a seat, on equal terms, in that college which abhors *bachelor* honours, and yet elevates woman to the highest and holiest dignity to which her sex can aspire—a dignity which, I fondly trust, will never cease to be striven for and achieved by every daughter of Eve who possesses those qualities of heart and head which will make her a good wife and a good mother. There are not too many women in the world. If men would set them the example of patient, courageous industry, and of economic expenditure in their own disbursements, they would find them better helpmates than some of them are, and there would be fewer old bachelors and old maids than there now are. The young man who cannot afford or venture to marry because he finds his salary hardly enough, or perhaps too small, to pay his tailor's bills, his club dues, his cigars and wine disbursements, and a dozen of other silly requirements, would act wisely by lopping off his extravagances, and investing the proceeds of his economy in a marriage license (but not in a senseless marriage tour), and in the purchase of some plain and useful household furniture. I venture to say that such a man will be richer (and I speak from experience) at the end of twenty years, to say nothing of his conjugal happiness, than he ever could become as a shivering, withering, hang-fire bachelor, or a club-cultivating dandy.

But I have not indulged in this digression for the edification of my male auditors, for if there is a preponderance throughout the Province of female over male teachers, similar to that which obtains in this city, there must be but little room for improvement in the direction indicated. If, however, my lady hearers will just invert the terms of the fable, and, so far as practicable, apply my hints to their own financial management, and curtail their expenditure as much as their good sense and prudent foresight may prescribe, so that they might be able to club their savings with those of some others whom I need not specially indicate, they would find they had acted wisely, and they would carry off better bachelor degrees than poor Miss Watson did.

I would now crave your attention to another part of my subject which has naturally long engaged my serious consideration. I have hitherto treated of the morbid results of brain overwork as related to bodily disease and death. There is another form of disease which brings to those doomed to witness it, though not to the victims themselves, a sorrow even deeper, more intense, and longer-enduring than that which we feel when consigning our loved departed ones to the grave; it is that abiding, and so often hopelessly hoping agony with which we regard those dear to us, whose mental light has passed under eclipse from which it may never emerge, or into which it may again and again pass, after numerous hope-betraying intervals of lucidity, that are sometimes of considerable duration. This living death is regarded by the friends of those afflicted as the direst visitation of the

Divine Providence, though it is quite certain that the great majority of its victims suffer very little mental pain, or many of them none at all, under the fully developed form of their malady. It is in the early, incubating stage of their disease, when unclouded intervals of mental calm enable or constrain them to reflect on their threatened danger, or when painful bodily symptoms usher in their periods of irritability or resistless passion, that they undergo true mental suffering.

That insanity is on the increase, is, I fear, a fact so clearly established by its statistics, as now to be accepted as a certainty; and indeed, taking into view the multifarious and ever-multiplying factors contributive to its development, it seems to me to be an unavoidable *a priori* conclusion, that it should exhibit a continuous increase. Among these factors, brain overwork, in its various forms, which embrace many other indiscretionary and dangerous indulgences, besides hard study, is certainly not the least potent. The undue indulger in alcohol, or soothing narcotics; the slave of strong passions, or the fosterer of ill-temper; the ambitious, the envious, the spiteful, the cunning, the unfortunate and the oppressed, all overwork their brains. It is not, however, my purpose to embrace in this paper all these evolvers of mental overthrow, but more limitedly to confine myself to the consideration of its incidence in the class to which you belong. I shall, therefore, now submit to your attention some abstracts from the reports of a number of the institutions of this country devoted to the reception and treatment of the insane, premising that I especially desire of you to mark the difference between the incidence of insanity in male and female teachers.

1st. The institution situate in West Philadelphia, called the Pennsylvania Hospital for the Insane, and consisting of two distinct establishments, some distance apart, one for males and the other for females, shows the admissions of male patients in the last 40 years to have amounted to 4,441, of which 53 were teachers, or a little less than $1\frac{1}{5}$ per cent.

The admissions of females amounted to 3,839, or 602 less than those of males. In these 3,839, the admissions of teachers were 109, or about $2\frac{7}{8}$ per cent., or $2\frac{1}{3}$ times those of male teachers. It is my belief that this preponderance of female over male teachers would be found to have arisen in late years, since a larger proportion of female teachers have been employed, and higher qualifications have demanded a more severe and protracted course of preparatory studies.

2nd. The Connecticut Asylum, in its report of last year (1880), shows a total, from its commencement, of 1,114 admissions of males, of whom only 7 were teachers; but of 867 females admitted, 34 were teachers; in other words, there was only one teacher in every 159 male patients, but one in every 25 female patients.

3rd. The Vermont Asylum in the last two years admitted 178 men

and 137 women. In the 178 men there was no teacher; in the 137 women there were 7 teachers.

4th. The Danvers Asylum, Massachussets, shows, in 1879, 9 female teachers in 334 women admitted, but no male teacher in 318 men admitted.

5th. The McLean Asylum, near Boston, shows 3 female teachers in 34 women admitted in the last year, but no male teacher in 17 men admitted.

6th. The New Hampshire Asylum, at Concord, admitted 128 men and 120 women in 1879 and 1880. Of the men 1 was a teacher; of the women 6 were teachers.

7th. The Middleton Asylum, in New York State, admitted, in 1879, 85 women, of whom 2 were teachers; in 71 men admitted there was no teacher.

8th. The Elgin Asylum, in Illinois, admitted, last year, 125 women, of whom 11 were teachers; but in 161 men admitted there was no teacher.

The preceding eight asylums, as you are all aware, represent communities in which education has been very widely diffused, and has been pushed to a pitch of boasted eminence.

I am unable to exhibit the relative incidence of insanity in male and female teachers in a number of other Eastern and Middle States, in consequence of the tables given in the reports not distinguishing the sex of the teachers admitted; but from my personal knowledge of the institutions, and of the present state of education in the communities represented by them, I am led to conclude that they would show figures very similar to those presented by the eight asylums herein named.

When we examine the reports of asylums situate in parts where education has commanded less attention, or has only of late years been vigorously advanced, we find the disparity between admissions of male and female teachers much less striking; for instance,

1st. The Eastern Virginia Asylum, in 475 men admitted, shows 8 teachers; and in 364 women, 9 teachers.

2nd. The Nebraska Asylum, for the years 1879 and 1880, shows 3 teachers in 214 men admitted, and 3 in 152 women admitted.

3rd. The Toronto Asylum, for the 39½ years of its operations, up to 1st October, 1880, shows 46 teachers in 2,830 males admitted, and 45 in 2,473 females admitted. If we go on increasing the number of female teachers and augmenting their preparatory labours as energetically as we have done in the last few years, the above proportion will certainly undergo a very marked change.

4th. The Kingston Asylum, since its commencement in 1855, has admitted 760 men, of whom 10 were teachers; and 542 women, of whom 12 were teachers.

5th. The St. John Asylum, New Brunswick, in a total of 398 men admitted, shows 2 teachers; but in 340 women admitted, 9 teachers.

The following paragraph from the 31st page of the report for 1880 of the Utica Asylum, New York State (which I am sorry to say is among the number of those which have not distinguished the sex of teachers admitted), is certainly not uninstructive:—

"Of the 468 admissions, 4 of the persons had received a collegiate, 30 an academic, and 374 a common school education; 2 could only read and write, 36 could read only, and 22 had received no education."

Permit me here to introduce another paragraph, which I recently met with in a city paper:—

"Ohio is going to have a Medical Commission appointed to inquire into the conditions under which scholars in public schools work. The two points most insisted on by those urging an investigation are the alarming increase of myopia, or defective sight, and the impaired nervous condition of the pupils who have passed through all the stages of public school education. These troubles are not confined to Ohio, but prevail in Ontario. One of the reasons is the attempt to teach too many subjects. In the higher classes of our public schools it is thought necessary that a lad who is destined to be a mechanic should be drilled in Latin and Euclid."

It has certainly appeared to me that of late years the number of young persons met with on our streets, wearing spectacles or eye-glasses, is proportionally very much greater than it was twenty-five years ago. As to the increase of nervous affections, I believe that fact is indisputable.

It would, then, seem, from the figures cited, that education—that is to say, of the high pressure order now prevailing among our cousins—is not a very reliable protective against insanity. Let us not, however, adopt the conclusion that ignorance is a potent preventive. It is my decided belief that a sensible, solid education, obtained without overtaxing the mental powers, and without injuring the health of the body, is one of the best preservatives of mental integrity.

I think it is impossible to make a calm survey of the facts which I have submitted to your consideration in relation to the two maladies—consumption and insanity—without coming to the conclusion that persistent mental overwork, and the wear and worry of the teacher's life, are very badly adapted to the delicate and highly susceptible nervous frame of woman. It is more than I can hope for that the observations I have felt constrained to offer will meet the approbation of that portion of my audience whom it has been my sincere purpose to benefit, for unpleasant truths are like distasteful medicines, which no honey-smearing of the edge of the cup will deprive of their repulsiveness, or will convince the sick child of their healing virtues. Not long ago I

had the privilege of addressing a respectable body of teachers in a county town. After the close, a young lady was heard to say she "liked it all very well except the figures." For a like reason I would suppose she would like the play of "Hamlet" better with the exclusion of the Prince of Denmark.

Doubting not that I have quite far enough trespassed on your patience in dealing with matters relating to your own position and interest, I must now entreat your extended forbearance whilst I offer a few observations bearing upon the condition and well-being of those placed under your care. I presume not one of you will decline to confess, with St. Paul, that "when you were a child you spoke as a child, you understood as a child, and you thought as a child." I also presume you will admit that the processes of speech, understanding, and thinking have their organic seat of direction in the brain. Well, what is the brain of a child like, and what degree of stress or exertion is it able, without injury, to sustain? The child's brain at birth is but an imperfectly formed or developed organ; it is very soft—no better, in fact, than semi-fluid; it acquires firmer consistence but slowly and gradually, and, like the rest of the bodily structures, it does not attain to its normal firmness and resisting capacity before adult age. It is estimated that the brain receives and circulates one-fifth of all the blood of the system. The more blood an organ receives, the more important must be its functions, and the greater its demand for developmental nutrition and unhampered action. The child's brain, from the earliest dawning of intelligence, is a very busy worker; but the child prefers that sort of work which it finds most agreeable; it skips, and plays, and laughs, and shouts, for these are all pleasant operations, and highly conducive to both its bodily and mental well-being. This is the first and far the most profitable part of a child's education; but it is not to last indefinitely. In course of time, but often far too soon and too harshly, its frolicking and skipping are interrupted, or very much curtailed, and the wayward urchin is sent to you to be turned from a restless automaton into a thinking, or perhaps a parroting machine, with a ponderous balance-wheel, which is often very hard to start, and sometimes impossible to stop.

When I hear of a boy carrying to and from school six or eight books, in which he has to prepare at home as many lessons, I sincerely pity him, if he is dull or is a reluctant student; if he is clever and ambitious, I tremble for his prodigal discounting of future brain power. Even within our own city I could recall the names of too many who thus laid the foundation of early mental bankruptcy. The danger to clever, ambitious girls, similarly tasked or incited, is still greater. Their brain and nerve structure is finer and feebler than that of boys, and their muscular tone is kept at a lower point by their usual indoor, sedentary habits. They often display more quickness of apprehension,

and a keener desire for approbation, than boys evince; but their mental endurance is generally in inverse proportion to their mental agility, and their love of praise may prove a very perilous allurement to mental overstrain. The period of adolescence is usually with boys an epoch of inceptive bodily and mental invigoration; in girls it is always a critical physical transition, through which they will pass with less danger the less their brain and nerves have been enfeebled by prior exertion.

Thinking is hard work; none feel that it is light except those who do very little of it. Thinking is brain work, just as walking or fighting is muscle work. The more work a muscle does the more blood is attracted to it, and the faster it wears out and parts with its constituent elements, to replace them with fresh ones derived from the blood supplied to it. All work, whether in the muscles, the brain, or any other organ or structure, causes increase of heat. This fact, as regards the brain engaged in close thinking, has been established by recent thermometric experiments. Now, a certain amount of work is necessary to the good health and due growth of every organ; but overwork necessitates overwaste, and that overwaste is accompanied by a dangerous excess of heat. These facts are now well known to physicians, especially in the form of disease called typhoid fever, in which every degree of rise in the thermometer makes the doctor tremble, and when he sees the mercury reach a certain high mark, he becomes convinced that the case will end in death. Kirke White, we are informed, used to study, sometimes all night, with a basin of cold water by his side, in which, from time to time, he dipped a towel which he wore on his burning head. He died of consumption, but also of something more, for at the last he was quite insane. I have known of some other ardent students who also were obliged thus to cool their brains. I avoid telling you where, or how, they now are.

I should like very much to learn the results of a wide series of thermometric observations on the heads of the young people who are now studying for what is called your "intermediate examination." I have heard of the nocturnal slavery of a few of these early grave, or asylum lodgment seekers, and I must say they are on the wrong road to future good health of either body or mind. As to what may be the extent or the severity of your ulterior higher examination, I am but imperfectly informed, but the little I have learned almost makes me shiver. Within the past year I was consulted by a broken-hearted and much brain-hurt young man, who had failed in his examination for a second-class teacher's certificate. On inquiring of him what were the subjects on which he had to pass, he named, if I rightly remember, twelve. Now, if he had to pass in all these, it is presumable that he also would have to teach them all, and of course his scholars would have to study them all God help *me*, if I had to stand up in even a quarter of a dozen!

When the Turks took Constantinople, the comet of Halley was on one of its visits to the sun. All Christendom trembled. The Inspector of schools was approaching with his blazing train of heathen examiners. Pope Callixtus III. commanded his pupils to annex to the Ave Maria the entreaty, "Lord save us from the devil, the Turk and the comet."

I would recommend candidates for our intermediate and second-class school honours to pray—"From one half or more of the filigree subjects prescribed for our distraction, good Mr. Crooks, deliver us!" As to your first-class and High School champions, they may be left to shift for themselves. If they have escaped with whole skins and uncracked brains from the first and second examination, they may be allowed to take another bout.

In bringing my paper to a close, I think I cannot do better than transcribe, from a book written long ago by the distinguished Christopher William Hufeland, Professor in the University of Jena, the following sensible passage:—

"The powers of the mind," says this writer, "must not be exerted too early. It is a great prejudice that people imagine they cannot make a child begin to learn too soon. But it is certain that a child may begin too soon, when that period is chosen during which Nature is still employed in forming the bodily powers and organs, and has need of all her strength for that purpose. This period extends to the seventh year; and if a child be obliged at an earlier age to apply to learning, and be confined in a sitting posture, its body will be deprived of the noblest part of its powers, which must be now wasted by the business of thinking; and the consequences will be, a checking of the growth, imperfect formation of the limbs, muscular weakness, bad digestion, corrupt juices, scrofula, and a preponderance of the nervous system in the whole machine, which will become burdensome during life, by nervous affections, hypochondriasis, and evils of the like kind. Much, however, will here depend on the difference of constitution, and the greater or less vigour of mind; but I certainly request that parents and others will, in this respect, pursue a method *directly contrary to that usually followed.* If a child show an early disposition for thinking and learning, one ought, instead of straining its powers the more, as is commonly the case, to prevent it from application till a later period; for *such premature ripeness is generally a disease*, or at any rate an unnatural state, which ought rather to be checked than promoted, unless one wishes to breed up a *monster of erudition*, rather than a sound healthful man."

Truer words than those just quoted were never written. The whole of the book, which is entitled "The Art of Prolonging Life," abounds with valuable instruction. Mental precocity is "an unnatural state," and all "premature ripeness is a disease," which should be

regarded and treated as such; yet, now let me here ask you a question: Are you not all very fond of, and very proud of, clever, precocious, hard-working pupils? Do you not pat them, and pet them, and spur them on, with stimulant praises, and look forward to their eclipsing success in competitive or other examinations as your noblest trophies? Take heed of what you may be doing, for the "paths of glory too often lead but to the grave," and you may be but harking them on in pursuit of a phantom that "only flies to lure them to their doom."

Up to last night it was my intention to close my address at this point, but I was then reminded, by the valuable pertinent observations made by yourself, Mr. President, and by several other gentlemen who followed you, on the highly important subject of school ventilation, that I should not have passed unnoticed the most potent, perhaps, of all the physical factors of disease to which teachers are subjected. In several of my previous addresses—delivered in other places—I gave prominence to the destructive operation of contaminated school-room air on both teachers and pupils. Fearing, however, that my paper, should it embrace all that I desired to submit to your attention, or even any considerable moiety, would much exceed the limits I could hope to be acceptable to my audience, I was constrained to curtail it as far as possible. I do not now regret this decision in relation to defective school ventilation, for the sensible and forcible observations to which I last evening had the pleasure of listening, satisfied me that your body do not stand in need of any stimulation to awaken a conviction of the deleterious influence of this morbific agent. Dr. McCormack, of Belfast, some years ago published a very instructive book on the subject of rebreathed air in its relation to pulmonary consumption. He is, perhaps, rather too concentrative in his theorem when he asserts that this disease has for its sole and constant cause rebreathed air. It is, however, my firm conviction that it has no more potent or prolific factor, and there cannot be a shadow of doubt that the high mortality of teachers is, to a very large extent, ascribable to this poisoning agency.

How you are to protect yourselves against this death-dealing evil I confess I fail to conjecture. Artificial ventilation is, in truth, a costly provision, and I question if even in our large cities, in which Trustee Boards are constituted of a more liberal and intelligent class of men than those generally chosen in rural or village communities, our representatives would venture to call for the necessary annual appropriations to meet the expenditure. It seems to me that one of the greatest evils connected with our schools is their largeness. It is well known that large hospitals are, in the aggregate of their results, about as good as none at all; indeed, many sanitarians regard them as worse than none at all. How, within the cubic space available in even our best schools, an adequate supply of even moderately-poisoned air is to be

supplied to each pupil in the dense crowd, I confess I fail to see, for nothing short of a strong motor-power could suffice to force in the required constant supply of pure air. I fear the best you can promise yourselves will be but a mitigation of the existing evil, and to secure this nothing short of compulsory legislation will prove effective. I have heard of one zealous and conscientious teacher, in a western village, being taken sharply to account by his trustees for burning too much wood and letting in fresh air to improve the ventilation of his school. These economic sages thought it was nothing short of insanity to let in cold air, and thus create a demand for more firewood. Now, to leave the matter of improvement of ventilation, as merely permissible, in the hands of such clowns, would be to consign it to predetermined infanticide. I would fondly hope that our Minister of Education will muster courage to meet this vitally important requirement of his position, by the introduction of such a measure of legislation as will compel trustees to make provision for this improvement, and all others protective of the health of teachers and scholars.

I cannot dismiss this subject without again quoting from Professor Hufeland's book another passage, which I would warmly commend to your respect; it is as follows:

"I must here remark, that a great many of the evils which attend too early study may not arise so much from exerting the powers of the mind as from confinement and sitting, and from the corrupted air of schools in which children are taught. At any rate, the weakness is thus doubled. I am fully persuaded that it would be much less injurious if children were made to perform their school business in the open air during the fine seasons; and here, at the same time, would they have before them the book of Nature, which, supposing that the pupils are capable of reading and understanding it, is much more fit and proper for their first instruction than all the books that ever were written or printed."

Whilst I listened last night, Mr. President, to your interesting details of the working of your school play section, the passage now quoted came into my recollection, and I questioned whether it would not be a very desirable improvement, so far at least as the bodily health, and perhaps also the mental vigour, of your pupils are concerned, that they "were made to perform *this* school business in the open air during the fine seasons."

In my young days I used to hear surprising accounts of the able classical and mathematical scholars taught by the hedge-schoolmasters of Ireland. Who will say that the pure air breathed by the hedge-schoolmaster's pupils contributed less to their proficiency than his tutorial competency?

UNIFORMITY OF TEXT-BOOKS.

S. S. HERNER.

Mr. President, Ladies and Gentlemen,

Assembled as we are for the purpose of discussing subjects for the advancement of the educational interests of the Province, one of the most important that can engage our attention is the subject of "Uniformity of Text-books" in our public schools. The pupil, the parent, the teacher, the inspector—all have a vital interest in it. As soon as the pupil enters the school, a text-book of some kind is regarded as a necessity. Ignorant of the contents of it, and ignorant of the use to be made of it, his first experience should be of the most pleasant kind, because he is beginning to lay the foundation for all subsequent acquirements. If a dislike to the routine of the school be caused by means of the unsuitability of text-books, the evil done will be great. The parent has a direct interest in knowing that his child is placed in the most favourable circumstances for acquiring the rudiments of learning, and that the expenses incurred in the purchase of the necessary school books yield the best returns. The teacher's success in the school depends, to a limited extent, upon the ease with which the pupils can be classified for the prosecution of the specified subjects of the school programme. The inspector can, with greater facility, compare the teaching in the various schools in his inspectorate where the same series of books is used.

In advocating uniformity of text-books, it is necessary to know what part of the population of the Province is directly affected by it. Referring to the last Annual Report of the Minister of Education (1879), it is seen that the total number of pupils was 487,012, of whom $\frac{26}{100}$ of 1 per cent. were under 5 years of age, $96\frac{9}{100}$ per cent. from 5 to 16 years, $3\frac{50}{100}$ per cent. from 17 to 21 years, and $\frac{15}{100}$ of 1 per cent. over 21 years. With reference to their classification, it is seen that 155,861, or 32 per cent., were in the first class; 110,093, or $22\frac{60}{100}$ per cent., in the second class; 130,013, or $26\frac{70}{100}$ per cent., in the third class; 74,368, or $15\frac{27}{100}$ per cent., in the fourth class; 15,622, or $3\frac{21}{100}$ per cent., in the fifth class; and 1,055, or $\frac{22}{100}$ of 1 per cent., in the sixth class. It is thus observed that 97 per cent. of all the pupils were from 5 to 16 years of age, and about 81 per cent. in the first, second and third classes. The Report also shows that the sum of $2,072,822 was paid for teachers' salaries alone, or an average rate of $4.25 per pupil. When this sum is carefully considered, it must be admitted that the people of this Province are making noble efforts in behalf of

education. Teachers have a right to ask that the text-books which they are obliged to use shall be of such a character that the best interests of the school are subserved; but they should hesitate to ask for frequent changes, which must necessarily increase the burden of taxation, which is already heavy.

It may now be proper to consider the mechanical arrangement of text-books. The materials used in their making should be of the best available quality. The paper should be of reasonable thickness and tenacity, and of a colour that least wearies the eye to follow the printed page. The present authorized series fulfils these conditions in a fair degree. The binding should be *light*, so as not to give undue weight to the book; *strong*, so as to last as long as the printed page; and of *such materials* as not to make the price too high. According to the present prices, the public are justified in complaining that the binding is, in too many instances, of a rather questionable character, and that durability is by no means insured. Superior workmanship should be guaranteed; but whether this is to be secured by open competition or by direct interference of the Education Department, it is not my purpose to determine.

Permit me briefly to touch upon the purposes which text-books serve. It is evident that knowledge communicated by the lips of the living teacher has a freshness and vitality which no text-book can give it; consequently no text-book can remove the necessity of having a living teacher. Still, good text-books may be used with advantage to a school, more especially in the ungraded rural schools, where primary and advanced classes assemble to receive instruction from the same teacher. They present the object-matter of a branch of knowledge in a proper form for study, which is available to all the pupils, regardless of the irregularity of attendance of a large number of them. Where no text-books are used, much time is lost by the pupil in writing out the facts and principles orally communicated by the teacher. Since oral expression is of necessity rapid, misconceptions are liable to arise in the minds of the pupils, and occasionally statements are found in their note-books which were not communicated by the teacher. Besides, note-books are of a somewhat ephemeral character. Although young pupils do not necessarily require text-books, it is a convenience if they have them, as they have then the means of preparing what the books contain, in addition to the matter which the teacher presents. A very material consideration in teaching is the proper order of presenting the subjects of which the text-books treat, and a well-written series does that. In some schools where text-books are dispensed with, facts and principles are simply jumbled together, thus clogging the memory with disconnected fragments of knowledge, without language to make it known or power to use it for the accomplishment of important practical ends. It is advisable not

to attempt to make text-books perform functions which do not properly appertain to them. When a teacher has made up his mind to *teach* a subject, the question as to what text-books should be used becomes a secondary consideration, and that it ought to remain. They are, at their best, but aids in teaching, and should be regarded as such. The teacher should know more than they contain. He may exact a close study of them by the pupils, but they should serve only as a guide to his own instruction. They should contain correct definitions, well-expressed rules, exact arguments, apt illustrations, and appropriate examples for careful investigation by the pupils. But a servile dependence on text-books will lose these advantages as effectually as they are lost without the use of them. This dependence is one of the great evils of our age, and any system tending to reduce it to a minimum should meet with the hearty support of all friends and well-wishers of our schools. More especially should the leading teachers of this Province make their voice heard and felt on this important matter through their local associations. By united effort much can be accomplished.

A text-book should present a complete outline of the subject of which it treats, from the point of view from which it is considered; and what constitutes a complete outline gives rise to a great diversity of opinion. No text-book can contain all that is known concerning a certain branch of knowledge, but it may contain all its leading facts and principles systematically arranged. But here is again the difficulty of deciding what are the leading facts and principles. "It is unlike a book of science which contains a statement of facts, an enumeration of experiments, a series of speculations, or an exposition of theories; but it contains a systematic arrangement of the known definitions, axioms, facts and truths of a science, with such a number of examples as may be deemed necessary to impress them upon the mind of the learner." In the selection of the examples it must be taken for granted that the major part of the work rests with the teacher, as no author, however careful in this department of his work, will undertake more than simply to indicate the course that a thoughtful teacher may advantageously pursue. Every author of a text-book aims at presenting the subject upon which he writes in such an attractive manner, that it shall recommend itself for favourable consideration by the lucid way in which the subject is presented. He must have a clear knowledge of the whole subject. He should leave much for the teacher to add and for the pupil to find out. Details should be mainly supplied by teachers and books of reference. He should have before him in mind the class of pupils for whom he writes, and write as he would talk to them. Now, it is obvious that not all educated persons are good talkers, although they may possibly be voluminous; hence it is not to be supposed that all are qualified to become reputable authors. Having the whole subject before them, they should select

only that which is most valuable and most interesting. Interest in a book does not imply that everything in it should be explained or simplified. The most important truths should be presented in the most agreeable manner. The deepest interest is evoked for that which caused us the hardest labour to obtain. Text-books should be adapted to the capacity of the learners. If the higher and more difficult parts of the subject be placed in too close proximity to the more elementary parts, the pupils soon lose interest, and consequently make little progress. They cannot be expected to take much interest in what they do not understand. And why should we expect them to do it when we know that adults fail in this virtue, if virtue it be? The fault is not theirs, but that of the text-books, or of the teacher who is a servile follower of them. A large amount of time is wasted annually in this fruitless labour, and thousands of children are made to contract habits of idleness, if not of vice. It is impossible to ascertain the extent of the injury done to the youth of this country by neglecting to provide suitable work for each individual pupil during every hour of the school-day.

A uniformity of text-books aids very largely in the classification of the pupils of a school, while a diversity of them is an impediment to a complete classification. When the pupils of equal attainments have been supplied with the same kind of books, their formation into classes is comparatively easy. Uniformity makes teaching more effective. Anything that increases the effectiveness of teaching merits the serious consideration of every teacher. Frequently the remark is made that there is no material in the school to bring it into the front rank. Is the statement correct? Does it not generally indicate that there is a deficiency in the effectiveness of teaching? There are very few districts, if any, in which there is not sufficient mind-power to give the school a creditable standing if a suitable use be made of the text-books and the opportunities at command. Uniformity avoids that confusion of definitions and rules that must arise in a school where the books of several authors upon the same subject are in use. No two authors employ the same words for defining the same technical terms. Although each of the definitions may be strictly accurate, the employment of different words leads to uncertainty in the minds of the pupils as to which is correct. The elucidation of a principle is slightly different in different books. While this is commendable for the advanced student, it is inexpedient for the pupils in general. A fact is clearly stated by one author with reference to its importance, while another author states the same fact; but what the one regards as of primary importance, the other assigns to a subordinate position. Where the pupils observe this want of agreement with respect to what is essential to be studied, the interest soon flags in that particular subject. That which is true of one subject is equally true of all the subjects of the Public School

programme. Since nearly the same subjects are treated of in all the text-books, "the teacher can assign a rule in Arithmetic, a part of speech in Grammar, a country in Geography, a fact in Natural Science, or a period in History by topics," and the pupils can learn them from the different text-books. But such a mode of reciting would greatly add to the teacher's labour, confuse the pupils, and clog the recitations; but it is a less evil than an excessive multiplicity of classes which would result from having each class recite from their particular text-book.

For upwards of thirteen years the present Readers have been used in the schools. Has experience proved that they are poorly adapted to the teaching of reading? Has the gradation from the easy to the more difficult parts of the subject not been regarded in their compilation? Are the selections not of a character to cultivate purity of thought and a taste for reading? These are questions which form the basis of an intelligent discussion of a revision or a change of Readers, and which I shall leave in the hands of this Association to deal with.

In comparing the various elementary Arithmetics, it is seen that the same rules are discussed in almost the same order—evidence that the authors of them agree as to what parts of the subject naturally follow one another, and conform to the development of the minds of the pupils. In every one of them the leading principles are so presented that there need be no great difficulty in teaching their application. To serve as a guide, a number of questions are added indicating the course that may be pursued. Much, however, is left to be supplied; and the best questions are usually those occurring in practical life. Any one of the authorized Advanced Arithmetics contains so much theory and practice as is requisite to become a good arithmetician. There are, undoubtedly, omissions in every one of them.

With respect to Grammar and Geography, there is certainly no lack of good text-books. If objections have to be formulated against them, they will partake of the nature of their being too diffuse rather than of containing too little. In these two subjects it may be well to follow the maxim, "Learn how to forget wisely."

With the exception of the Readers, which are open to a good deal of criticism, I maintain that the present series of authorized text-books is fairly adapted to the requirements of the Public Schools. Whenever any great advances have been made in any department of knowledge, and whenever it is found that the text-books are badly deficient in that department, then they ought to be revised, or new ones ought to be prepared. But in the ordinary course of events no great advances need be looked for that materially affect school life. It is true that great advances have been made in science; but it is not science, properly so termed, that has to be taught to about ninety-six per cent. of

the pupils, but the rudiments of a few subjects, that they may, in after-life, become able to acquire a mastery of one or more departments of science. The radical changes that have taken place during the last score of years, and are now engaging the attention of the leaders of advanced thought, are largely in the direction of arriving at more enlightened methods of teaching the mass of the people how they can best train the rising generation to act their parts well upon this busy stage of life. For becoming familiar with those methods, it cannot reasonably be expected that any text-book should contain much information. It is mainly to be acquired by coming in contact with those leaders through the instrumentality of educational magazines, lectures, essays, etc.

Under existing regulations, the Education Department controls the class of text-books to be used in the schools by authorizing those giving evidence of being fitted for promoting the welfare of the pupils, or by withholding its sanction if not so regarded. So long as the Government invests that function in the Department will there be uniformity. Whether that ought to cease, and each series of text-books ought to stand or fall upon its own merits, is a question not easy to determine. The American system throws some light upon it. To enumerate all the Readers, Spellers, Grammars, Geographies, etc., that have been introduced into the schools of some of the Western States during the last twenty years, and discarded after a trial of a few years, would be a tedious task. Suffice it to say, that it not unfrequently happens that three and four different Readers are found in a school of less than forty pupils. A similar state of things exists with regard to Arithmetics, etc. No doubt each series has some new feature of excellence not found in the others. But do results show that, in consequence of those frequent changes, the attainments of the pupils there are superior to those here? There the school directors and teacher determine what books shall be introduced. A cursory observation at once shows that the average trustee in Ontario is a person not specially qualified to decide upon the merits of a text-book, even if it be but a First Reader. It is not assuming too much to say that the average Western school director is not possessed of a higher grade of intelligence than the average Ontario trustee. It can be readily inferred to what extent the best interests of the schools would be subserved if the trustees and teachers would have the selection of the text-books in their hands. If that power were delegated to the Inspector and trustees, the Inspector would often find his most sincere efforts misconstrued. Then, if the frequent changes of teachers and trustees, and the removal of parents from one section of the country to another, be taken into consideration, an opinion can be formed whether or not the Department should continue to authorize all the text-books, and retain uniformity throughout the Province. There are localities in which

peculiar circumstances make it desirable that local option in the selection of text-books should be exercised. The present regulations are sufficiently elastic to admit of the supplying of the wants of such exceptional localities. Financially, uniformity has much to recommend itself to the favourable consideration of the teachers, although it is possible that in some cases they become subservient to the words of the text-books. It is frequently stated, and correctly so, that no two persons put precisely the same construction upon the same sentence. It therefore follows that the repetition of similar language in definitions and statements of principles does not necessarily involve a subservience to any text-book. Moreover, it is almost impossible for any teacher to retain his position for any lengthy period unless his methods of teaching are in accord with the best at present known.

In viewing the subject from different standpoints, I am strongly of the opinion that the teachers of this Province should, by all legitimate means, sustain the Education Department in continuing to make the authorization of text-books a necessary preliminary to their introduction into the schools. We are justly proud of our school system, and of the high position our schools occupy when compared with those of other countries; but we too often fail to consider how much uniformity of text-books has contributed to this desirable state of things.

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R. W. DOAN, *Secretary.*


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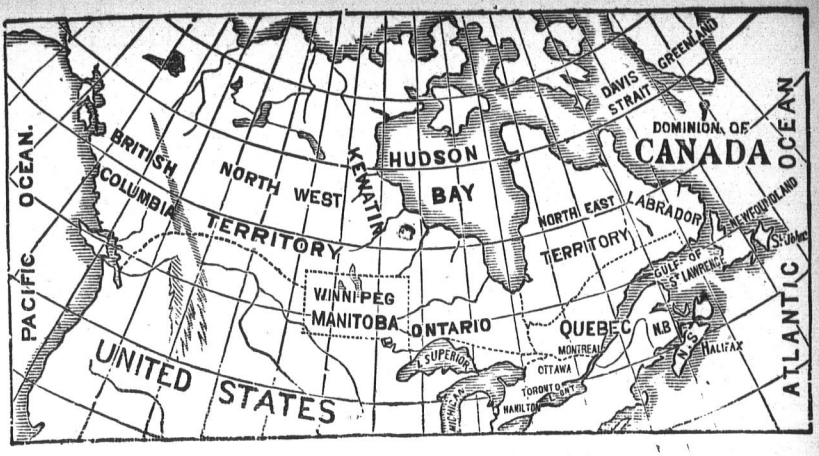

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