

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/  
Couverture de couleur

Coloured pages/  
Pages de couleur

Covers damaged/  
Couverture endommagée

Pages damaged/  
Pages endommagées

Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées

Cover title missing/  
Le titre de couverture manque

Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées

Coloured maps/  
Cartes géographiques en couleur

Pages detached/  
Pages détachées

Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/  
Transparence

Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur

Quality of print varies/  
Qualité inégale de l'impression

Bound with other material/  
Relié avec d'autres documents

Continuous pagination/  
Pagination continue

Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/  
Comprend un (des) index

Title on header taken from: /  
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/  
Page de titre de la livraison

Caption of issue/  
Titre de départ de la livraison

Masthead/  
Générique (périodiques) de la livraison

Additional comments: /  
Commentaires supplémentaires:

Pages 5-6 are missing.

This item is filmed at the reduction ratio checked below /  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

**THE**

# JOURNAL OF EDUCATION

FOR THE PROVINCE OF QUEBEC.

(PUBLISHED UNDER THE DIRECTION OF THE SUPERINTENDENT INSTRUCTION.)

EDITED BY

**HENRY H. MILES, Esq., LL. D., D. C. J.**

ASSISTANT-SECRETARY OF THE DEPARTMENT OF PUBLIC INSTRUCTION, AND

**GEORGE W. COLFER, Esquire.**

---

TWENTIETH VOLUME.

**1876.**

---

QUEBEC, PROVINCE OF QUEBEC:

**LEGER BROUSSEAU, PRINTER.**

**TERMS:—One Dollar per Annum in Advance.**



# INDEX TO THE TWENTIETH VOLUME.

**N. B. The Figures denote the Page.**

- Army Education in Germany—Notes on, 13.  
Aphorisms by Horace Mann, 14.  
Advertisements, 15, 116, 132, 164, 196.  
Arithmetic of, 22.  
Association—School Teachers', 27.  
Air in the School-Room—Light and, 37.  
Almanac for 1876—Correction to be made in Educational, 45.  
Air is spoiled—How House, 48.  
Annual Convocation—McGill University, 59.  
Astronomy—Random thoughts on, 65.  
Aged—Be kind to the, 77.  
Allowance—Give your girls an, 78.  
Æneid—Tomb of the, 75.  
Agricultural Chemistry or Scientific Farming, 81.  
Academy and the Polytechnic School—The Catholic Commercial, 126.  
Advice on Dress—Mr. Ruskin's, 131.  
August—The Pennsylvania School Journal for, 132.  
Art of Translation, 138.  
Association—Ladies Educational, 156.  
Art of Hospitality, 161.  
Art of Deception, 175.  
Association of Protestant Teachers—Annual Convention, 181.  
Arsenic—Experiments, 192.  
Anti-Early rising, 194.  
Antiquities—The French Museum of National, 195.  
Backbone—Educational, 2.  
Book Notices :  
    Home and School, 11, 146.  
    Wide-awake for September and October, 146.  
Beethoven, 47.  
Bell—The Emperor, 48.  
Boys—A word to, 48.  
Blunders in speech, 77.  
Birthdays, 77.  
Books received, 79.  
Battles to storms—The Relation of, 99.  
Burns—In case of, 115.  
Buildings—Iron in, 131.  
Behemoth and Leviathan of Scripture, 131.  
Bleach Leaves—To, 192.  
Blessing of good wives—The, 193.  
Children—A plea for the, 5.  
Christmas Examination—McGill University, 10.  
Cure for fits, 14.  
Can you swim, 14.  
Children—How to teach, 20.  
Culture—Methods of, 23.  
Chaplain of Newgate on Education and Crime.—The Report of, 29.  
Classical Study and Instruction, 33.  
Common Schools—Frivolous Instruction in the 39.  
Correction to be made in Educational Almanac for 1876, 35.  
Clever children, 45.  
Country Dominic—On some of the graver pleasures of a, 57.  
Children—Treatment of, 58.  
Convocation—Annual, McGill University, 59, 71.  
Competitive examinations—The Lancet on, 63.  
College—The Founder of Eton, 75.  
Conveniences—Small, 77.  
Children—Truthfulness to, 78.  
Chemistry—Agricultural or Scientific Farming, 81.  
Convent School—Villa Maria, 107.  
Cheery People, 116.  
Cyclopædias of the World—Great, 115.  
Catholic Commercial Academy and the Polytechnic School—126.  
Cultivation of Memory—The, 136.  
Centennial Commissioners to the Department of Public Instruction—Visit of Japanese, 143.  
Conservatism in Spelling, 151.  
Conventions—Teacher's, 152.  
Chinese Schools and Education, 167.  
Centennial—Object Lesson Teaching at the, 171.  
Confucius, 176.  
Children—Firm training of, 177.  
Caron—Death and Funeral of His Honor Lieut.-Governor, 188.  
Colored Lights, 192.  
Clear Ice, 192.  
Centennial Statistical facts, 192.  
Children—Teach, 193.  
Childhood—The sufferings of,  
    Discipline—Government and, 4.  
    Drawing in Public Schools, 7.  
    Donations—McGill University, 74.  
    Discipline—School, 117.  
    Drawing—On, 132.  
    Drawing as an Element of Advanced Industrial Education, 149, 165.  
    Dr. George Ross—Lecture by, 153.  
    Darkness and Light, 64.  
    Drugs—Patent medicines containing poisonous, 47.  
    Deception—The Art of, 175.  
    Discipline—School, 175.  
    Dominion—Meteorological facts concerning the, 195.  
Educational Backbone, 2.  
Education—On Higher, 6.  
Education in Germany—Notes on Army, 13.  
Education in Scotland, 15.  
Educational Training—On, 17.  
Educational Almanac for 1876—Correction to be made in, 45.  
Emperor Bell—The, 48.  
Education Higher, 6, 61.  
Examinations—The Lancet on competitive, 63.  
Eton College—The Founder of, 75.  
Education, 78.  
Experimental Physics in Schools—On the Practical Teaching of, 101.  
English Reigns, 131.  
Educational Association—Ladies, 156.  
EDITORIAL :  
    Book Notices—Home and School, 11.  
    Correction to be made in Educational Almanac for, 1876.  
    Visit of the Japanese Centennial Commissioners to the Department of Public Instruction, 143.  
    Education in Japan, 141.  
    The Gilchrist Scholarship, 145.  
    Daily attendance at School, 181.  
Extremes meet, 162.  
Early Rising, 163.  
Education—Limitations of, 165.  
Education—The Press on, 173.  
Evenings—Winter, 193.  
Fits—Cure for, 14.  
Forehead—The, 15.  
Frivolous Instruction in Common Schools, 39.  
Founder of Eton College—The, 75.  
Farming—Agricultural Chemistry or Scientific, 81.  
Fun at Home, 115.  
Forms of Salutations, from Quarterly Review, 63.  
Ferrier on Sleep—Professor, 77.  
Fine Words, 193.  
French Museum of National Antiquities, 195.  
Government and Discipline, 4.  
Great—Footprints of the, 23.  
Good advice for the Young, 30.  
German Workmen, 47.  
Graver pleasures of a Country Dominic—On some of the, 57.  
Girls an Allowance—Give your, 78.  
Good Teachers are Good Sleepers, 86.  
Grants to Schools—Tables of, 92.  
Good manners, 99.  
Going down Hill, 99.  
Great Cyclopædias of the World, 116.  
Gilchrist Scholarship—The, 146.  
Gems of Thought, 147.  
Grammar for Little Ones, 151.  
Great Mistakes, 151.  
Grammarland—A journey to, 24.  
Germany—Notes on Army Education in, 13.  
Girls at School, 174.  
Girls can be Housekeepers, 192.  
Higher Education, 6, 61.  
How to remove stains, 15.  
How to teach Children, 20.  
Hints to Young Teachers, 24, 41.  
How House air is spoiled, 48.  
Hygiene, 53.  
How shall we spell, 62.  
History—The Study of Natural, 83.  
Hill—Going down, 99.  
Home, Fun at, 115.  
Huxley on the Teaching of Science in Schools—Professor, 133.  
Home and School, 146.  
Hospitality—The Art of, 161.  
History in Schools, 163.  
Heavens—Spectacle of the, 164.  
Housekeepers—Girls can be, 192.  
Instruction—Primary Object Teaching, 1.  
Instruction—Classical Study and, 33.  
Instruction in the Common Schools—Frivolous, 39.  
In case of Burns, 115.  
Iron in Buildings, 131.  
Importance of the Study of Design—Report of Committee on Schools of Art, 158.  
Industrial Education—Drawing an Element of Advanced, 149.  
Ideal and the Real—The, 141.  
Ice Clear, 192.  
Journey to Grammarland, 24.  
Japan—The Mikado, 76.  
Jerusalem—The temple at, 79.

Japanese Centennial Commissioners to the Department of Public Instruction—Visit of the, 143.  
Japan—Education in, 144.

Kind to the aged, Be, 77.  
Kindnesses—Little, 115.

## LITERATURE :

The power of Silence, 11.  
Rust, 12.  
Literature for the Young, 31.  
Light and Air in the Schoolroom, 37.  
Lancet on Competitive Examinations, 63.  
Light—Darkness or, 61.  
Little Kindnesses, 115.  
Light and animal organism, 115.  
Leviathan of Scripture from Home and School Behemoth and, 131.  
Languages—Who shall teach Modern, 140.  
Little Ones—Grammar for, 151.  
Lecture by Dr. George Ross before the Medical Faculty McGill University, 153.  
Ladies Educational Association, 156.  
Libraries in Germany—University, 161.  
Limitations of Education—The, 165.  
Leaves—To bleach, 192.  
Lights—Coloured, 192.  
Livingstone's Researches, 194.  
Light—Weighing, 193.

## MCGILL UNIVERSITY :

Christmas Examination, 10.  
Annual Convocation, 59.  
Convocation, 71.  
Donations, 74.  
Intelligence, 108.  
Lecture by Dr. George before the Medical Faculty, 153.  
Metric System—The, 13.  
Mann—Aphorisms by Horace, 14.  
Methods of Culture, 28.  
Messrs. Water and Oil, 30.  
Medicines containing poisonous drugs—Patent, 47.  
Mikado of Japan—The, 76.  
Mothers should be educated, 76.  
Milky way—The, 81.  
Manners—Good, 99.  
Memory—The cultivation of, 136.  
Modern Languages—Who shall teach, 140.  
Mistakes—Great, 151.  
Meteorology, 16, 31, 80, 100, 148, 196.  
"Mother", 147.  
Montreal School of Art and Design, 190.  
Meteorological facts concerning—The Dominion, 195.  
Museum of National antiquities—The French, 195.

Notes on Army Education in Germany, 13.  
Newgate on Education and crime—Report of the Chaplain of, 29.  
Nicknames, 46.  
Natural Philosophy in Schools—Teaching, 66.  
Natural History—The Study of, 83.

Overwork at School, 14.  
On Educational Training, 17.  
On the Training of Young Teachers, 49.  
On some of the graver pleasures of a Country Dominic, 57.  
On the practical Teaching of Experimental Physics in Schools, 101.  
Oil as Fuel, 116.  
On Dreaming, 132.  
Ones—Grammar for Little, 151.  
Official Notices, 28, 45, 62, 75, 98, 108, 129, 142, 157, 180.  
Organism—Light and Animal, 115.  
Oil yourself a little, 193.

Primary Instruction, 1.  
Plea for the Children—A, 5.  
Public Schools—Drawing in, 7.

Power of Silence—The, 11.  
People are poor—Why some, 14.  
Pleasure of Study—The, 22.  
Practical versus Theoretical, 42.  
Patent Medicines containing poisonous drugs, 47.  
Poisoned Sweets, 48.  
Pleasures of a Country Dominic—On Some of the Graver, 57.  
Poverty—The way out of, 68.  
Philosophy in Schools—Teaching Natural, 66.  
Professor Ferrier on Sleep, 77.  
Power—A wife's, 78.  
Physics in Schools—On the practical teaching of Experimental, 101.  
People—Cheery, 116.  
Pennsylvania School Journal for August—The, 132.  
Professor Huxley on the teaching of Science in Schools, 133.  
Planisphere—The, 140.  
Protestant Institution for Deaf-Mutes—Notice, 146.  
Proverbs—Weather, 147.

## POETRY :

Night ride in Fairy-land, 11.  
The glory of God in Creation, 27.  
Aspiration, 28. ●  
Endurance, 28.  
What is life, 28.  
Sunset, 45.  
The Pilgrims of the Plains, 61.  
The Horizon, 86.  
O Little Feet, 109.  
The Dark Huntsman, 130.  
The Conscience and Future Judgment, 143.  
The Bald-Headed Tyrant, 158.  
Don't forget to Pray, 181.  
Quarterly review : Form of Salutation from the 63.  
Rust, 12.  
Report of the Chaplain of Newgate on Education and crime, 29.  
Random Thoughts on Astronomy, 65.  
Report on Education 1873-74, 86, 109.  
Relation of Battles to Storms—The 99.  
Reigns—English, 131.  
Ruskin's Advice on Dress, 131.  
Real—The Ideal and the, 141.  
Ross before the Medical Faculty of McGill College—Lecture by Dr. George, 153.  
Report of Committee on Schools of Art., 158.  
Rising—Early, 163.  
Rest—Repose, 164.  
Rising—Anti-Early, 194.  
Recipes useful, 192.  
Researches—Livingstone's, 194.  
Rapidity and Superficiality, 194.

Schools—Drawing in Public, 7.  
Silence—The power of, 11.  
System—The Metric, 13.  
School—Overwork at, 14.  
Swim—Can you, 14.  
Scotland—Education in, 15.  
Stains—How to remove, 15.  
Study—The Pleasures of, 22.  
School Teachers' Association, 27.  
Study and Instruction—Classical, 33.  
School-room—Light and air in the, 37.  
Schools—Frivolous Instruction in the Common, 39.  
School Discipline, 43.  
Sweets—Poisoned, 48.  
Spoiled—How House air is, 48.  
Spell—How we shall, 62.  
Salutation from Quarterly Review—Forms of, 63.  
Schools—Teaching Natural Philosophy in, 66.  
Schoolmasters, 76.  
Sleep—Professor Ferrier on, 77.  
Speech—Blunders in, 87.  
Small conveniences, 77.

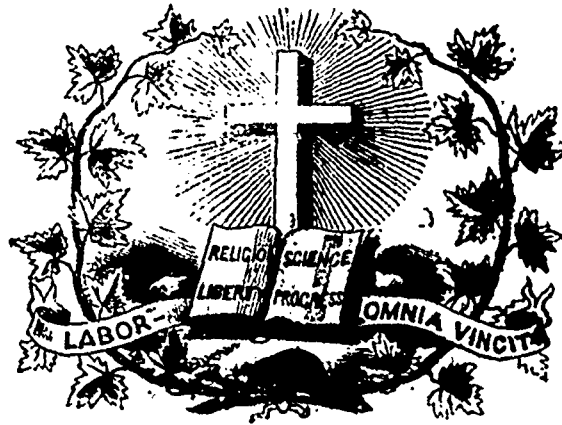
Study of Natural History, 83.  
Scientific Farming—Agricultural Chemistry or, 84.  
Sleepers—Good Teachers are good, 86.  
Storms—The relation of Battles to, 99.  
Schools—On the Practical Teaching of Experimental Physics in, 101.  
School Discipline, 117.  
Sun does not set—Where the, 131.  
Science in Schools—Professor Huxley on the Teaching of, 133.  
Scholarship—The Gilchrist, 135.  
School—Home and, 146.  
Spelling—Conservatism in, 151.  
Schools of Art—Report of Committee on, 158.  
Schools—History in, 163.  
Spectacle of the Heavens, 163.  
School Examinations, 106, 107, 122, 125, 126, 127, 119.  
Science of Teaching—The, 172.  
School—Girls at, 174.  
School discipline, 176.  
Spelling, 178.  
School of Art and design—Montreal, 190.  
Short sight in school children, 191.  
Stimulants by Women—Use of, 192.  
Superficiality—Rapidity and, 194.  
Sufferings of Childhood, 194.

Teaching—Object, 1.  
Training—On Educational, 17.  
Teach Children ; How to, 20.  
Teachers—Hints to Young, 21, 41.  
Teachers Association—School, 27.  
Trifles, 30.  
Time and Time tellers, 30.  
Truth, 30.  
Theoretical—Practical vs., 42.  
Training of Young Teachers—On the 49.  
Treatment of Children, 58.  
Thoughts on Astronomy—Random, 65.  
Teaching Natural Philosophy in Schools, 66.  
Tomb of the Æneid, 75.  
Truthfulness to Children, 78.  
Teachers are good sleepers—Good, 86.  
Tables of grants to schools, 92.  
Temple at Jerusalem—The 99.  
Teaching of Experimental Physics in schools—On the Practical, 101.  
Teaching of Science in Schools—Professor Huxley on, 133.  
Translation—The Art of, 138.  
Teach Modern Languages—Who shall, 140.  
Thought—Gems of, 147.  
Teachers' Conventions, 152.  
Teaching—The Science of, 173.  
Teachers, 176.  
Turkey—A few words on, 177.  
Teach Children, 193.  
Tripoli, 192.

Useful Information, 115.  
University—McGill, 10, 27, 59, 71, 74, 108, 153.  
University Intelligence, 156, 190.  
University Libraries in Germany, 161.  
Useful recipes, 192.

Why some people are poor 14.  
Water and Oil—Messrs., 30.  
Workmen—German, 47.  
Word to Boys—A, 48.  
Way out of Poverty—The 63.  
Wife's power—A, 78.  
Way—The Milky, 8.  
World—Great Cyclopedias of the, 115.  
Wide Awake, 146.  
Women—Use of Stimulants by, 192.  
Wives—The Blessing of good, 193.  
Winter Evenings, 193.  
Weighing Light, 193.  
Words...Fine, 193.

Young Teachers—Hints to, 21, 41.  
Young—Good advice for the, 30.  
Young—Literature for the, 31.  
Young Teachers—On the training of, 49.



THE

# JOURNAL OF EDUCATION

Devoted to Education, Literature, Science, and the Arts.

Volume XX.

Quebec, Province of Quebec, January, 1876.

No. 1.

## TABLE OF CONTENTS.

Primary Instruction—Object Teaching.....	1	Rust.....	12
Educational Backbone.....	2	MISCELLANY:	
Government and Discipline...	4	The Metric System.....	13
A Plea for the Children.....	5	Notes on Army Education in Germany.....	13
On Higher Education.....	6	Overwork at School.....	14
Drawing in Public Schools..	7	Aphorisms by Horace Mann	14
McGill University Christmas Examination.....	10	Why some people are poor	14
POETRY		Cures for fits.....	14
Night Ride in Fairyland...	11	Can you swim.....	14
EDITORIAL:		Education in Scotland.....	15
Book Notices—Home and School.....	11	How to remove stains.....	15
LITERATURE:		The forehead.....	15
The Power of Silence.....	11	Advertisements.....	15
		Meteorology .....	16

### Primary Instruction: Object-Teaching.

JAMES CRUIKSHANK, LL. D.

We do not choose this title, Object Teaching, from any fancy for it in itself, nor admiration for the crude and pedantic methods that are often put forth under its sanction, but because it stands for certain principles and methods in primary instruction, which have lately occupied a large share of public attention, especially among those accounted as leaders of educational opinion. If we use the term as synonymous with "the method of nature" in education, then it may prove worth the while to consider briefly: 1, What it is not, or rather in what respect the so called object-teaching is defective in principle or method; and, 2, Some of the conditions of the true method of nature, that may improve our system of primary instruction.

As long ago as 1826, the little manual of Elizabeth Mayo, entitled "Lessons on Objects," was published in England. Near the same time, or not long after, American educators gave a large share of attention to the subject, and though there was little done, formally, in this country to organize the idea, yet its spirit was soon felt in improved methods, in a more rational apprehension of the end and the means of primary school training. It was perhaps, rather a normal and healthful growth into the practical application of the objective in education,

through the senses and the child's own endeavors, than any pretentious heralding of a new idea.

In England, Mayo's Lessons passed almost unchanged through a series of editions for nearly thirty years, until their revision in 1855, and were not largely entertained, except in a few of the schools for normal instruction, chiefly the Home and Colonial Training School. But in New York, and in nearly all our Northern States, the experiment inaugurated at Oswego, under the lead of Dr. Sheldon, was looked upon with favor, as containing the hope that the rank and file of the profession might have brought to their notice in organized form, and through a system of normal training and practice, what the more skillful had, by intuition or a keener insight, already accepted and practiced.

There can be little doubt that the Oswego Normal and Training School has given a grand impulse towards improved methods in primary instruction, and that even those who do not accept the methods practiced or the exposition of them in Mr Sheldon's edition of Miss Mayo's book, have yet had their attention, through these means, called to the consideration of fundamental principles, and have sought for improved methods.

The tendency on the part of the disciples of this school has been, undoubtedly, too largely to a somewhat slavish following of the standards; yet there are notable exceptions, and the managers of that school and of others that have adopted its general ideas have, during the last decade, very generally modified the methods at first introduced by Miss Jones, of London (who was employed in the incipency of the enterprise), as well as those set forth in the "Manual of Object-Lessons."

We do not find fault with the general principles enunciated so much as with the English adaptation of them. As the crude feature of these last are sloughed off, the system improves, and much may yet be hoped from the careful study and practice of the many schools for normal instruction that are contributory towards an improved system of didactics.

The foundations of the objective method of instruction were laid in the Baconian philosophy in the seventeenth century, and the utterances of nearly three hundred years ago sound much like the latest deliverances of our annual conventions of progressive educators.

"Men read in books," says Bacon, "what authors say concerning stones, plants, and animals, and the like, but to inspect these stones, plants, and animals with their own eyes is far enough from their thoughts; whereas we should fix the eyes of our mind upon things themselves, and thereby form a true conception of them."

Unquestionably the great founder of the inductive philosophy gave inspiration to the labors of Comenius, in the early part of the seventeenth century, who thus writes: "Since the beginning of knowledge must be with the senses, the beginning of teaching should be made by dealing with actual things. The object must be a real, useful thing, capable of making an impression upon the senses. It must be brought into communication with them: if visible, with the eyes; if audible, with the ears; if tangible, with the touch; if odorous, with the nose; if sapid, with the taste. First, the presentation of the thing itself and the real attention of it; then the oral explanation for the further elucidation of it." In the same strain wrote John Locke, in 1690: "When he can talk, it is time he should begin to learn to read. But as to this, give me leave here to inculcate again what is very apt to be forgotten, viz., that a great care is to be taken that it be never made as a business to him, nor he look on it as a task. We have an aversion for many things for no other reason but because they are enjoined us. I have always had a fancy, that learning might be made a play and recreation to children, and that they might be brought to desire to be taught, if it were proposed to them as a thing of honor, credit, delight, and recreation, or as a reward for doing something else, or if they were never chid or corrected for the neglect of it."

Pestalozzi, who commenced his labors in the latter part of the eighteenth century and died in 1827, is indebted to Comenius for the fundamental ideas and, to a great degree, for the methods which he organized in primary education. And thousands of educators since Bacon's time, though, perhaps, not formulating their methods, have wrought in the spirit of these great leaders of educational progress; and we judge that many have been so true to nature, and so in sympathy with the little ones, to whom they were both teacher and companion, that they were as unconscious of the life and warmth that flowed from them as the sun is of his shining, or the dear mother earth of the plant that she nourishes into life and beauty and fruitfulness.

Chief among the defects that have attended the modern experience of object-teaching, which we shall simply refer to, without enlarging upon them, may be mentioned:

1. That too frequently it has been put forward pretentiously by those who, either from want of skill or with too narrow an apprehension of its true significance, have caught the form and missed the spirit—so that the dry bones of a dead formalism have taken the place of that living inspiration that should meet response in the active, aggressive, and inquiring mind of childhood.

2. Many, also, it is to be feared, who have little genius for the work of instruction, never translate into their own experience and vitalize the ideas—elementary and suggestive at best—which they have received from the manuals or the training schools.

3. The average American child, by methods of his own, in the daily experience of the home and the street, gains a knowledge of things that, in most respects, put him in advance of the school lessons, often manufactured as if the teacher or the book-maker supposed his mind to be still a blank; and so in this and other respects "Pestalozzian methods" have violated Pestalozzian principles.

4. Particularly, whilst it is accepted that "observation is the absolute basis of all knowledge; that the first object in education must be to lead the child to observe with

accuracy; the second, to express with correctness the results of his observations"—yet too frequently (and the manuals encourage this) what he is to observe is predetermined by the teacher from her own consciousness, and not from the child's standpoint; and, in order that he may express with accuracy, he is entrapped into the repetition of scientific or difficult terms and seduced into the giving of a definition that, for any vital relation to the thing it stands for, might as well have been memorized at the first. We do not say that any intelligent teacher, who knows anything of the ways of children or has any sympathy with them, will long continue this; but this is the tendency, and a word of caution is needed.

5. The spirit of the maxim, "first form the mind and then furnish it," has been perverted and so interpreted as to give currency to a false philosophy, and to most erroneous and unfruitful practices. The mind is "formed" by the process of furnishing it; and it behooves all who have been led astray by this aphorism to consider that the real defect in our education is the meagerness of our knowledge of facts, more than of power to express what we know or to use what we have acquired.

There is a golden mean, and the "improved methods" are in danger, while contemning the errors of the "memoriter system," of going themselves to the other extreme.

"Gradgrind" may be amenable to censure, but he has received unmerited abuse.

The true use of Pestalozzian principles is to correct, not to overturn and destroy. It may be found that the evils which have been charged against the several schools of pedagogy arise from error in practice and false interpretation of principles, and that after all there are not so wide differences in the fundamental ideas as some have claimed.—(*Brooklyn Journal of Education*.)

### Educational Backbone.

PROF. E. BARTON WOOD.

(Paper read before the Wisconsin State Teachers' Association, July 30, 1875.)

There is no grander thing in all the universe than a strong, decided, self-reliant, independent character. Strength of will, decision of purpose, independence of action and thought,—these form the lever that moves the world. Without these, all other traits are of little worth to their possessor or to the world about him. The weak man, no matter how good his purpose, is a cipher. He can not carry out his plans, nor can he inspire others with his feelings. He can neither resist temptation nor lead others away from it. The decided, strong man, and he only, can so act and impress himself upon his time as to effect any important thing for the race. We have plenty of weak, good men. We need more of those who dare stand up for their opinions, who in fact *have* opinions, and who can be swerved neither by threats nor cajolery from their true course—men, in other words, of backbone.

Backbone does not mean, as I understand it, unbending rigidity, or obstinacy, or pugnacity. Consider the structure of the literal backbone. It is strong, but it is also elastic; it may be rigid or it may be flexible; it has a wonderful power of adaptation to varying circumstances. Nothing can better symbolize the character of the men that are the need of the time. We want such men to come forth as the product of our public schools. To this end we need backbone in all things connected with education. They should be

vigorous, decided, with a definite purpose, calculated to beget in pupils a habit of independent thought adapted to their age, condition, and development, and so elastic as to serve the varying needs of the place and the time. We want backbone in our methods of teaching, in our discipline, in our courses of study, and in our whole educational system. These four points will be especially referred to in this paper.

First, as to methods of teaching. These are sometimes too rigid, cast in an iron mould, the same for all, young or old, mature or immature. Some teachers present every subject, even in a primary school, in a hard, dry, logical way, that has in it no variableness, neither shadow of turning. The recitation is simply an examination. No helping hand is offered, and if the pupil gets into deep water, he must help himself out. At a certain age and development of pupils, more or less of this work is needful to cultivate self-reliance; but this is quite an advanced stage. The young and immature become discouraged and faint under it. The child, in its first feeble, tottering steps, must have an arm on which he can rely for aid.

But this method is becoming old-fashioned, and others, more modern, are more popular. There is the co-operative style, as it has been called, at the other extreme, in which the pupil is not trained to depend upon himself at all. He is called, arises, hesitates, and the teacher immediately goes through the work, the pupil looks on admiringly, nods approval, and is marked 10. Or else, when he hesitates, a dozen hands go up in class, and one gives a few words, another a few more, and so on; and if he approves he is marked 10, as before. It is really astonishing to look at the class reports of such teachers, and to see how many of their pupils have stood 10 throughout the year; and it is quite as astonishing to see how many of these fail in their examinations. The failure is explained as being the result of bashfulness or nervousness when examined; but it really is because there has been no backbone in their instruction. They have been nursed and propped up with pillows until their strength is gone; and so, when left to themselves, they show how flabby and nerveless and characterless their teaching has been.

Then there are teachers who have adopted what they dignify by the name of *topical* method. What they mean by the topical method is too frequently the mere repeating verbatim by the pupil of the words of the text book, without questions on the part of the teacher. Truly, this is an improved method. It enables the teacher to get on without preparation on his own account; for all he has to do is to look at his book, touch a spring and set some child a going, and then let him run down. A baser slander was never uttered than when such work is called the topical method.

Then there are those who wish to train the reasoning faculties of the child. The pupil, no matter how young, must never learn a new process or a new fact until he can give the philosophy of what he has already learned. He must not learn that  $2 \times 3 = 6$  until he can tell the reason why  $2 \times 2 = 4$ . If these teachers could help it, they would not allow a babe to learn to talk any faster than it could give the rules of syntax. These teachers are usually very fond of "mental arithmetic" for the primary pupils, because they can require a logical analysis for each step. I say nothing against mental arithmetic, if its work is given to the grade of children fitted for it; but in the way it is frequently taught I do decidedly object to it. A certain form of analysis is usually given in the text book for each kind of example. The child, no matter what his age or development, must learn the formula. Of course, with

young pupils it unavoidably becomes nothing more than a formula—mere mechanical routine. No powers of reasoning are developed by such a process. It is a purely memoriter operation. Permit me to give a specimen out of hundreds of similar cases that I have observed:

Teacher: "Seven times eight is one half of how many times four?" Pupil (after repeating the question): "Seven times eight is fifty-six, and is one half of one hundred and twelve, and one hundred and twelve is twenty-eight times four. Therefore," etc. Teacher: "No; next." I ask the teacher if that was not right. She says that the answer was right, but that the pupil did not give the correct analysis. "But," I ask, "was not the analysis he gave a logical one?" "Well," she says, "I mark it a failure if it is not as the book gives it." She shows me the book, which gives this form viz: "Seven times eight in one-half of as many times four as four is contained times in two times the product of seven times eight," etc.

Can there be any surer way to blunt and deaden all that is keen and bright about a boy than that?—any more certain method of crushing out every attempt at original and independent thought? It "out-Herods Herod." It is a veritable slaughter of the innocents.

Any of these methods destroy self-reliance, and substitute a servile dependence on the teacher or the text-book. Not that either teacher or text-book should be abandoned, by any means. We have heard men crying out, of late years, "Away with your text-books! No true teacher will use a text-book." But there is a proper use of text-books. They should be studied diligently, and the teacher should show his pupils how to study them. There is great mental discipline in such study. And after leaving school, the greater part of acquired knowledge must come through the medium of books; and if one has not been trained to their use, he can not tread the avenues of thought beaten by other and greater minds before him. But all should be so done as to cultivate to the utmost the child's independence of thought and investigation.

Secondly, as to discipline. Here, too, we find the same extremes. One teacher rules by a law as inflexible as those of the Medes and Persians. He makes no allowance for difference of age or sex or temperament or home training. The single article of his creed is that discipline must be maintained. He has no smiles, no relaxation, no cordial greetings for his pupils, lest his authority may suffer. In his eyes a mistake is criminal, a laugh is flat treason. No sound disturbs the solemnity of that awful place. His school is orderly; but so is a penitentiary. Everything is silent, but it is the silence of the grave. It is all, as Mr. Mantalini would say, "one demd horrid grind." His pupils may fear him, but they hate him. He has no art nor device by which to catch their sympathy, arouse their enthusiasm, inspire them with grand and noble purposes. He fails entirely of the highest prerogative of the true teacher—that of stamping his own impress and seal upon his pupils for all time. He sends them forth at last abject, spiritless creatures, or, if they have any rebound, disposed to transgress and defy any law, human or divine, except when restrained by fear.

This kind of school discipline, too, like the rigid method of teaching, is passing away. With the more modern teacher all is love. He loves all his pupils, from the frowzy six-year-old boy to the big girls on the back seats. He gushes, he runs over with love. He sets up no absolute standard of right, in any case, to which the ill-disposed and unruly must come. He desires to succeed, and his effort is to govern his school,



provided he can do it by love; if he can not, he lovingly submits to have the school govern him. Out upon such sickly, wishy washy, sentimental nonsense. That teacher is weak who desires any love from pupils not founded upon sincere respect for him as a man and a scholar, and a fearless executive of just and needful regulations. No true boy of spirit will feel anything but pity or contempt for such an invertebrate teacher as I have described.

There is no need of either of these extremes in government. The teacher can be just, without being morose; fearless in doing his duty, and yet kind and genial; strict in requiring obedience, and yet swift to do pleasant things for those under his charge.

Thirdly, with respect to courses of study. Not every school in a small town should copy the course adopted at Chicago or Boston, but should arrange it so as to be of the greatest advantage to the majority of the pupils who attend. And yet a good, thorough course should be adopted, not omitting some studies for general culture. And when a course is once adopted, no amount of influence should be permitted to cause teachers and school boards to graduate a pupil unless that pupil has studied and passed a thorough examination in every study laid down in that course. The very common practice of allowing pupils to pass grade who do not meet the demands of the class to which they are going—to thus slide along through the course, and go out at last with the certificate of graduation, is a most bare-faced fraud upon the public and the pupils themselves. It is an old saying that "human nature is as lazy as it can be under the circumstances"; and if pupils come to believe that they can "pass" without effort, and that even if they do not quite come up to the requirements, they will be allowed to slip through, they will almost universally become idle and superficial; and these habits, once formed, will cling to them through life. There is often much pressure brought to bear upon a teacher or examiner in many ways to permit this, and it needs backbone to resist it. Still, it is not always necessary to keep a pupil going over a study year after year, for which he has no taste or apparent capacity. If general history be in the course, for instance, and a pupil, bright perhaps in other things, does not seem able to master this, he may, after one or two trials, be permitted to drop it. But he should not be permitted to graduate, and thus have a certificate that he *has* mastered every study in the course. This common practice lowers the tone and reputation of the school and of its graduates, and is one of the chief reasons why people at large care so little about the diploma of a school as a certificate of scholarship. It is by no means necessary that a pupil should receive a diploma, but it is essential that he receive good, thorough instruction, should be well grounded in the elementary branches, should have good habits of study fixed upon him, should learn how to do honest, earnest, hard work in whatever station of life he may be.

Lastly, with regard to our general systems of education. I believe thoroughly in a state system of instruction, that shall be a living, vertebrate thing, with vital connection in every part, from the university down to the district school, controlled by the same will, informed by the same great purpose. It must not be so rigid as to shut out the majority of the children of the state from its benefits, nor so loose as not to present an opportunity for thorough instruction to those who desire it. It must yield to no demands of sect or party, and should be, as far as possible, removed from the domain of politics.—*Michigan Teacher.*

## Government and Discipline.

SUPP. S. A. GALKINS.

In all the rules and methods of discipline employed, the true object of discipline should steadily be kept in view namely, to train the pupils so that they may form right habits.

Firmness, vigilance, and uniformity in dealing with children, are of the first importance. The teacher should never resort to violent means, as pushing, pulling, or shaking the children, in order to obtain their attention. All such practices constitute a kind of corporal punishment which, whether that species of coercion be permitted or not, should be most carefully avoided.

Modes of punishment especially painful to the corporal system, such as the sustaining of wearisome burdens, unnatural and long continued attitudes of restraint, standing, kneeling, etc., are exceedingly wrongful and injurious. Equally so is the confining of delinquents by tying them or by shutting them in closets. These are all a resort to mere physical force instead of moral incentives, and involve no appeal to a sense of honor or duty in a child. They do not properly assert the authority of the teacher, nor do they really produce obedience on the part of the pupil.

When corporal punishment is resorted to, it should be of a proper character—never partaking of that continuous infliction of pain which we denominate torture, and never administered except in a spirit of mildness, and with deep regret at its necessity. When all those persuasive incentives and agencies which constitute moral suasion have been appealed to without avail, and there is no other recourse, corporal punishment may be resorted to in order to save the pupil, but for no other reason. The necessities of discipline may seem to require it, and they certainly do, if in order to meet them the teacher must choose between chastising his pupil thus or depriving him of the benefits of school instruction and training, and so insuring his moral destruction.

In directing the various movement required of the pupils, care should be taken never to touch them. The teacher ought to take such a position before the class as will command the eye of every pupil, and thence direct by the voice or by a signal. Pupils must be habituated to the impression that the teacher will give his commands but once, and that they must be obeyed at once.

Harsh tones of the voice are unnecessary and improper. Words of disapprobation may be uttered by the teacher in a tone of decision, without the use of any severity that would imply resentment, anger, or antipathy on the part of the teacher. On the contrary, the language used and the tones of the voice should always express a feeling of sympathy with the child. This is the way to win the youthful mind, and to bend the will, through the affections. A different course will antagonize it and prevent all real submission, securing only a temporary semblance of obedience.

As the teacher, so will be the school. It is, therefore, requisite that teachers should rigidly discipline themselves, by carefully cultivating habits of neatness, cleanliness and order, gentleness of manner, a watchful self-control, and a cheerful spirit. In speaking, let the rising inflection of the voice prevail; then the falling inflection of reproof will be more effectual and impressive.

Teachers should seek to obtain the sympathetic regard of the children by giving due attention to their little wants and requests, which should be fulfilled as far as

may be proper and reasonable. Children are quick to perceive and recent injury or injustice. The child who asks for the privilege of a drink of water, for instance, may be suffering acutely; and if not accorded relief, when this seems to be perfectly practicable on the part of the teacher feels a sense of outrage which for a time, if not permanently, impairs its respect and regard for the teacher. The cultivation of a due feeling of sympathy for the children will wholly prevent this. The possession of this feeling in its fullness is the best foundation for success in both discipline and instruction.

Encouragement inspires confidence; and children, more than others, need it. Let it be given, in all cases where this can be honestly done. To a want of this in the discipline of classes are to be ascribed the timidity and reserve so often manifested among pupils by a hesitating manner, a low voice, and a tone of inquiry in response, especially to strangers. A proper degree of encouragement renders them confident and spirited, eager to tell what they know and in an audible tone of voice. Encouragement has a peculiar influence in promoting both mental and moral improvement.

Public exposures and badges of disgrace belong to a class of punishments which, if ever resorted to, should be employed under careful limitation, and with great circumspection and prudence; for it requires a skillful, discreet, and conscientious teacher to use them safely and with benefit. In the discipline of girls, they should be avoided altogether, as destructive of that nice sense of shame and delicate sensibility to reputation which are to be most carefully fostered in the female character.

Cleanliness, method, and regularity are among the first and most necessary elements of popular education. Every rule requisite to maintain or impart these should be punctiliously and diligently enforced.

Education is unfinished until the physical powers come under subjection to the understanding and the dictates of morality and social refinement. Children should be taught how to sit, to stand, to move, to walk. Rules are required for this; but they need to be only few and simple, and the nice and watchful observation of children renders it quite easy to enforce them, provided they are not capriciously applied. Children must first be taught them, and then never permitted to violate them without admonition or correction.

Teachers should never forget that their pupils are closely and constantly watching their conduct, and that they are prone to imitate whatever they observe. They should, therefore, see nothing that they may not safely imitate. There is an "unconscious tuition," the silent influence of which produces the most permanent effects.

The character of children is greatly affected by their surroundings. These should, therefore, be neat and orderly. The rooms in which they assemble should be clean, the desks and other furniture, so far as possible, without injury or defacement, and everything given evidence of punctilious and constant attention. Children, from the contemplation of these things, unconsciously acquire habits of order, neatness, and regularity, which have important bearing upon their usefulness and happiness in after life.

The basis of good order is attention. It does not require that the pupils should occupy, for any certain time, a fixed position; that they should be compelled to restrain their glances upon a given point; that they should be motionless as statues. All this is unnatural; and whatever is unnatural is disorderly. The postures should be graceful, easy, and uniform, but should be frequently changed. The movements, while as simultaneous as perfect attention would necessarily produce, should also be easy and natural.

Good order involves impression rather than repression; it does not consist in a coercion from which result merely silence and a vacant gaze of painful restraint; but it results from the steady action of awakened and interested intellect—the kindling of an earnest purpose and an ambition to excel. Hence by making punishment the first instead of the last resort, the true object of educational discipline is defeated. The prevailing atmosphere of the class-room should be always that of love and kindness, equal to that of a parent, in whose place indeed the teacher is for the time; and it will be found almost invariably that everything essential to effective discipline springs from an interchange of confidence and regard between teachers and the pupils committed to their instruction.

Those who have the management and instruction of our schools should exercise the greatest care that their teachings and influence be not exclusively intellectual, that they tend not only to inform the mind, but to form the character,—filling the head, but impressing like wise the heart. Even where the operations of these schools are confined to teaching, let the kind of knowledge and the mode of imparting, be dictated by considerations having in view moral and religious, as well as intellectual improvement. Let the knowledge imparted be always such as will refine, ennoble, elevate.  
—(From *How to Teach*.)

#### A Plea for the Children.

E. R.

I fear that as teachers we chide too severely and punish too hastily, forgetting that consideration is due to all. Though young in years, children have their rights, and those rights should be respected in every case. In childhood and within the school-room, to a certain extent, the deepest most enduring impressions are made upon the mind. There are lessons of wisdom not taught in our most complicated textbooks, but by words and actions as teachers. We open a book which the child is ever studying. Our example most of all is teaching the child; and by our careless, unjust words we may undo the toil of weeks. It is cruel to little, tender hearts to speak in a scolding, fault-finding manner; and by this very lack of forbearance on our part we too often defeat our object. If we would teach children self government, we must practice what we teach, unless we argue like an eminent theologian: "It is enough for me to preach; others can practice." Children are no more mischievous or depraved than they were in our childhood. I have a not very distant recollection of the misdemeanor of a certain fractious, nervous, irritated pupil who would be puzzled indeed were she called to deal with the same wayward, impulsive nature she herself manifested; and she well knows she would be called upon to practice more patience than ever the old patriarch spoke of in the Book of Books. We should shrink from the ordeal of being dragged before the public in such a way that every word and deed would be criticized by the pompous and self-reliant critics. It is still more trying to those susceptible natures entrusted to our care. It is to them sometimes like drawn daggers, robbing life of confidence, honor, and integrity, while the bruised, crushed flower of hope folds its tiny leaves, trembling, and firmly saying, "I have done the best I could, and my efforts have been spurned, my attempts to do better slighted. It is useless for me to try longer to do right." Thus,

knowing itself to be a target upon which some irritable teacher vents his spleen, the good that might shine forth from that soul like some bright star is quenched forever; and surely does the life pass out of that heart as breath passes from the frail tenement that humanity inhabits. It droops, pines, and dies in silence, for want of one kind, encouraging word.

Fault-finding and over-severe criticism have been the bane of many a life, crippling its energies, warping its impulses, cutting off its most innocent amusements and pleasures, and forever withering its hopes. As teachers we can not be too careful or deal too gently with our pupils, though they commit many errors; for perhaps so far they have trodden the wine-press alone, and wearily wrung out their joy and sweetness drop by drop, with injudicious hands to guide them. We too have our failings, and barter in some careless moment the real for a fancied good. All lives are like leaves thrown upon the ocean: some by a lucky and favorable tide are cast upon a friendly rock, others are swamped in the mire of adverse surroundings. Then should it not be our duty and mission to aid those cast into the mire till they too reach some rock of safety, and do all we can to fit them to adorn any station in life which they may be called to fill. In order to accomplish this, we must always appreciate the efforts of the dullest and stubbornest pupils. Human nature is not very charitable, and does not give children the credit due them. We can find nothing in this great, revolving universe that is created for naught—not even the tiniest leaf or flower. Is it, then, to be supposed that one soul, possessing all the attributes with which the Creator has endowed it, should be incapable of being aroused to life and action? Aye, if patience has its perfect work, a fairer, purer life shall shine upon that soul, and we will forget the once-frail reed.

Despair of none, despair of none; for there are blossoms of hope in every bosom, and with keen perceptions and untiring perseverance every child's better nature can be reached. Nor should we become disheartened; for the moment we become discouraged we lose to a certain extent our influence over the child, and should his improvement be slow, perhaps scarcely perceptible to our eye, yet we may remember the old proverb, "The race is not always to the swift, nor the battle to the strong." Although a teacher should be thorough in government as well as in methods of teaching, still gentleness can be combined with firmness, never exacting of the child what he could not accomplish himself under the same circumstances, with the same ability and disposition. Should he travel the length and breadth of the land, he could find no two persons who are controlled alike. Hence it is the duty of the teacher to study child-nature as well as mathematics, grammar, or geography, and then adapt his method of instruction accordingly, ever encouraging a spirit of intelligence, love, patience, honor and truthfulness, and warning them of bad habits incidental to life. Bad habits are the thistles of the heart; and from each indulgence of them will spring a new crop. He should never make a child a promise unless he looks into all the circumstances of the case, and has every reason to believe he can fulfil the promise.

I see the abuse, but not the use, of the rod. I think the time for corporal punishment has died, and only waits for a decent burial. Certainly, a small child should not be punished in that way; and if a pupil of more mature years would not obey without such treatment, I doubt whether he would obey with it, save through fear; and is government through fear the exact thing wanted in our schools? No scholar is ever brought to a sense of sorrow by angry words or blows, or by bitter, scornful

reproaches. He fortifies himself against such treatment; and if he does not hurl back taunting, wicked words to his accuser, those wicked, resentful feelings are in his breast just the same. The teacher must reach his better nature. Pity and patience are the best keys to the human heart; and they are most successful who are most forbearing.—*Michigan Teacher.*

### On Higher Education.

Extracts from a paper read by Prof. Ashley before the "Olio" literary club of Springfield, Mo., in which he defends the present prominent position of Greek and Latin classics in collegiate education:

"The study of Greek and Latin affords the best and most rational means of exercising the faculties in the order of their development. The mental powers are not simultaneously developed, but follow a regular order of growth. In the child, perception, memory and imagination are first developed, and with these a wonderful aptness for the acquisition of language. Later come the rational faculties, and with their development the earlier powers seem to lose much of their acuteness. Now Greek and Latin afford just the elements needed for this earlier stage of the mind's growth, and at the same time, for the natural and thorough development of the rational faculties.

The race and the individual follow the same order of growth, and language keeps pace with the minds of those who use it.

The classic tongues are the languages of two of the most powerful families of the Aryan race. They represent the synthetic period of language in its full power and beauty. The syntactical connection of words and the modification of the mental images which they represent are indicated to the eye by changes in form, thus affording a schedule of object lessons adapted in the best sense to develop the perceptive powers. In acquiring a vocabulary memory is developed and strengthened, while translation gives a power of expression, a subtlety of analysis, and a habit of keen discrimination, to be gained by the same time and effort in no other way.

Again, a classical education is the most practical education.

In making the assertion, we contend that the primary object of an education is to develop the mind, not to fill it with facts; to give discipline, not knowledge; to impart power, to think, not to furnish material for thought. The opinion has been expressed by several noted philosophers that any ordinary student may, under competent teachers, acquire all that Newton or LaPlace knew in two years; but to acquire their regal power of intellect was a different thing. This only comes as the fruit of a habit of long continued and intense thought such as is best acquired in a prolonged and critical study of the most faultless models of thought and speech. It is the young man who has the greatest power to know, not the one who has acquired the most knowledge, that will be the winner in life's fierce competition.

"But," says one, "why not gain your discipline in studying practical things?" We will answer by asking whether the study of history, rhetoric, political science, jurisprudence, and ethics are practical studies. When we, study Herodotus and Livy we are studying the greatest historians. There are no text-books on rhetoric to equal Horace and Quintilian; none on political science or jurisprudence better than Cicero and

Demosthenes; none on ethics purer and more persuasive than Socrates, Cicero and Plato.

There is no argument more fallacious than the one urged against the classics of want of practicality.

Prof. Cooke of Harvard University in his last address on "Scientific Culture" makes this remarkable concession: "After having spent a quarter of a century in assiduous labor to establish the present methods of science teaching, I am far from believing that they are the only true modes of obtaining a liberal education. So far from this, if it were necessary to choose one of two systems, I should favor the classical." After giving good reasons for this, he says further: "I never had any taste myself for classical studies, but I know that I owe to the study a great part of the mental culture which has enabled me to do the work which has fallen to my share in life." Multitudes of instances might be cited in proof of this position, but we shall pass this point with a single undeniable assertion that a large majority of men who form all the works of life, and all the professions, have done the most to ennoble, dignify, and develop English and American scholarship in all departments of literature, science and art, have been and are classical scholars.—*American Journal of Education*.

DRURY COLLEGE.

### Drawing in the Public Schools.

BY HELEN L. D. POTTER.

Like mathematics, drawing is generic and not a specific term. If I say I am studying mathematics, you really know but little of what I am actually studying. It may be arithmetic or algebra or geometry or trigonometry or calculus or some special application of mathematics, as in astronomy or navigation; so it is with drawing, for drawing is also divided into departments and you may be wholly absorbed in one of these departments without the slightest regard to any other department.

I say this because an idea seems to be prevalent that drawing is an accomplishment only and if a child draws, he must necessarily make what we understand to be pictures. The art of picture making is only one and the least useful one perhaps of all kinds of drawing.

No one can form a thoroughly intelligent opinion of the educational and practical value of drawing until he knows exactly what is meant by drawing. It is best therefore to give a short account of the five departments of Drawing.

#### I. Linear, or outline drawings, from flat copies, and designing. Free-hand.

This department is based on plane geometry, dealing with two dimensions only, length and breadth. The patterns for all flat surfaces come under this division of drawing; viz., carpets, laces, print, wall-paper, table-linen, etc. The learner begins by sight lessons, motion-exercises, and by drawing lines and plane geometrical forms, as triangles, rectangles, etc. Then follow geometrical patterns or designs, that is, designs not made in imitation of natural forms; next come conventional designs, that is, designs derived from natural forms, but not imitating them exactly; some other work is added to this course, of which we will speak by and by.

The copies should be as beautiful as possible, for the purpose of developing the pupil's taste. They should be enlarged and diminished as well as exactly copied in size, in order to teach form distinct from size, and

so that pupils may learn to judge of the proportion of figures by use of the eye alone. In this way the pupil obtains what is often "correct judgment of eye." He learns to see the difference between a square and an oblong by their proportions, and also to recognize a triangle, however small or great it may be.

In this department the pupil also begins to draw from memory; again from dictation, that is, from verbal description only, which enables him to translate words into visible forms—a power of great value to every artisan. Finally he is exercised in making original designs; this develops the inventive powers, and shows whether the learner has acquired knowledge and taste as well as dexterity in the use of the pencil.

Ideas are of more importance than skill of hand. Give a pupil knowledge of symmetry, of historic forms of beauty, etc., and there is a prospect that he may make use of this knowledge some day; but skill of hand without knowledge, is fruitless; at best it can only feebly copy the work of others. Next in importance is rapidity of work; those lines are most beautiful which are made at one stroke or revolution of the pencil, and a hesitation at any point will cause it to look patched or spiritless as a whole. So pupils at the outset must do what is to be done at once, whether it proves good or bad. Skill will follow, and pupils so taught will undoubtedly produce work of far greater spirit and become swifter artisans than those who drag along and hesitate in their work. Draw first with understanding, each line having a meaning or purpose; next draw what you draw without hesitation, swiftly; then fear not but that fine finish will follow in due time.

We should never confine a pupil to one line or one figure until it is perfect; any more than we would make him produce a perfect letter in script before he is permitted to begin another. Every one allows him to write poorly at first, expecting him to correct and perfect his work by varying the combination of letters day by day. All this work, except the designing, is done free-hand. Original design is intended to display the originality, knowledge, and taste of pupils, and not to test their power to overcome difficulties; hence pupils should be allowed to bring out their ideas, to express their thoughts by any means possible, whether mechanical or free-hand.

#### II. Drawing problems in plane geometry with practical application. Instrumental

The drawings in this department represent two dimensions, length and breadth; so far they resemble the drawings in the first department. Some of the drawings are indeed the same, being geometrical forms in plane geometry; but they will were done free-hand before, here they are executed with instruments, and are valuable only in utmost accuracy and precision. An instrumental drawing to be good must be absolutely perfect. The construction of the higher plane curves which do not close like the cycloid, the epicycloid, the parabola, is included in this department. Then practical applications follow, to show the use of the knowledge acquired in the drawing of geometrical problems.

The drawings are made with a pair of compasses and a square. Of all the departments of drawing this is the easiest to learn. The work is delightful, and even young pupils will acquire considerable skill in the use of instruments. In this work the difficulty of executing with precision increases as the size of the drawing decreases. The great value of this department of drawing is in the fact that the figures and curves here taught are employed by all kind of artisans, machinists,

carpenters, masons, shipbuilders, bridge-builders, etc., etc. Even decorative designers have constant occasion to make use of the problems of plane geometry, since nearly all ornament is based upon a geometrical construction. These drawings are usually made from a suitable text, and are a wonderful discipline in the precise use of language, and in the interpretation of the printed page, wherever found in after-life. All other studies feel the good influence of this. Of course these problems are not demonstrated geometrically by young pupils, the facts here come before the reasoning. The pupil may know how to divide an angle into two or three equal parts, and yet not be able to give a reason for each step; nor is it necessary for him to know the reason.

### III. Model- and object-drawing. Free hand or popular perspective.

This department deals with three dimensions—length, breadth, and thickness. Geometrical solids, like the cone, the cylinder, the cube, etc., receive the first attention; then come objects manufactured or natural, whose general shapes are decidedly geometrical, as a goblet, a funnel, a beet, or a morning-glory.

No light and shade can enter into a drawing which has only two dimensions, but here shade may be added to make the drawings more realistic. But no shade should here be allowed until pupils can draw accurately in outline, for no amount of shading can compensate for defects in the rendering of the pure form of an object. In this department it is best to begin with flat copies, then follow solid models, then natural forms; e. g., the pupil draws a cone from a copy, then from a solid cone, then from some natural object cone-shaped, as the turnip or radish.

In this department of drawing notice must be given to three things: 1. To the effect of distance on objects; 2. To the convergence of retreating parallel lines; 3. To foreshortening. These are easily applied in practice.

We all know that the further an object is from us the smaller it appears, and we know the law of convergence. Any one who has looked down an avenue of trees remembers how the two lines of trees seem to come together in the distance, and the road to narrow until it can not be seen at all. Look down a long room, and the retreating parallel lines seem to tend toward a point directly before the eye. The ceiling above seems to tend downward as it recedes, while the floor seems to ascend; the right wall tends to the left and the left wall to the right; and if continued far enough, they would all seem to meet at a point opposite the eye of the spectator. The foreshortening, or shortening of the fore or front view of any object, is also well understood. A circle turned from the eye becomes an ellipse. A cone may be seen at its full length, or be turned from the eye until only the head of it can be seen. This is not because of distance, as in perspective, but is simply foreshortening; the cone may be a foot or a rod distant, and the proportionate foreshortening may be shown all the same.

By practice in model-and-object-drawing one learns to represent what is seen, and also to "see in space," as it is technically termed. He learns to form a clear mental picture of those parts of an object which are invisible, and upon which the correct representation of the visible parts is dependent; also of objects which are described by others in words; and again, of objects which he wishes to make from his own conceptions. This power of realizing objects by an effort of the imagination is of great value not only to the artist, but to the artisan, as he is constantly called upon to

exercise his mind in this way. Indeed every one has more or less need of this power.

This kind of drawing is called free-hand or popular perspective, because the drawings are executed without instruments, and because neither the size nor the distance of the object is given. You draw what you see, provided you can make out just what you do see. All vertical lines in the object must be drawn vertical; then upon the oblique line first drawn depends the position of all other oblique lines, observing the three things described above.

### IV. Exact or Mathematical Perspective. Instrumental.

This department of drawing, like the preceding one, deals with three dimensions—length, breadth and thickness. It is used by draughtsmen to show how the building or machine or other object will look when done, but is seldom necessary to the workman.

Perspective is an exact science, founded upon geometry and the laws of optics. The drawing is done with instruments in order to render the work exact—the same as geometrical drawing. Perspective means *seen through*. If you will stand before a window with a long-handled brush dipped in India ink, and will draw upon the glass the outline of the object seen through the glass, you will have a perspective outline-drawing of the scene before you.

You may ask how this drawing differs from model and object-drawing, since both deal with *three dimensions* and represent things as they appear. In replying it may be said that model- and object-drawing does not involve planes, exact dimensions, or distances, as the drawings are made free-hand by judgment of eye only, taking into account simply the general effect of distance and foreshortening, which has been alluded to under the head of "Model- and Object-drawing" in the subdivision of this subject numbered III.

In exact perspective we must recognize planes, the exact distances and dimension of objects, or we can have no exact drawing. We have the *vertical plane*, which is the plane upon which the picture is to be drawn (as represented by the window-glass or by paper supposed to be vertical while drawing upon it); we have the *ground-plane*, or plane upon which the spectator and object stand; then we must take into account the distance of the object beyond the picture-plane and that of the spectator in front of the picture-plane (i. e., the distance from the eye of the spectator to the window-glass, and from the window-glass to the tree or object beyond) in order to obtain a correct drawing.

Practically it is only straight lines that perspective can deal with. When other lines are introduced they can only be drawn with approximate precision, by the help of straight lines; hence three divisions are made of exact perspective—*parallel*, *angular*, and *oblique*, or *accidental*. These may be illustrated by the drawing of a cube. If the cube stands level (as on a table or floor) with its side parallel with the vertical or picture-plane (as if parallel with the window), it is called *parallel perspective*; if the cube stands level with its side turned from the picture-plane (as if on the floor with the corner toward the window), it is called *angular perspective*; if it does not stand level, and so has no side or edge parallel to the picture-plane, it is called *oblique perspective* (as if standing on one corner with all the sides oblique to the floor and picture-plane).

### V. Mechanical drawing. Instrumental.

This department of drawing also deals with three dimensions, but not at all like perspective: for while

perspective represents things as they appear, mechanical drawing represents them as they are, making no allowance for optical illusions. Perspective is usually employed to represent things after they are made, and gives a picture; mechanical drawing represents things that are to be made. Its aim is construction, based on what is called orthographic projection. Here we have the drawing for a house: the ground-plan, or plan of the first story, the plan of the second story, showing all the closets, partitions, proportions of rooms, thickness of walls, etc., in each story to the attic; then there are elevations showing the front, the back, and the ends of the house. In fact we have all the plans and elevations and section-views necessary to the workman to construct the building; hence these are called working drawings. Working-drawings usually represent two intersecting planes—one horizontal and one vertical—both represented upon the same sheet of paper. The drawing on the horizontal plane, or that part of the paper representing it is called the plan, and that part of the drawing on the vertical plane, or upon that part of the paper representing it, is called the elevation. Mechanical drawing includes all drawing made for the building of ships, machines, bridges, architecture, etc.

The work in this department begins with the representation of geometric solids in different positions; then in sections, and then the development of surfaces; after this the principles learned are applied to different departments of industry to show their utility. To facilitate instruction flat copies provided in books or otherwise are found exceedingly useful; carefully-prepared text should accompany them. The flat copies, supplemented by models and objects' lessen the demands upon the imagination.

Nearly every thing is now made from drawings; and as so many boys must become artisans, bridge-builders, carpenters, masons, shipbuilders, carriage-makers, etc., the public schools should certainly undertake to qualify them at least to "read" working-drawings, if the time devoted to school is inadequate to make professional draughtsmen.

#### VI. General remarks.

The study of drawing may be taken in successive departments, completing one before another is attempted; or it may be cyclical, that is, the departments rotated or alternated.

The latter is deemed better for rapid development in a given time. For example, the majority of pupils leave school before reaching the high-school, say at fourteen years of age; so to reach the mass of pupils the work must be done in the primary and grammar schools, or not at all. Some notion of various kinds of drawing should be at least explained and understood during this period. In order to do this, perfection in execution can hardly be attained in any department of the work. Do not hastily say this is all wrong; that a little perfectly done is better than a great deal half done; but think for a moment what the effect upon a class would be if the pupils were required to make a perfect letter *a* before they were allowed to attempt another letter in learning to write, or required to make an absolutely perfect circle, free-hand, before they were allowed to draw another line. Why, the wisest and most self-controlled adult would go insane at the attempt. And after all it is *ideas* we want rather than skill in young learners; for if the child has some idea as to what he wants to do, even though the fingers be unequal to execute the idea, you may be sure he will work it out some time; whereas if he has no ideas, he can work out nothing in the future. Let the work be ever so crude, if he has grasped

the idea, the thought, then the satisfied execution will follow in good time.

It has been found better to alternate modes of working in the grammar-school course; *e. g.*, the free-hand with geometrical drawings, as each assists the other. Instrumental drawing by its perfect results tends to fix correct models in the mind of the pupil, so that he is better able to criticise and correct his free hand work; and the free-hand work is indispensable in departments, as curves which cannot be made with instruments must always be executed free-hand. These are found more or less frequently in all kinds of drawings, and constitute the true spirit of the highest decorative art.

A pupil might, of course, take only geometrical and mechanical drawing, and be a machine draughtsman; or drawing in perspective only, become a picture-maker; but it can not be denied that he would do much better if he knew something of all the various departments of drawing. In our public schools we can only lay the foundation. At present we can not hope to fully prepare pupils for special vocations; that work has to be done in special schools; at the same time it is our duty to so ground them in the principles of art and science that they may continue, without loss of time, to prepare for the vocation selected; able at least to comprehend what is to be done and how to go about doing it. We teach mathematics in our schools, but we do not apply this knowledge to its higher uses; we do not attempt to make civil engineers or astronomers. Just so in drawing, we do not expect to turn out full-fledged architects or draughtsmen or artists, but we do expect to lay such a foundation in art by teaching its laws and principles that the pupils may afterward easily turn to any department of art with a fair chance for success.

Then, again, it is better to draw continuously for three months, giving, we will say, three full hours a week to the subject, and then drop the work altogether for three months, than to work the whole six months one and a half hours a week. For by giving extra time and manifesting unusual interest in a study the pupils will grasp and fix permanently ideas and principles which in short lessons, far separated, might take no root at all.

For example, let the teacher take up free-hand drawing (from flat copies) and designing. Continue this course until the pupils have a clear notion of symmetry, of historic ornament, of conventionalism, etc.; then, having fully grasped these points and applied them to numberless drawings, drop the subject for a quarter; then take up free-hand drawing and geometrical drawing for a quarter, working double time in the course of the week, *i. e.* three hours. In this way the pupils are kept eager for the work; they grow strong and hearty in their devotion to their exercises.

This theory every practical teacher has illustrated in a greater or less degree. Have you not attempted to explain something to a child who failed to comprehend you, and have you not been forced to leave it for a time, it may be for a long time, and then have you not seen the face illuminate with the dawning comprehension of the principles involved?

Children who get tired of mathematics and can not understand one step further ought to be allowed to drop that study for weeks to let them grow; then taking up the subject they will find it like a clear brook, every pebble in plain view, no more trouble, no more dislike for mathematics for weeks again.

The primary course should embrace the drawing of lines, plane geometrical figures, and conventionalized plant-forms, with their applications in geometrical and conventional designs. Historic forms should be promi-

ment. Simple objects may be drawn, if so drawn as to show only two dimensions—length and breadth—perspective effects being omitted. The character of the instruction should be such as to exercise the pupils in enlargement and reduction, in memory and dictation drawing, and in the elements of original design. Much of the work may be profitably done on slates.

All that is begun in the primary course should be continued in the grammar course, with important additions. More attention should be given to historic ornament, and the pupils should acquire definite knowledge of leading decorative styles. The drawing of the problems of plane geometry should be carefully attended to. Model and object drawing, or free-hand perspective, should be taken up of an early period; also, before the close of the course, instrumental perspective. Very little or no attention should be given to light and shade in this course.

The drawing of historic ornament should be continued in the high-school course with the use of colour in flat tints. Botanical analysis and original conventional design for decorative purposes, in color, should receive marked attention. Indeed there should be much of original design as applied in various industries. Advanced work should be done in model- and object-drawing, with the addition of light and shade; and drawing from the cast should be begun. There should be advanced work in instrumental perspective, with the use of half-tint to emphasize the solidity of the objects. Much of the proper work of the high-school should be elective for the purpose of allowing a choice between architectural drawing, machine-drawing, and the like, on the one hand, and purely æsthetic art on the other.

The courses which have been thus briefly described can not be adopted at once, where no previous systematic work has been done in drawing, for much that should be learned in the grammar-school must necessarily be taken up by the pupils in the high-school, since there can be no satisfactory progress without a knowledge of the rudiments. Under such circumstances the instruction must be at the outset provisional.

—*Home and School Journal.*

## McGill University.—Christmas Examination.

### PRIZE LIST.

#### ORDINARY COURSE IN ARTS

*Greek.*—Third Year—Class I—Lafleur, Gould, Warriner, Newnham, Scott. Class II—Pedley (C. S.), Robertson, Amaron, Anderson and McGregor, equal; Forneret and McGibbon, equal. Class III—Atwater. Second Year—Class I—Ross (Donald), Ross (James), Donald. Class II—Thornton; McFadyen and McLaren, equal; Blakely, Dawson. Class III—Lyman, Guerin, McKillop; Sweeney and Torrance, equal; Ewing, Taylor. First Year—Class I—Eadie, McClure, Stevens, Morrison. Class II—Knowles; Cross, Lighthall and Robertson, equal; McConnell and Shearer, equal; McKibbin, McLean and Silcox, equal; Class III—Haley and Meighen, equal; Lane and Redpath, equal; Allen and Wood, equal; Culp, Houghton and Roy, equal.

*Latin.*—Third Year—Class I—Lafleur, Gould, Scott, Warriner, Newnham; Anderson and Pedley (C. S.), equal. Class II—Forneret; Amaron and Robertson, equal; McGibbon, McGregor. Class III—Atwater, Chubb. Second Year—Class I—Ross (Donald), Ross (James), Donald. Class II—McFadyen, Blakely, Thornton; Guerin and Taylor, equal. Class III—Torrance, Sweeney; Dawson and McKillop, equal; Lyman, McLaren and Ewing, equal. First Year—Class I—Eadie and Stevens, equal; McClure, Morrison, Shearer. Class II—Knowles, Cross; McLean and Robertson, equal; McConnell; Meighen; Haley, Lane and Redpath, equal; Lighthall. Class III—McKibbin and Imrie,

equal; Wood, Houghton, Roy, Culp; Rutledge and Allen, equal.

*English and Rhetoric.*—Fourth Year—English Literature—Class I—Duffy, Graham, Watson. Third Year—Rhetoric—Class I—Lafleur, Scott, Robertson, Gould. Class II—Atwater, Chubb. First Year—(English Grammar and Composition)—Class I—Morrison, Stevens, McClure, Lighthall, Cross, Eadie, Edmunds. Class II—Lane, Shearer, Robertson, Knowles, McKibbin, Haley, Rutledge, Howard, Meighen, McLean, Redpath, Roy, Houghton, McConnell, Culp. Class III—Campbell, Wood, Allen.

*Mental Philosophy.*—Fourth Year—Class I—Rexford, Pedley (H.), Lyman (H. H.), McGoan, Watson. Class II—Cox, Hughes, Duffy, Langford, Kettlewell. Class III—Malcolm, Malcolm, Matheson, Gray, McCarroll.

*Moral Philosophy.*—Third Year—Class I—Pedley, (C. S.), Warriner, Amaron, Lafleur and Scott, equal; Silcox. Class II—Anderson, McGregor; Gould and Newnham, equal; Barltrop and Forneret and Kettlewell, equal; Baugh. Class III—Meyers and McGibbon, equal; Robertson, Langford, Atwater, Edwards, Cunningham, Chubb, Hobbs.

*Elementary Psychology.*—Second Year—Class I—Ross (James), Dawson, Ross (Donald), Donald, Blakely, Thornton, McFadyen, Lyman (V. A.). Class II—Kettlewell, Ewing, McKillop, Torrance, Guerin. Class III—Langford, Wright, McLaren, Evans, Willett, Wolcott, Sweeney.

*Hebrew.*—Senior Year—Class I—Pedley (C. S.) Class II—McGregor (A. F.), Boudreau. Class III—None. Junior Year—Class I—McKillop, McClure; McKibbin and Shearer, equal; Eadie, Silcox, Houghton; Ewing and Rivard, equal. Class II—Cruchet, Baillie. Class III—McLean.

*Mathematical Physics.*—Fourth Year—Class I—None. Class II. Duffy. Class III—McGoan, Watson, Craham, Matheson, Gray, Cox, Pedley (H.) Third Year—Class I—Newnham, Pedley (C. S.) Class II—Lafleur. Class III—Scott and Warriner, equal; Gould Forneret, Robertson (R.), Amaron.

*Mathematics.*—Second Year—Class I—Ross (J.), Blakely, Dawson (R.), and Ross (D.), equal. Class II—Thornton, Ewing. Class III—McFadyen, Donald, Torrance (F.) Sweeney McLaren, Lyman (C.), McKillop, Guerin. First Year—Class I—Morrison, Knowles; McClure and Stevens, equal; Eadie. Class II—Shearer, Cross. Class III—McConnell, Lighthall, Meighen; Allen and Haley, equal; Cochrane and Edmunds, equal; Houghton and Redpath, equal; Wood; Culp and Howard (R. J. B.) and McLean and Roy, equal; Robertson (H.)

*Experimental Physics.*—Fourth Year—Class I—Lyman and Rexford, equal. Class II—None. Class III—Duffy, Watson. Third Year—Class I—Lafleur. Class II—Scott, Chubb. Class III—Forneret and Gould and McGibbon, equal; Robertson (R.), Amaron.

*Geology, (Mineralogy and Lithology).*—Fourth Year—Class I—Lyman, Crothers. Class II—Pedley, Watson, Matheson, Cox, Gray, Cossar. Class III—Malcolm, Hughes.

*Zoology.*—Third Year—Class I—Scott, Warriner, Pedley, Newnham, Forneret, Ford, McGregor. Class II—Atwater, Anderson. Class III—Chubb, Livingston.

*Botany.*—Second Year—Class I—Donald, Dawson, Ross (J.), Ross (D.), Lyman, McFadyen, Thornton, Ewing, Blakeley, Kettlewell. Class II—Adams, Guerin, Torrance, Langford, Barltrop, McLaren, McLaren, McKillop. Class III—Sweeney, Livingston, Baillie.

*Chemistry.*—First Year—Class I—Shearer, McClure, Eadie, Morrison; Meighen and Stevens, equal. Class II—Cochrane, McConnell; Knowles and Robertson, equal. Class III—McKibbin, Cross, Howard (R.); Caverhill and Lighthall, equal; Allen, Anderson, Rutledge, Haley, Redpath, McLean, Edmunds, Wood.

*French.*—Fourth Year—Class I—McGoun. Class II—None. Class III—None. Third Year—Class I—None. Class II—None. Class III—Robertson, Chubb. Second Year—Class I—Ross (James), Ross (D. C.), Guerin, Donald. Class II—Blakeley, (Dawson) Class III—Thornton and Torrance equal; McLaren, Sweeney, McKillop, Lyman, Evans. First Year—Class I—McClure, Lane; Cross and Redpath and Wood equal; Lighthall, Howard, Cochrane, Eadie. Class II—Allen, Edmunds, McConnell. Class III—Knowles; Campbell and Morrison equal; Robertson, Haley, Meyers, Stevens, Meighen.

*German.*—Third Year—Class I—Gould. Second Year—Class I—Ross (James). Class II Year—Class I—Lane, Cross. Class II—None. Class III—McLaren (D. C.) First Year—Class I—Lane, Cross. Class II—Edmunds. Class III—Lighthall, Roy, Caverhill.

## DEPARTMENT OF PRACTICAL AND APPLIED SCIENCE.

**Engineering.**—Special subjects. Senior Year—Class I—Chipman. Class II—Hawley, Hetherington. Class III—None. Middle Year—Class I—Sproule, Ross, (P.) Nelson. Class II—Jones;—Thompson and Walbank, equal. Class III—Rogers. Junior Year. Class I—O'Dwyer, Hall. Class II—Swan, Adams, Hull. Class III—Scriver, Perry, Power.

**Use of the Blowpipe and Assaying.**—Middle Year. Class I—None. Class III—Howard (W.).

**Mathematical Physics.** Senior Year. Class I—Chipman. Class II—None. Class III—Hetherington. Middle Year. Class I—Sproule. Class II—None. Class III—Thompson, Ross (P.), Jones, Rogers, Walbank, Wardrop.

**Mathematics.**—Middle Year, Class I—Jones, Ross (P.), Sproule. Class II—Wardrop. Class III—Rogers, Thompson, Walbank. Junior Year. Class I—O'Dwyer and Swan, equal. Class II—None. Class III—Adams; Hull and Scriver, equal;—Hall and Perry, equal;—Ferguson.

**Experimental Physics.**—Senior Year Class I—Chipman. Class II—Hetherington. Class III None. Middle Year—Class I—Sproule. Class II—Ross (P. D.). Class III—Wardrop, Jones, Rogers, Nelson, Thompson.

**Geology, (Mineralogy and Lithology).**—Senior Year—Class I—Chipman. Class II—Hawley; Hetherington.

**Zoology and Palaeontology.**—Middle Year—Class I—Sproule, Nelson, Ross (P.). Class II—Walbank, McNie, Jones, Howard, Thompson, Rogers. Class III—Casswell, Clements, Wardrop.

**Chemistry.**—Junior Year, and Middle Year in Part—Class I—Adams, O'Dwyer. Class II—Swan, Wardrop, Howard, (W.). Jones, Hall. Class III—Scriver, Hull, Walbank, Thompson, Perry, Ross (P.)

**English.**—Junior Year—(Grammar and Composition)—Class I—None. Class II—O'Dwyer, Scriver, Adams, Swan, Cochrane, Hull, Hall. Class III—Perry, Smith, Ferguson.

**French.**—Senior Year—Class I—None. Class II—Chipman. Class III—Hawley. Middle Year—Class I—None. Class II—Sproule, Jones, Walbank. Class III—Koss, (Ph.). Thompson, Clements. Junior Year—Class I—O'Dwyer, Swan. Class II—Smith, Perry, Hall. Class III—Adams; Morkill and Scriver, equal; Ferguson.—*Montreal Gazette.*

## POETRY.

## Night Ride in Fairyland.

All night, the great elms shook for fear  
And writhed as if in pain,  
Between the pauses of my sleep  
I heard the gusty rain;  
Quite sick of this world and unmanned,  
I road away to Fairyland.

All night the bellowing of the storm  
The crazy chimney rocked and shook:  
Till, weary of this sound and woe,  
Weary of pen and ink and book,  
I bridle snatched with careless hand  
And rode an hour through Fairyland

I heard still as I flow along,  
The old oak's branches shake and shake,  
Yet weary of this stubborn heart,  
That throbs and throbs, but will not break.  
I sought for Oberon and his band,  
And rode long leagues through Fairyland.

I found the court; in love and dance  
I whiled away the summer hours:  
Lances I broke, and quaffed the cup,  
Where fell a rain of crimson flowers.  
They all obeyed my proud command.  
Those little folks of Fairyland.

I won the fairy crown at last,  
And built a castle tall and proud.  
The roof was sunshine, and the walls  
Were form of rainbow and of cloud:  
I bade the goblins own my sway—  
A shout—I woke, and it was day.

*All the Year Round.*

## THE JOURNAL OF EDUCATION

QUEBEC, JANUARY, 1876.

We published in our last issue the new Education Bill which places the Department of Public Instruction under a Superintendent, as it was before Confederation: it changes also the constitution of the Council of Public Instruction. In our next issue we hope to be able to inform our readers of the various changes and appointments necessitated by the new order of things. The Act will come into force on the 1st of February next, and not on the 1st of January, as erroneously printed in our last.

## Home and School.

The December number of this popular magazine closes the fifth volume. It is very handsomely illustrated, having a full-page frontispiece and twelve to fifteen other engravings. The principal articles are a carefully-compiled essay on Swans, in which the editor describes the different species of these beautiful birds, and recites anecdotes of their habits of life; a philosophical paper by Dr. Yandell on Birds, showing the adaptation of their forms to the conditions of their existence; a sketch of the life of John Milton, with a portrait of the poet's striking face; a humorous article on Alliteration as a figure of rhetoric; a pleasant chat with American children about the Children of the Chinese; a translation from the French of Flamarion, giving a history of the Transits of Venus. A paper on Household Decoration, a practical essay on Drawing in the Public Schools, and a description of Kindergarten Toys, and how to use them, complete the department of contributions. Decisions on the common-school laws, spicy items of intelligence in the educational and scientific worlds, and notices of some new books for the holidays make up the editorial notes. The publishers promise increased efforts and expense for the year 1876, so as to retain for HOME AND SCHOOL its place as the best of all educational publications in the world. The subscription-price is only \$1.50, and the premiums to agents range from \$2 to \$2,000. Address JOHN P. MORTON & Co., Louisville, Ky.

## LITERATURE.

## The Power of Silence.

It is a familiar observation that the great processes of nature are mostly conducted in silence, and noise is the sign not so much of growth as of destruction. It is not in the disturbing forces of the earthquake, the tempest, and the fire, but rather in the silent advance of long geological periods, the gradual development of animal life, and the slow cooling of the igneous globe, that her still small voice speaks to the ear of science. It is, however, of human conduct rather than of natural laws that we are thinking when we speak of the power of silence. The power of speech in its various forms, whether of conversation, of argument, of oratory, or, in a wider sense of the word, of written communication, is indeed obvious enough—so obvious that, without it, human life would come to a standstill altogether. Language, as it is constantly observed, distinguishes the rational from the brute creation. But, on the other hand, the ingenious sarcasm of a great master of diplomacy who suggested that the principal use of language is to conceal our



thoughts has a basis of fact to rest upon. At all events it is very often used for that purpose, and in such cases the language of silence, wherever it is available, is the simplest and most effective that can be employed. We say wherever it is available, for a telltale silence, according to the familiar proverb, may be the surest means of revealing, not concealing, thought. It is not every one knows how "to be silent in seven languages;" to speak seven languages with ease, if not a common, is perhaps a less rare accomplishment. But the capacity, where it exists, is a real source of strength, and Solomon intimates that to be wholly destitute of it is the mark of a fool, who "Uttereth all his mind." It is related of William and the poet Roger that in early life they were greatly impressed with some mesmeric experiments they had witnessed in Paris, and on their first return to London began talking freely on the subject; but when they found their revelations received with a chorus of indiscriminate ridicule, they agreed never again to speak of the subject in general society.

In such instances, and many more that might be mentioned, silence is chiefly used as a protective power, and that is no doubt its most obvious though by no means its only, use. Our readers may be aware that in former days the Fellows of Trinity College, Dublin, were forbidden by statute to marry; but the violation of the rule, which in fact they seldom observed, was connived at so long as they maintained a discreet reticence on their connubial arrangements, and their wives bore their maiden names in public. One of these wedded celibates was asked by a friend who had been much perplexed on discovering the state of the case how he managed to hold his fellowship? "My dear sir," was the reply, "a man can hold anything who can hold his tongue." It follows of course, that a man who wears his heart on his sleeve will let everything slip through his fingers. That gift of silence is characteristic of the "canny" Scot. A Scotchman will never "tell a lee," but he will make it next to impossible for you to discover what he wishes to conceal. The surgical operation which is said to be requisite for getting a joke into him is equally required for getting anything out of him when he prefers, as he very frequently does prefer, to keep his own counsel. He is an adept at beating about the bush, which is another way of saying that he knows how to hold his tongue. It is often serves to conceal what there might be an indiscretion in betraying, it may also prove a positive means of influence. The Greeks thought it so difficult to speak "good-omened words" that they use the phrase as equivalent to what the Romans more directly termed "a sacred silence." And, great as the repute which their philosophers, orators, and poets have won by their writings, it is difficult to determine how much of the still grander reputation of Socrates is due to his having written nothing. In one sense certainly he was the reverse of silence, but he did not commit his thoughts to paper, and he has been credited—we do not say undeservedly—with more than the highest wisdom of those who undertook to report his utterances, while their weaknesses are attributed to themselves. How much again of influence and reputation in ordinary life is due to a judicious silence. We have all heard of Lord Thurlow's awful nod, but there are other professions than the law where a sententious silence has proved the secret of success. How many radical reputations have been built on a capacity for looking wise and saying nothing! A doctor who knows how to insinuate by tone and face and gesture his perfect command of the situation, without committing himself to specific assertions, may make a little skill go a long way, and may even make serious mistake with impunity. It does not seem so easy for a preacher to trade upon his capacity of reserve, yet even in the clerical profession many have gained the reputation of profound divines and able guides in the spiritual life by a judicious management of platitudes. Nor would it be hard to show, and the other hand, how lofty reputations and brilliant prospects have been blighted by too open-mouthed a frankness. It matters little what opinions an aspirant for political or clerical promotion may hold, so long as he understands when to hold his tongue about them; but a single slip may mar a whole career. It is not uncommon, again, to hear people say that they had rather not meet some famous personage for admiration or reverence, for fear the spell should be broken. This means that they are afraid of his saying something that would jar on their preconceived notions about him; and, considering the immense diversity of tastes and methods of judgment, such a result is likely enough. But no previously formed estimate, though it may not be raised, can well be endangered by silence. The policy of reserve has

been stigmatized, and sometimes justly, as cowardly; but it is usually safe. As dear men tell no tales, silent men commit no blunders. David said in his haste that all men are liars, and ready speech is apt to be fruitful of criticisms more damaging to those who utter them than to those at whom they are aimed. Moreover, for most men, even the ablest, a novitiate of silence, so to call it, is profitable before they enter on the business of life. Dr. Newman tells us in the *Apologia* that it was said of him in his early days at Oxford, "Here is a man who, when he is silent, will never begin to speak, and, when he once begins to speak, will never stop." Thomas Aquinas was unquestionably one of the greatest intellects of the middle ages, yet so silent was he through all his earlier life, that he was esteemed exceptionally stupid, and when at last he began to speak his auditors exclaimed, "Bos locutus est." His brain had been working the more actively while his tongue was still.

—*Saturday Review.*

### Rust.

There is a well known saying to which every true worker will respond.—"It is better to wear out than to rust out." The old Vikings who stood to die, dressed in their full armour, knew the wholesale meaning of this saying; and the modern Viking, the professional man who dies in harness, pulling the labouring oar to the last, and not giving up while a usable fibre remains in him, is the bravest example in our present day of a principle which has helped to make England what it is, and by which the earth is to be finally subdued and brought under the control of man's intellect and will.

The curse of man is not work, but indolence; and his misery is not to wear out, but to rust out. To drift into the sleepy shallows, where the day is always noon and life passes lazily in lotus-eating, is the saddest fate that can overtake man or woman; to be out in the field where the workers toil and the strength of humanity is put forth to combat and to conquer, is the only life worthy of or fulfilling the purposes of our race. We need not have work to do; no, not though they are what it is the fashion of the day to call overworked. We need only pity the indolent who doze and dream with folded hands and lie supine by the wayside rusting—their strength failing, their faculties dulled, their use to the world without or within not so much as the use of a twilight moth or a scarcely animated zoophyte, their presence simply cumbering the ground, and taking up the space of better men. They are rusting as they lie, and things rusted are ruined.

Every thing about us rusts for want of use; every faculty we possess, every acquirement we have gained. Mind and body alike needs continual exercise, else the joints get stiff, and disuse produces inability. If we give up walking, in a short time the power of walking gives us up; and the most ardent equestrian sits but uneasily if he has let his horsemanship remain too long a memory and be too little a fact. So of our mental faculties. Memory, fancy, creation, ingenuity, what we will, all leave us if we let the field lie fallow and the rust creep over the steel. We can only enjoy the fruits of past labour by steel keeping up the processes of labour, and nothing remains bright and clear which is laid by without further employment. How often we see this as the result of the most careful, the most elaborate education! Once fairly home from school, the girl on whom masters have been lavished by the dozen quietly lets her accomplishments rust into destruction by abandonment, and in a couple of years' time can neither play nor draw, can neither sing nor read french, has forgotten her german, and would be puzzled to give a correct historical date, all because she has suffered herself to rust, and has not cared to keep her mind and accomplishments polished by daily practice. So with a man. He has been taught a great many things which he finds non-essentials in his professional career; and holding the doctrine that all which is not direct help is of indirect disadvantage, abandons as so much *impedimenta* acquirements by which he cannot make his money or increase his business. Classics, literature, art, science, everything with which his mind was enriched in the learning days, rusts and dies out for simple disuse, when he falls foul of the directors of his education and complains, as of so much time wasted and force misapplied, that he was taught latin when he ought to have been crammed in bookkeeping and double entry, and plagued with Greek when his future profession demanded

trigonometry and the art of map making and surveying. He forgets that every acquirement, whether directly useful or only indirectly, is always valuable. At the worst it is latent power—gold in the mine, not made into ready coin bearing interest and of current exchange; but it is always power, however latent, always gold, though not of current coinage. Perhaps he lives to repent his close-set ideas of what was not needful; therefore, to regret the rust to which he has wilfully given up those things which it cost so much time and money to shape and create. But if he does, it will be only when it is too late, when his money is made and his business has increased to its utmost dimensions, when he wants amusement and a hobby, no longer only a profession and so much paying work, and would fain make play with those rusty, corroded, but not worn-out old implements in his mental armoury of the past, and finds them too stiff to be worked, too rusty for any polish to be put on them again. This too is one of the mistakes of a life too closely focussed, such as it is the fashion nowadays to lead. We let the adjuncts rust, cut off the ornamental fringes sharp to the leading threads, and think that all which does not help in the establishment of our main purpose is so much waste; by which we impoverish our minds and do not enrich our purses.

We can let our emotions rust into disuse just as we let our mental faculties and our bodily muscles. If we get into the habit of not caring, we find in time that caring is difficult and even impossible. We can live without love, without pity, without generosity, without compassion. We can, if we choose, let the rust creep over us so that we become all guarded and corroded—the only active principle left in us that of self and self interest, self and self-indulgence. The conscience can be fed on lotuses as well as the body; and even virtue must be polished by use to prevent rusting into decay. We never stand still. Either we are advancing in the way of goodness or we are retrograding; either the rust is growing round about our souls, or it is being diminished by our own efforts vigorously made. If we let ourselves get into habits of temper that are unamiable, of a direction of thought that is uncharitable, we make our way downward by the law of arithmetical progression, of cumulative energy; every day's ill-doing, having at its back the weight of every preceding day's ill-doing, and so deepening the fall and strengthening the growth by the multiplied force of all that has gone before. Spiritual rust grows fast and ever faster; for which cause it is incumbent on us to keep the lamp of our souls ever-bright, and the silver of our thoughts pure and without stain or tarnish.

The rest to which every worker looks as the haven of happiness to be reached while he has still energy enough to enjoy, is just one of those phantoms which men pursue and by which they are led in this strange unreal life of ours. Those phantoms have a good as well as an important influence over us; but we cannot help thinking that a clearer vision would be a more manly state of things, and work as well in the end as phantasms. We should find no haven of happiness in our rest if we had still any vital energy left. We should find instead that rest meant rust, and that it would be better to wear out in work than rust out in idleness. The cry raised on one hand against over-work might with justice be raised on the other against rust, and of the two the latter state is more to be deplored. It takes a vast amount of energy. Only those who fear are rightly on their guard; only those who are resolute can prevail. Mean-while, wherever we look we find examples of crass and fatal indolence—of men given over to sloth, of minds rendered vacant by rust, of faculties perishing for want of sustenance, of acquirements destroyed by want of use. To us it seems that the thing to fear and fight against is that objectless, purposeless, indolence of content by which men bask lazily in the sunny shallows, dreamers of dreams that have neither vitality nor meaning, lotus-eaters without passion or ambition, rusting as they lie, corroding while they live, logs holding the ground against the active, the useful, and the energetic—achronisms that have no place, and which a future better perception of duty will render impossible.—*From the Queen.*

MISCELLANY.

*The Metric System.*—It is important that this system of weights and measures should be taught in our schools. It is not yet used to any extent in common business transactions, but its use for such purposes is legalized, and the time is coming when the change must be made. A preparation for that change is demanded of teachers. It is only through the schools that the change can be practically accomplished. For a time, the old and the new must both be taught and the relations of the two must also be understood, so that if an amount be expressed in one system, its equivalent can be easily given in the other. When any such change is to be made by a people, some generation, or, perhaps, successive generations, must have such extra work to do. We may consider it unfortunate that the burden rests upon us, but who not upon us as well as upon our successors?

A nation which has so fully established the decimal system in its currency, that even the very terms, pounds, shillings, and pence, in their old colonial sense, are almost obsolete, ought not to be afraid to extend the decimal system still further. It is true that the different values of the colonial currency rendered a change imperative; but do not teachers of science find a change equally demanded by the confusion which now prevails in text-books and scientific works? The government took the old coins and transformed them into new ones of the decimal system, but it did not do all the work at once. It cannot take our yard-sticks and transform them all into meter measures. The change must be a gradual one. The old measures will be used, but there must come a time when new ones will be purchased in the new system.

The interests of science demand that the people should be educated in the metric system; and, on the other hand, the interests of the rising generation require that they should be so trained as to be able to read, understandingly, scientific works. We would have the system taught in the lower schools at the same time with the other tables, as is now done in some of our best schools. The text-books should also insert it in the proper place, and not in the last part of the book.

The following list embraces the points which we consider it most important to drill our pupils upon.

1. A *METER* is one forty-millionth part of a meridian of the earth, and is equal to 39 37 inches, or about 3 feet, 3 inches, and  $\frac{3}{4}$  of an inch. Practice in estimating and expressing distances in meters, and in the use of square and cubic meters.

2. The meaning of the prefixes *deci. centi. milli. deca. hecto. kilo. and myria.* Practice in their use.

3. A *CENTIMETER* is about  $\frac{1}{25}$  of an inch, or a little more than  $\frac{1}{8}$  of an inch.

4. A *KILOMETER* is about  $\frac{1}{2}$  of a mile. Practice in expressing distances to adjoining towns in kilometers.

5. A *GRAM* is the weight of a cubic centimeter of water, and is nearly  $1\frac{1}{2}$  grains. The temperature and purity of the water, and weighing in a vacuum, are not important for beginners.

6. A *KILOGRAM* is the weight of a cubic decimeter of water, and is about 2.2 pounds avoirdupois.

7. A *TONNEAU*, or a thousand kilograms, is the weight of a cubic meter of water, and is about 2,200 pounds avoirdupois. It is about 1.1 tons, or a little less than a long ton.

8. A *LITRE* is a cubic decimeter, and is about one quart. It may be conceived of as the volume of a cube, each side of which is about  $\frac{1}{4}$  inches long.

A *hectolitre* is a little less than 3 bushels (about  $2\frac{1}{2}$  bushels); but it is not so important to gain a definite conception of it, as of those before named.

The *are* is a square decameter, and the *stere* is a kilolitre, or cubic meter; are less frequently met with, and it is not of so much importance that they be committed to memory.—*New England Journal of Education.*

*Notes on Army Education in Germany.*—Extract from correspondence of an American law student in Germany:

"I have been talking this afternoon with my old friend Herr Lange, and I find here an excellent opportunity to pick up information about Germany such as every one that comes here to study ought to get, but which some men who have been in Göttingen two years or more could not furnish me with.

I have been questioning him about the military system and the school system. It seems that all the children in the empire must go to school from six to fourteen years of age, to what they call the elementary school, and if they want to go to any other elementary school within their own district they must get permission; but if, after they are ten years old, they want to go to the gymnasium to prepare for the university, they can do so without special permission.

At twenty years of age each man must enter the army unless he

is sick or weak, and must serve three years. The sick ones only have their service deferred till they are well. If one is part way through the gymnasium he can wait till he gets through, and then serve only one year; or if he is not in the gymnasium, but can pass an examination in French, English and mathematics including arithmetic, Algebra, and Geometry, he need serve only one year. These one-year men are called freewilligers, or freewillers. They are left more to themselves, have more freedom, and can go to the beer gardens in the evening. They provide their own clothes and food, and, I think, their own lodging. At least I know that some of them sleep at home when their regiment happens to be quartered in the place where they live. The effect of all this is to educate the masses; for I think they are obliged to study more or less during their three years service. It certainly does the peasants good. They say the officers make them do things straight and kick 'em about freely. The freewilligers are treated altogether differently. After their three years are over they come back about once a year for a week or two and go through the tactics, so as to not forget. The justice of making those that can pass the examination serve only one year, is that they can learn the discipline on an average in about one third of the time that the peasants need.

**Overwork at School.**—The *Lancet* again protests against the injurious effects of the increasing overwork of boys at school, and the evils of giving them so many lessons to learn out of school hours, an evil of which many parents in Canada are painfully sensible in the break-up of the health, or premature death of victims of the forcing and cramming system. On the same subject the London *Globe* remarks:—"This excessive labour imposed on boys at school is an evil assuming most alarming proportions, and it is time Parents began to consider whether the present system ought not to be seriously discouraged. The mania for competitive examination has led to an immense amount of work expected from boys and girls, but especially from boys. The great public schools would not modify their teaching to suit the new requirements, so that proprietary schools were started to fulfill the functions they wisely declined to exercise. The earlier of these proprietary schools adopted a high ideal, but many others have since been founded and the later institutions are too apt to try to gain advantage over the rivals by forcing promising pupils to undertake an amount of work that is ultimately prejudicial to health. "We have examined the prospectuses of many of these schools," says our contemporary, "and we have generally found the hours of work to be excessive, ranging from forty-five to forty-eight hours, and six hours and a half on two half holidays. This calculation does not include the Sunday school work, which may be fairly reckoned as three additional hours." Now most adults find eight hours a day of mental activity quite as much as they are equal to. It is, therefore, far too much for children, "who have to expend so much force to meet the vital requirements of the growing frame." The *Lancet* believes that more than thirty-five hours of school work a week for boys under fourteen, and forty-two hours for boys above that age, is incompatible with the conditions of health. These are the hours of the great public schools, and therefore may be concluded to be quite sufficient.

**Aphorism by Horace Mann.**—Soundness of health is preliminary to the highest pursuit.

—Conceptions are neither true nor false, but judgments are.

—It was the sin of Pharaoh to make the children of Israel write composition without ideas—That is, to make bricks without straw.

—Mohamet said, "the learned man's ink, and the martyr's blood, are equally valuable in the sight of God."

—"There is a great deal of cant on the subject of education," said Mr. —. "Yes, there may be a great deal of *can't*," was the reply, "but there is much more *want*."

—The rich and the poor are but different ventricles of the same heart of humanity.

—A teacher who is attempting to teach without inspiring the pupil with a desire to learn, is hammering on cold iron.

—If you can express yourself so as to be perfectly understood in ten words, never use a dozen.

—You need not tell all the truth, but let all you tell be truth.

—As an apple is not, in any proper sense, an apple until it is ripe, so a human being is not in any proper sense a human being, until he is educated.

—A man of worth is like gold;—never out of fashion.

—A Brook'yn scholar, embodied in a composition the statement that "the idea of a devil first came out of Persia, but it didn't amount to much till after the discovery of America."

**Why some people are poor.**—Silver spoons are used to scrape kettles.

Coffee, tea, pepper and spices are left to stand open and lose their strength.

Potatoes in the collar grow, and the sprouts are not removed until the potatoes become worthless.

Brooms are never hung up and are soon spoiled.

Nice handled knives are thrown into hot water.

The flour is sifted in a wasteful manner, and the bread pan is left with the dough sticking to it.

Clothes are left on the line to whip to pieces in the wind.

Tubs and barrels are left in the sun to dry and fall apart.

Dried fruits are not taken care of in season and become wormy.

Rags, string and paper are thrown into the fire.

Pork spoils for want of salt, and beef because the brine wants scalding.

\*Bits of meat, vegetables, bread and cold puddings are thrown away, when they might be warmed, steamed and served as good as new.

**Cures for fits.**—For a fit of passion.—Walk out in the open air; you speak your mind to the winds without hurting anyone, or proclaiming yourself a simpleton.

For a fit of Idleness.—Count the ticking of a clock; do this for an hour and you will be glad to pull off your coat the next, and work like a negro.

For a fit of extravagance and folly.—Go to the workhouse and speak with the inmates of a jail, and you will be convinced.

Who makes his bed of brier and thorn,  
Must be content to lie forlorn.

For a fit of ambition.—Go into a churchyard and read the grave-stones; they will tell you the end of ambition. The grave will soon be your bedchamber, the earth your pillow, corruption your father, and the worm your mother and sister.

For a fit of dispondency.—Look on the good things which God has given you in this world, and to those which He has promised His followers in the next. He who goes into his garden to look for cobwebs and spiders, no doubt will find them; while he who looks for flowers may return into his house with one blooming in his bosom.

For all fits of doubt, perplexity and fear.—Whether the respect the body or the mind; whether they are a load to the shoulders, the head or the heart, the following is a radical cure which may be relied on, for I had it from the Great Physician: "Cast thy burden on the Lord, and he will sustain thee."

For a fit of Repining.—Look about for the halt and the blind, and visit the bedridden, and they will make you ashamed of complaining of your lighter afflictions.

**Can you swim?**—At one of the colleges a short time ago as the students were practising at rowing, one boat ran against and capsized another, and a fine young man was drowned. In reading of this we were reminded to ask our boys if they can swim. It seems very strange that any one should be training for a boat-race and not know how to swim. Every one of you who is large enough should learn to swim this very month. Of course you will talk with your parents about it, and not do anything that they do not think perfectly safe and proper. They no doubt wish you to learn, and at the same time may think that the place where you wish to go is not safe. No one who cannot swim should trust himself in a boat—indeed the need of being able to swim is so great that it is not necessary to argue the point. It is easier for boys to learn than it is for girls, but there is no great difficulty in the way if girls wish to learn, and they would feel much safer on the water if they knew that they could, in case of accident, keep themselves afloat. In learning, try to have some older person teach you. Some boys learn at once, while others are a long while about it. The writer learned in this way: there was a place in the river where the bottom sloped very gradually, and one could go out a long ways without getting out of depth. We would wade out until the water was up to our armpits, and then turn towards the shore and try to swim to it, knowing that we could touch bottom at any time. It took but a little while to learn. If the hands and all parts are kept under water, a person will float with the face out of water. It is well for those who cannot swim to remember that if they will keep perfectly still they will not sink. At the swimming-schools they have a plan which any one can adopt. A band is fastened around the chest to which is attached a strong cord several feet long; the other end of the cord is fastened to a long pole; the teacher holds the pole and directs the movements of the pupil, who is at the end of the line. A very little aid will keep one afloat, and a band made of stout cloth will answer the purpose. After the pupil learns to strike out properly while held up by the cord, he is gradually taught not to depend upon this. Watching the movements of a good swimmer will teach you more about using the

hands and feet than anything that can be written. There are some rules that should always be observed: keep all parts, hands and feet, well under water, and do not be afraid to sink the whole body up to the chin; throw the head well back, and hollow the spine, or back bone; this allows the weight of the head to come over the chest, which is the lightest part of the body. Learn to breathe through the nostrils; some swimmers make a great spluttering in throwing water from the mouth; it is easy to learn to swim with the mouth shut. Make every movement slowly and quietly; it is a great fault with beginners that they make hard work of swimming, and seem to think that they must make great exertions. Be quiet, and you will find that swimming need not tire you any more than walking. Do not go into the water when heated, very tired, or after eating a hearty meal. Finally, when you get a chance watch the best of all swimmers, and see how neatly and quietly he does it, and try if you cannot swim as well as—a frog!—*Agricultural.*

—Scotland has long got credit for the excellent provision made for the general education of her sons, and the parish schools of that country have long been famous as having been the chief instrumentality in giving innumerable Scotchmen their first start in life, and crowning their careers with great and varied prosperity. Too much in praise of what the Scottish parish schools have accomplished could scarcely be urged. At the same time, it is being discovered that after all that has been said and sung about the Scottish system of general education, it is not by any means so perfect as it ought to be. Even with the late changes, it is not keeping pace in advancement with other countries till lately far behind. The great want is an intermediate class of schools between the ordinary parish or primary ones, and the University. On this account the whole educational system is being greatly injured. The teachers in parish schools are seeking to do work which is not properly theirs at all in preparing clever boys for the University, while in doing so they necessarily neglect the great body of their pupils and the proper business of the schools. On the other hand, the University professors in their junior classes are obliged to do work which ought to have been done long before students thought of venturing to a University at all. John Knox made provision for such intermediate schools in every "notable town," but that part of his programme has never been carried out. The sooner it is the better. Funds are not wanting. The Scotch Hospitals for the support and education of certain classes of boys and girls have ample resources, and are not turning these to anything like good account. Heriot's Hospital, for instance, has as large a revenue as Eton; Donaldson's Hospital doubles that of Rugby. Why not, it is urged, get those funds appropriated to the advancement of higher education? Scotland will need to bestir herself or be hopelessly left behind in the educational race.

**How to remove stains.**—Stains caused by acids, fruit, tea, or wine can usually be removed by spirits of ammonia, diluted in half the quantity of water. If the stains of fruit or claret are fresh upon the *naperie* they can be taken out by pouring boiling water directly upon the spot and rubbing it until it disappears. Turpentine, pitch or tar can be removed by saturating the spot with sweet-oil, or a little clean tallow can be spread over it, and left to remain for twenty-four hours. Then if the article is silk or worsted, scrape off the cold grease carefully and rub the spot with ether or spirits of wine. Then if of cotton or linen, wash it in the usual manner. Spirits of turpentine will remove recent spots of paint. Wax and spermaceti should be scraped off gently and a hot flat iron applied, over a piece of thick brown paper, until the spot entirely disappears. Other grease spots can be removed from silk or woolen by scraping a little French chalk upon the place and placing either a warm iron underneath it or a cup of boiling water. The heat melts the grease and the chalk absorbs it, and then it can be brushed off.

Ink stains in woolen table-covers and carpets can be removed by washing the spots with a teacupful of warm water to which a teacupful of oxalic acid has been added. After rubbing it clean, rinse off the acid with clear cold water. If sour, or even sweet milk is rubbed upon a fresh ink stain it will soon be effaced. Then wash it clean, with a flannel dipped in warm water, and rub it dry. If white cotton or linen be stained with ink dip it at once into a cup of milk, and squeeze it repeatedly until the stain is gone; rinse it out in cold water. If ink is spilled upon floors of furniture rub it out with a cork dipped into alcohol, and wash off with clear cold water.

Port, sherry, and claret wine stains can be removed by dipping the spot into boiling water and letting it remain until cool.

If linen or cotton become scorched in ironing, wet the places in hot soap-suds and place the article in the sun until it is bleached out. Or dip the spot into sour milk, and let it remain in it for twenty-four hours, or longer, and then wash as usual. Mildew stains can be removed by several methods from linen, &c. Powdered chalk mixed with soft soap until it becomes a very soft paste, and then spread over the spots, and place in the sun until it becomes entirely dry,

will often remove all the stains; but if after rubbing off the chalk a little discolouration still is seen, give another coating of the paste and keep it in the sun as before. If the scorching is slight, the stain can often be removed by dipping it into buttermilk, or honey-clabber then laying it in the sun to whiten.

Yellow muslins can be bleached white by placing them on a shallow dish, and covering them with suds made of white soap, and putting it into the sun, renewing the suds daily until the muslins are perfectly white.

Oil stains on floors or carpets can be covered over by a paste made of fuller's earth and water, and when it is thoroughly dry, brush it off, and renew if the stain is still to be seen. For carpets a little ox-gall should be added to the paste. Stains of hot water on varnished tables can be taken out with a little sweet oil rubbed upon them, and afterward a few drops of spirits of wine should be rubbed in. A teaspoonful of oil of vitrol in a tablespoonful of water will take out stains of ink, &c., then wash off the spot with oil. Apply the acid with a small brush. The dark stains on silver and plated ware can always be removed by a little weak sulphuric acid. Pour the acid into a saucer, wet a small linen rag in it and rub until the stain is gone. Then polish it with a flannel dipped into spirits of wine and whitening.

**The forehead.**—The upright forehead, with its various modifications of squareness and partial curving, generally denotes the sound and noble understanding, as opposed to the retreating form, which indicates the precise reverse. A merely high forehead does not, however, always imply a good forehead: for the form, proportion, sloping head, arching and position of the bone of the forehead, are tests of the mental power and character. Even the colour and smoothness of the skin, together with the lines of wrinkles must be taken into account, for the expression and state of the mind. A perfect forehead should be one-third of the whole face, or equal to the nose in height, the covering skin clearer than the rest of the face, and smooth and free from wrinkles, have the power of wrinkling in deep thought, anger, or pain. A forehead, to be perfect, should be, when seen in the profile, neither too retreating. The higher the forehead the more comprehension and less activity. The more compressed, firm, and short, (if not too short), the more concentrated and firm the character. The more curved the top, the more gentle and flexible the character; while the less curved—that is the more square the top, the more determination, perseverance, and sternness. If the forehead is perfectly upright from the eyebrows to the roots of the hair, there will be a sufficient understanding; while a projecting forehead will denote imbecility, immaturity, weakness, or stupidity, accordingly as modified by the other features. On the other hand, the upright forehead, which is gently arched at the top denotes a calm, cold, deep thinker.


**ADVERTISEMENTS.**

**Wanted**

A French Canadian Teacher, having a Diploma and good recommendations, is desirous of obtaining a situation as a French Tutor in an English family.  
Address this Office.

**Vick's Floral Guide.**

This is a beautiful Quarterly Journal, finely illustrated, and containing an elegant colored Frontispiece with the first number. Price only 25 cents for the year. The first number for 1876 just issued.

 **Vick's Flower & Vegetable Garden** 35 cents; with cloth covers 65 cents.

Address.

**JAMES VICK,**  
Rochester, N. Y.

ABSTRACT FOR THE MONTH OF DECEMBER, 1875.

OF THE HOURLY METEOROLOGICAL OBSERVATIONS TAKEN AT MCGILL COLLEGE OBSERVATORY. HEIGHT ABOVE SEA LEVEL, 187 FEET.

Table with columns: Day, Thermometer (Mean, Max, Min, Range), Barometer (Mean, Max, Min, Range), Mean Pressure of Vapor, Mean Relative Humidity, Wind (General direction, Mean Velocity), Sky Clouded in Tenths (Mean, Max, Min), Rain and Snow Melted, Day. Rows include days 1-31 and monthly means.

\* Barometer readings reduced to sea-level and temperature of 32° Fahr. † Pressure of vapor in inches mercury. ‡ Humidity relative saturation, 100. Observed. Ten inches of snow is taken as equal to one inch of water.

Mean temperature of month, 16.73. Mean of maxima and minima temperature, 6.44. Greatest heat was 54.0 on the 31st; greatest cold was 22.5 below zero on the 20th,—giving a range of temperature for the month of 76.5 degrees. Greatest range of the thermometer one day was 48.6, on the 21st; During 33 hours on the 20th and 21st the thermometer rose through 62 degrees; least range was 3.4 degrees on the 9th. Mean range for the month was 15.3 degrees. Mean height of the barometer for the month was 29.9446. Highest reading was 30.682, on the 20th; lowest was 28.952, on the 13th, giving a range of 1.73 inches. Mean elastic force of vapor in the atmosphere was equal to .095 inches of mercury. Mean relative humidity, 83.94. Maximum relative humidity was 100 on the 20th. Minimum relative humidity was 51 on the 1st and 2nd. Mean velocity of the wind was 12.23 miles per hour. Greatest mileage in one hour was 31 on the 14th. Mean of sky clouded was 74 per cent. Rain fell on 8 days. Snow fell on 18 days. Rain or snow fell on 23 days. Rainfall was 0.68 inches. Snowfall was 24.2 inches. Total precipitation in inches of water was 3.10.

copy made