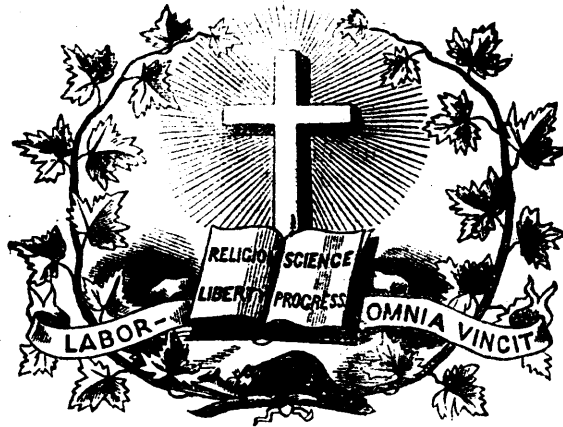


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### The Cultivation of the Memory.

Some time ago, in starting a class in Latin, I found pupils who had been taught to desire knowledge and seek for it, to reason in a degree consistent with their age and attainments, and to express themselves with some ease, but who seemed to lack the ability to acquire readily and recall accurately.

Only exercise develops strength. The hand unused loses its cunning; the foot which has not walked for some time refuses to bear the weight of the body. Symmetry of the body is found when every member has its proper development; symmetry of mind, when each faculty, through training, has its proportionate growth.

One of the tendencies of the age undoubtedly is to underrate or neglect the memory. The cry is that children must be taught to observe. Well and good; but it is not desirable that observations should be remembered if the knowledge gained through the perception is to be made available?

Again we hear that pupils must learn to reason for themselves. That, too, is well. We would not underrate the reason, though we might question its attaining

any great strength in children; but is one member to be stunted that another may grow? On all sides there is an outcry against "Cram"; the word "Parrot" slips off of our tongues so easily: it is such a common thing to say in a contemptuous way, "She does not reason, she only memorizes"; besides it is so easy to despise what we do not possess, that we, as teachers, will do well to examine our footing and see where we stand in regard to the importance of cultivating the memory, and the best manner of the training.

There is a serious danger in following the methods and plans of others without studying the child's mind; without knowing what are its faculties, and what their order of development. As Noah Porter has well said:—"The clear, methodical, and satisfactory communication of knowledge follows from often asking, 'What truths are most easily and naturally received at first or as foundations for others? What illustrations and examples are most pertinent and satisfactory? What degree of repetition and inculcation is required in order to cause the instruction to remain? How can individual peculiarities of intellect be successfully addressed, and, if need be, corrected?'"

When we have passed by serious dangers in our profession, and have secured as our pilot experience, it is so natural to wonder why others do not avoid the quicksands of error. We forget the painful process of learning through mistakes. Yet while we should have charity for the younger member of our profession, surely it is right to warn them of dangers ahead; and it seems to me there is imminent danger of their falling into the mistake of adopting the mere exercises of some eminent teacher in their department, without considering the great truths which underlie all genuine education, and whose wealth of power can never be exhausted. This results in that most serious obstacle to mental improvement,—the belief that everything concerning teaching in their own grade is already known.

We can never enter with energy of soul into any work so long as we are indifferent to it, or so long as we consider it a matter of trivial interest. Consequently we shall speak first concerning the importance of the cultivation of memory.

In considering the value of anything, we must examine both its intrinsic worth and the estimation in which it is held by others. On consulting different works upon "The Human Intellect," we find that a distinction is made between remembrance and recollection, but that the whole subject is treated of under "Memory," so we shall use the word as, "the generic term, denoting the power by which we reproduce past impressions." If the intellect is trained at the expense of the heart, an abnormal development of the soul is the result; is it not equally true that in order to educate the intellect successfully there must be harmony in the growth of its faculties? We are aware of the fact that there have been instances in which the spontaneous memory has been remarkable in those who have been as noticeable for their inferiority in reasoning; but we question if the instances are numerous in which the reason is active and the intellectual memory feeble.

Johnson says, "Memory is the purveyor of reason," which means that when we sit down to the "feast of reason and flow of soul," memory must furnish the table.

It seems apparent that the highest culture is that which gives the mind possession of all its powers. But in this practical age we are met on every side with the question, "But of what use is it in helping you to get a living?" There is not a department of human labor in which its service is not invaluable. Even the memory of faces and names is necessary for the good clerk. What makes a certain young man more desirable than the fact that he draws custom to a store? In what does the secret of his popularity consist more largely than in his recognizing that personality in us which is insulted if our names or our little peculiarities of disposition are forgotten? Memory is of service to the mechanic, not only in acquiring his trade but that he may become a skilful artisan through remembering every step in his work, so that if there has been a flaw he may discover its exact place, and know how to avoid it in future; it aids him, too, in the work of improvement. Science demands not only the ability to collect facts by observation, but the recollection of laws and principles to be applied in disposing of these facts, that they may be made available for reason. How can Science make advancement without her handmaid, Memory?

And what is History? a record of the past. It needs but to be defined to know what it would be impossible without memory; but yet it would be instructive, if it were possible, to notice the power of this faculty in its writers, from the time of Plutarch, with his well stored mind, his *disciplined* memory until we come to Macaulay, that remarkable scholar, who had even the spontaneous memory in a wonderful degree, yet concerning the strength of whose other faculties of mind we dare not doubt. You do not question the necessity for the orator of the representative faculty in the form of imagination, nor should you question the need of it in this form, for the mass of mankind delight in a solid basis of fact. Let us hear what an orator of great power Edmund Burke, has said:—"He that borrows the aid of an equal understanding doubles his own; he that uses that of a superior elevates his own to the stature of that he contemplates." And now we come to the Poet. Among all the beauties of mythology, it seems to us a rare fancy which called Mnemosyne, the goddess of memory, the mother of the Muses. It is true the poet looks with prophetic eye into the future, but he reads it by the light of the past. We find the present Laureate singing in his sweetness.—

"Thou who stealest fire  
From the fountains of the past,  
To glorify the present; oh, haste,  
Visit my low desire!  
Strengthen me, enliven me!"

And another, a woman, with a woman's tender affection, says—

"And memory of things precious keepeth warm  
The heart that once did hold them."

Let us now consider briefly the estimation in which the cultivation of memory has been held. That the ancients held it as a matter of importance is shown by their method of education. The works of their best poets were almost universally committed to memory. Langhorne says in his *Life of Plutarch* "Mr. Locke has justly, though obviously enough, observed that nothing so much strengthens this faculty [memory] as the employment of it. The Greek mode of education must have had a wonderful effect. The continual exercise of the memory in laying up the treasures of their poets, the precepts of their philosophers, and the problems of their mathematicians, must have given it that mathematical power of retention which nothing could easily escape." We would call attention to the course of study in colleges. We know that at the present day there exists a fault-finding disposition, which criticises severely the amount of time spent upon the classics, but, nevertheless, we believe that there still exists a firm belief in their importance among those who study education as a science; and the training of the memory, though by no means the only end to be gained by their study, plays an important part among the reasons for their value.

That there are earnest thinkers, even at the present time when there is a growing tendency to speak lightly of the memory, who feel the importance of its discipline was shown at a meeting of the State Association a few years ago, when a leading educator, a mathematician too, that the discipline of the memory had been too much neglected for the last twenty or thirty years.

[Here I shall have to drop the editorial "we," and lose its protection while I state conclusions to which my own observations have led me, but which may raise dissent in the minds of many.] While I believe the High School has room for improvement in this direction, still I think it is doing more in the special training of the memory than is done in our lower grades. You ask why I believe so. Because I find that the pupils in our A class acquire with more alacrity and recall with greater readiness than those in our lower classes. I have a Latin class composed of some pupils from each of our grades. Exceptional scholars always do exceptional work, so that they do not enter into the comparison. Now I find considering the mere act of memory apart from all else that enters into the study of language, that the average scholar of the A class surpasses the average scholar of the B, and the average scholar of the B the average scholar of the C. You tell me that it is owing to the additional year of mental discipline. It may be; and I wish here to state distinctly that if I make any errors I shall be glad to have them corrected, as I am only searching for truth, not trying to establish any pet theories. But I fully believe that there are other reasons for the difference. The work of committing choice passages from good authors is more systematically carried on; not only for the purpose of declamation, but in various regular recitations. The number of definitions and rules learned is larger, and greater exactness is required in the recitation of

them. Then the pupils do more studying, a thing which ought not to be changed, but which, undoubtedly, gives them an advantage in regard to the cultivation of this faculty. All the writers upon mental philosophy tell us that there is a natural order of development of mind and agree in stating that the memory should receive early attention. Now I claim that we should exercise it not only in the ordinary exercises of the school-room but that the committing to memory in the exact words of the author passages either in prose or poetry, should be commenced at a very early date. Here I must speak earnestly. I believe there is a serious danger of teachers misusing what might be a most effective means for good in their schools. I mean the requiring or even *permitting* their pupils to learn, for the mere purpose of raising a laugh among their schoolmates, or entertaining the patrons of the school, selections, which, if it would be harsh to call low, contain nothing to improve the mind or elevate the heart. An injustice is done to the patrons of the schools when we say that we have to do this in order to interest them. More than three-fourths of the parents take a real pleasure in anything that is well done. They enjoy an exercise in any of the common school branches if only teacher and pupils are alive. Then there are poems from our best authors which touch the common heart of humanity if only uttered with distinctness of voice and beauty of expression. You say that you must find selections that your pupils can understand completely. As distinguished a teacher as Dr. Arnold has said with regard to younger pupils, "It is a great mistake to think that they should *understand* all they learn, for God has ordered that in youth the memory should act vigorously, independent of the understanding—whereas, a man cannot usually recollect a thing unless he understand it."

Yet if you cannot agree with him, you will surely find, if you try, much in our classic English authors within their comprehension if you will take the trouble to select and a little pains in explanation. My own opinion is that we are apt to underrate the ability of our pupils; and it is better to demand a little more from them than they can do readily than not to task them to their uttermost. John Stuart Mill says,—“A pupil from whom nothing is ever demanded which he cannot do, never does all he can.”

This work cannot begin too early in life. A friend of mine who has a most excellent memory says that he thinks one reason for it is that he lived in the country when a little child and his mother devoted a great deal of time to teaching him hymns, Bibles verses, and poems.

A short time ago a minister in our city in speaking of the beauty of the Bible in a literary point of view, remarked that Daniel Webster had said that all that was good or beautiful in his style came from the influence of the Bible verses taught him at his mother's knee in childhood. Will not all good literature thus memorized in early life not only purify the style of the writer, but elevate and grace conversation? But more important and better than all else will be the influence upon character. Artists go and study the works of the old masters and carry away a mental picture to be ever with them in their work; let us study the word-paintings of gentle actions or heroic deeds that we may ever be influenced towards like nobility. When tempted to lose faith in humanity how like clarion notes come those lines from Lowell:

“Be noble! and the nobleness that lies  
In other men, sleeping, but never dead,  
Will rise in majesty to meet thine own.”

A few words now in regard to this work in the various grades. In visiting some of our primary schools I have noticed how many of the children know very accurately the words of their little songs. For several years of their school life I think they might be taught little poems for concert recitation in the same way that they are taught these songs. After some familiarity with the selection has been acquired in this manner, call upon individual pupils to recite, but never prompt a pupil so reciting. If he fails one day, try him the next. From the lowest to the highest grade this rule should be regarded. The effort to recall is an important exercise in the cultivation of the intentional memory, and the teacher who assists in it causes her pupil to lose a valuable exercise whenever she render the assistance.

When the pupils are sufficiently advanced to do this work of committing without assistance, the teachers will do well to have some books to lend to their scholars for this purpose.

Money invested in good books for our pupils pays a better dividend than any thing else of which I have any knowledge. Allow your pupils to make their selections but always require them to submit them for your approval before beginning to learn them. Teach them never to select anything merely because it is new, nor reject it because it is old. Is not this an old world with a wrinkled face upon which we are living? Do we love it any the less for its age? Have not the sun and moon been shining for ages, yet is their radiance any the less welcome on that account? Are not truth, justice, and love as old as God himself who is eternal?

And now leaving this branch of my subject, I shall beg your pardon for the length of time I have dwelt upon it, but it has been because I feel so thoroughly convinced of its importance.

In all the common branches of education, between what should be memorized and what should not, the teacher must exercise a careful discrimination. Of course there are studies which are mainly for the purpose of strengthening the reason, and we do not suppose that any teacher will permit the memorizing of these. Besides there are certain things which should be used as language lessons, and the pupil should be encouraged at times to give the author's thought in his own words, but definitions and rules ought to be given in the words of the author. The definition must first be understood; we must never have our pupils learn words merely; but the ability to define accurately demands a high order of intellect, such as we cannot expect to find in children; in addition to this the author is supposed to have given his subject such consideration as has enabled him to condense his thought—another very important reason why his words are best.

Learn processes before rules; but when the rules are given they should be exact. Accuracy is something which cannot be too highly valued. Clear methodical habits of thought and expression are of priceless worth. Intellectual looseness will be the result of our accepting a mere jumble of words for definitions and rules. Moral laxity may be the result of intellectual looseness. Let us consider next the study of language as connected with the discipline of memory. It is with the learning of our native tongue that the training of the intentional memory begins; which seems a good reason why other languages should aid in its discipline. We have heard so long that the study of language strengthens the memory that we have accepted it as other trite truths without investigation; but recently I have been making some experiments and I find that my pupils who are studying Latin remember more accurately and recall more readily things what I tell them on various subjects.

than those who study no language except their own. I think it is due to the fact that they are expected to retain and use the words which they are constantly learning and it forms a habit in them of expecting that what they hear will be called for at some time. Then they are bound constantly to trust the memory which renders it a better worker. In teaching other languages we must observe some of the same regulations that are necessary in teaching little children to read. We must see that the *word* is learned so that it can be recognized in any connection and the vocabulary be thus increased.

If the full value of the study of language as a discipline for the memory would be gained, written translations must not be allowed except at stated times and for special purposes. They have their place and time, but not in the daily recitation, nor in preparation for it. Passages of Latin authors should be committed to memory. When difficulty is added brain is added. Dr. Arnold thought that Greek and Latin grammars in English were attended with a disadvantage because the rules which in Latin fixed themselves in the boys' memories, when learned in English were forgotten. However this may be, we know by experiment that the memorizing of passages from Latin authors not only develops the muscle of the memory (if we may use the expression), but helps greatly in giving an additional knowledge of the language.

And now let us consider the conditions of memory. With regard to artificial memory we shall say very little, because we believe that natural relations are always preferable to those that are arbitrary and mechanical. For the child it scarcely seems at all necessary; if there are circumstances under which it does seem to be so, the teacher who feels inclined to use such artificial associations will be found to have a taste which does not need encouragement. The circumstances that are necessary in order that the pupil may remember tenaciously and recall promptly are such as lie at the basis of all true education and therefore to hear them will seem like hearing an old story, but like some other old stories they cannot be heard too often.

We must first notice the condition of the body. When the pupil is in a condition of health, all intellectual effort is easier, and what he apprehends at such a time he can recall with automatic readiness and precision. If he is suffering any physical annoyance he cannot fix his attention so as to perceive clearly and remember accurately. We do not wonder that some teachers accomplish little either in the government or instruction of their pupils when we are compelled to endure for a few moments the heated and impure air of their school-rooms. They do not understand that it is a matter of policy, as well as of duty, to make their pupils as comfortable as possible.

When the mind is distracted either by an internal feeling or an external object it cannot give attention; and without attention there cannot be recollection, because the mind cannot recall what it has not made its own. What is the literal meaning of *attention*? A *stretching towards*. How can there be a longing for anything, a stretching towards it, if it fails to interest. Now let us look at this word. *Inter*, *between*, and *esse*, *to be*. How can we bring others to be *within* that into which we ourselves have not entered?

Memory has its moral condition, which implies truth to one's self in picturing to one's own imagination with fidelity what has been seen or learned; and truth to others in describing that picture faithfully.

An essay upon the subject of memory would probably seem incomplete without some reference to reviews; but their value has been set forth so clearly within a

few months past in this Educational Monthly that at the present time we need not dwell upon their importance. A demand for repetition lies within that truth of mental science that "the mind tends to act again more readily in a manner or form which is similar to any in which it has acted before, in any defined exertion of its energy."

There is a philosophical reason for the review of the common-school branches by the pupils in our High Schools before their graduation. The memory of the child differs from that of the youth, and the facts which he has accumulated in childhood held together by the lower and more obvious associations, will be lost unless they are rendered secure by a review which will enable the older pupil to re-arrange these same facts under the higher relations which are now possible for him since his intellectual memory has attained greater development.

And now, fellow-teachers, in conclusion allow me to beg of you to use every means in your reach to improve the faculties of your own minds. He who ceases to acquire knowledge will surely lose that ability which will enable him to instruct others in the proper way of acquiring it. Do not neglect the discipline of the memory by systematic labor. Whatever your previous successes, be "Like a brave wrestler who, after he has come off conqueror, observes the common rules, and continues his exercises to the last."—(*Ohio Educational Monthly*.)

M. W. SUTHERLAND.

## School Management

BY J. BALDWIN.

### *Elements of Governing Powers.*

Governing power is the capacity to marshal and render most effective all educational resources. Attention has been called to *System, Energy, Vigilance* and *Firmness*, as elements of governing power. Consideration is here invited to other elements.

V. *Self-control is the fifth element governing power.* The great general remains calm in the midst of the battle. The statesman is not excited by the tumult of partyism. Still more does the teacher of youth need to be calm amid all storms. He moulds as well as governs.

1. Self-possession greatly aids self-control. The teacher needs to keep all his powers well in hand, ready for every work and prepared for every emergency.

2. Anger must be crushed. Exhibitions of temper of incalculable injury. The violent teacher loses the respect of his pupils, loses all moral power over them. If he succeeds at all, his must be a government of force. The importance of avoiding all exhibitions of anger can hardly be too earnestly urged.

3. Impatience must be repressed. A hundred things occur hourly to render the teacher irritable and impatient. To yield is ruin. The teacher needs a world of patience. Child-nature is full of perversity and child-mind develops slowly. Wesley's mother would tell John the same thing twenty times, and not many children require less patience.

4. Allow no antagonisms. To suffer antagonisms to spring up between yourself and a pupil or patron is a fatal mistake. Control yourself, and thus control and use all forces. Never antagonize.

The subject of self-control demands the earnest study and constant care of the teacher. Without a good degree of this power no one need expect success.

VI. *Confidence* is the sixth element of governing power. This is a noble trait, and its influence is unbounded.

1. Confidence in God. He orders all things well. An abiding trust in the Supreme Ruler gives the teacher a dignity and a power that nothing else can. In the dark hours of trial confidence in God sustains and nerves for victory. The Father takes note of the earnest work of the humble teacher.

2. Confidence in pupils. He who would so govern as to elevate must trust. Children and men geneally do about as they are expected to do. Trust your people, and they will seldom betray the trust. Suspicion is only worthy of fiends, and it breeds offenses, treachery and crime.

3. Self-confidence This does not mean an over-weening egotism, inordinate self-esteem is a barrier to success. "He has the big head." "He thinks he knows it all." "He is stuck up," etc., etc. There are expressions frequently applied to teachers. Indeed, no class of workers is more exposed to these diseases. You will have to guard against egotism in every possible way. Remember that modesty is the virtue that society most esteems.

Self-confidence means a well-grounded assurance that you can do what you undertake. It must be based (1) on good scholarship, (2) on profound study of child nature, (3) on a thorough knowledge of school management. Without confidence, failure is inevitable, with it, this teacher is commander of the situation.

VII. *Personal influence* is the seventh element of governing power. This means the ability to win the respect, the confidence, and the love of pupils and patrons. It means power to govern through the highest and most ennobling motives.

1. The teacher must be worthy. True worth wins its way; pretense comes to grief.

2. The teacher must do all in his power for his pupils. His days and nights must be consecrated to their interests. To the daily feast he must bring his richest treasures of mind and heart.

3. The teacher must love his pupils. "What makes the lamb love Mary so?" The answer contains the secret of winning love. "We love God because He first loved us." The loving teacher, ever affable, kind and considerate, is certain to win respect, confidence and love.

Despotism is a mistake. The cold, repulsive tyrant may have forced quiet, and may compel good lessons, but he creates an atmosphere in which all hateful passions and habits are fostered.

4. Obedience should be cheerful and glad. In the sunshine of confidence and love, all that is lovely in child nature buds and blossoms and bears fruit. Order is the harmony of glad music. Lessons are a feast and an endless delight. The teacher is a kind, loving friend, leading pupils up to all that is beautiful and desirable.

5. Personal influence is a magic power. The great rulers and commanders of the world were almost worshipped. The great teachers, Socrates, Aristotle, Pestalozzi and Horace Mann were beloved and worshipped. Personal influence is demanded to enforce systems, carry measures, meet emergencies and overcome difficulties.

VIII. *Culture of voice and manners* is the eighth element of governing power. The influence of cultured voice and manners can't be computed. The best governed schools are often found in charge of girls under twenty years of age. Gentle manners, with a low, earnest voice, largely explains the mystery. Rough, double-fisted men are no longer selected to master the bad

1. The teacher is a model. Pupils tend to become what their teachers are. Hence, our teachers should be ladies and gentlemen of true refinement. The coarse, ill-mannered, dowdyish teacher not only fails to govern, but also becomes a positive influence for evil.

2. Ours is a talking profession. The human voice is the great instrument both for instruction and government, yet the elocution of the school-room is abominable. No wonder we have so few good readers and speakers. The following directions may be safely followed. (1). Don't talk much. Eternal talkers are a fearful nuisance, and, as teachers, great failures. (2). Use the right word and tone. Loud, harsh, monotonous elocution incites to disorder. Remember that words fitly spoken are like apples of gold in pictures of silver. (3). Never scold. Nothing else so tends to sour you and render you hateful to your pupils.

3. Practice what you teach. Good manners and pleasing elocution are very important parts of education, and wonderfully increase the teacher's power to govern.

IX. *Right punishment* is the ninth element of governing power. The objects of punishment are to enforce system, protect the good, and benefit the wayward. Right punishments are such as tend to benefit the punished.

1. Reproof, general, private and public, if properly administered, will be sufficient, in nine cases out of ten, for all school purposes.

2. Privations, when used sparingly, and, judiciously, give good results. The pupil is made to suffer the natural consequences of his faults.

3. Corporal punishment should rarely be resorted to. Admit the right, but avoid the use, is the true doctrine. With some teachers, under some circumstances, it is a necessity.

4. Suspension, when properly managed, works good to the suspended and to the school. Suspension should not be frequent or for trivial causes.

5. How to punish seems not to be well understood by parents or teachers, and hence punishments often do irreparable injury. Calm, deliberate and loving, we must so punish as to work in the pupil a determination to do the right and avoid the wrong.

6. The necessity of punishment is not questioned by the experienced. While moral suasion should be used to the utmost, he who hopes to govern children, or men, without punishment, is doomed to disappointment. The old school-master, with all the rules and rods, and the modern Quixotic teacher, with no rules and no punishments, are extremes to be avoided. The golden mean gives us needed regulation, enforced, when necessary, by right punishment.

X. *Management* is tenth element of governing power. Tact, gumption, common sense, skill, wisdom, are some of the terms by which this element of power is designated. It has a world of meaning.

1. The teacher should be a man among men. He not only manages the children, but also directs the educational work of the district. He is the natural leader in all movements that tend to improve and elevate.

2. Coöperation must be secured. One cannot do much. It is coöperation that builds railroads, manages school systems and establishes states. To make a school successful, demands the hearty coöperation of the entire district. To secure this requires tact, management. While guiding, the teacher must seem to follow.

3. Everything must be turned to advantage. Defeat must be changed to victory. The angry patron who comes to give trouble, must be sent away a warm friend of the school. Misconduct must be made the occasion to deepen the love of right. Evils must be attacked and conquered in detail.

4. Opposing forces. These must be made to antagonize each other and contribute to promote the school interests.

Skillful management makes the difference between success and failure. The results of good management are manifold. Armed with these mighty elements of governing power, let the teacher be content only with the highest results. Discipline the pupil to self-control. Train him to the habit of self-acting. Develop in him mental power. Lead him up to a noble manhood. Inspire him for achievement.

Teaching is incomparably the greatest work on this earth. Minds are only immortal. The noblest creations of art fade and crumble. Cities and nations and worlds grow old and pass away. The teacher's work alone endures. Minds grandly developed; hearts attuned to the true, the beautiful and the good; lives devoted to every ennobling work; spirits occupying a lofty position among the tenantry of God's boundless universe—these are to be the everlasting monuments of the teacher's toils.—*American Journal of Education.*

### Science in Schools.

An Address delivered before a Public School Meeting, by  
ANDREW WILSON, PIL D., D. SC., F. R. P. S. E.

I have agreed to say a few words on this occasion regarding science-instruction in schools, and I make bold to think that the occasion is one which presents a highly favourable opportunity for stating the claims of science to be regarded as a power of mean kind in ordinary education. Teachers and parents, and friends are assembled here in goodly array, and if, through what follows, I may be unable to obtain your assent to all the propositions and suggestions I may make, I may at least hope that some of my hearers will agree with the main tenor of my remarks. In no sense do I appear here in an official capacity,—except, indeed, you accord to me the position and status of an apostle of a power which is regarded by many amongst us as affording a certain measure of "sweetness and light" to the world at large. If that can be said to be an official position in which a person takes upon himself the office of an advocate of a certain system in the value of which he thoroughly believes, then indeed I may lay claim to that designation. But I shall depend upon, or presume on, no right of address to invite your earnest attention to the subject before me. I shall rather ask you to "hear me for my cause," and I would fain hope that, for the cause' sake, you will feel no weariness in the hearing.

I presume it is well known to all here that there exist in this school special provisions for science-teaching. A special teacher is deputed to conduct science-classes, and his work receives definitive recognition as a part of your educational programme. The duty which lies before me, then, is hardly that of asking your recognition of science, since that is already an accomplished task. I therefore think I may more profitably ask you to consider the advantages which are likely to accrue from the science teacher's work, and the best modes of stimulating and encouraging the science master's labours. In the science side of your school, I observe you give due prominence to those branches which are included under the collective name of "Natural Sciences;" whilst the more purely physical branches of inquiry, such as chemistry, natural philosophy, and geology, are not by any means neglected. I observe that special attention is given to such studies as botany,

zoology, and physiology—sciences, in short, which are included under the single name Biology. I shall fulfil very perfectly the aims set before me, if I succeed in showing you the use and advantage of this great "Science of living beings," as the term Biology may very appropriately be rendered. The physical sciences are quite able to look after their own interests, for there are very few who can and who will deny the utility of chemistry; and natural philosophy, I think, can also take care of itself. But there are very many persons who cannot see the value of botany, zoology and physiology, when applied to ordinary education, and it is to the task of endeavouring to show the positive good wrought by such studies, that I must chiefly and at once address myself.

It will readily be admitted that the true end of all education is that of imparting such culture to the individual as will fit him or her for taking a due place in the world, and for becoming, in some fashion or other, a useful and creditable member of society. Whatever acuteness of perception, largeness of intellect, or breadth of mind we see developed in a man or woman, must be laid to the credit of education as a foster-parent. Nay, I will even go the length of asserting that qualities of even more superficial kind, such as mere urbanity and politeness, for example, which tend to make the wheels of life roll pleasantly along, are the direct result of the fostering and softening influences of education,—although I dare say there are some who may elect to believe, in opposition to Dogberry, that whilst reading and writing are the gifts of fortune, "to be a well favoured man" "comes by nature." As regards the means whereby education effects her work of moulding the disposition, and of forming the character, it cannot be denied that the present age has witnessed an immense improvement on the past. Not only are our education programmes more liberal than in former years, but we also find that branches which our grandfathers and grandmothers regarded as mere accomplishments and "extras," are now included as every-day and ordinary subjects in a school course. The best proof that education has progressed, in fact, consists in the abolition of the "extras." Why should an educational course of any include subjects which are the property of the few, and which are denied to the many? Or why should any typical system of education include within its limits branches which are accessible to a favoured minority alone? Thus music, for example, has gradually, and happily for the chances of refinement, passed from the sphere of a mere accomplishment to occupy the place as an essential element to the education not only of girls, but of boys also. And the same may be said of drawing, and of other branches, the utility of which we term "culture," is now universally admitted and recognized.

It is somewhat remarkable however, when we think of it, that until within very recent years no attempt was made to include in the instruction of youth a knowledge of the world itself, and of the living and non-living things which everywhere surround us. However highly accomplished a boy or girl might leave school, one could hardly expect of old, that the work of education had included that of imparting information regarding animals and plants, rocks and stones, or the relations of this universe to other worlds than ours. I am sorry to think that this state of matters is, in too many instances, still typical of the negative results of the education in many schools of established repute; and that there are men and women growing up around us whose ideas of natural history are as indefinite as those of the student who, in answer to an

examiner's question regarding his knowledge of fishes, replied that he "knew them all from the limpet to the whale" without being aware that neither of the animals mentioned could claim relationship with the finny tribes. Now, I desire to put the matter in the plainest possible fashion before you, by asking you whether you would regard any scheme of education as complete, which omitted to include a knowledge of natural science which, sent boys and girls out into the world with their eyes literally shut to a goodly moiety of the beauty and richness of nature, and which debarred them from the influence of a powerful means for educating the higher senses and the mind. It may be a very personal suggestion to make of my audience to give a plain, sensible explanation of the causes which produce that very common phenomenon, a rainbow, or how many, out of say a hundred educated and intelligent people, would profess to explain what happens when a flash of lightning is seen, and what is the cause of the succeeding roll of "heaven's artillery." I do not doubt that I am within the mark when I maintain that I should fail to obtain rational explanations of those phenomena from more than one out of every hundred adult persons who were asked to write or to dictate answers to these questions. How very few persons also ever think, for that matter, of it, why grass is green, and only the green hue of nature is so widely diffused. Whilst I dare say there are thousands of persons, of by no means the least cultured classes, whose knowledge of reasons, why their chests rise and fall some sixteen or seventeen times per minute, is limited to the idea of some mysterious process of "breathing," but who are perfectly unable to say a further word regarding the exact nature and uses of the breathing-function.

It would be a daring, and I think unfounded suggestion, if any one should say that mankind at large took no notice of or interest in such matters. To hold such a doctrine, would imply the belief that there is no such feeling as common curiosity, or that adult human nature is less desirous of "knowing itself," than that earlier development of it which belongs to childhood's years. In this respect, it may truly be said that "the child is father of the man"; for the prattle of childhood largely concerns itself with the outer world, and with the outer world, and with the objects which meet the eyes of early age. Whoever has taken a walk in the country, or whoever has strolled along the sea beach in company with a child, must have noted the interest exhibited by the youthful mind in every phase and circumstance of the ramble. The questionings of the child deal almost wholly with the causes of things. He cannot understand the inability of his elders to satisfy his pursuit of truth to its ultimate end. To childhood's mind there exists a cause for everything, and no excuse is entertained by the child when the search after knowledge is entirely unrewarded. As Professor Huxley once said when addressing a meeting of teachers on the subject of science-teaching, people usually answer the natural queries of the child in one or other of three ways. The child is frequently told "not to ask foolish questions," or that the questioned party "does not know," or that "God made" the object in question. Now these are three very foolish answers. The first reply not only discourages the child, but in a manner insults the sensitive and inquiring bent of the young mind. The second reply, again, injures the child by leading it to believe in the unattainable nature of the required knowledge—a belief which, as time rolls on, it will have ample cause to wonder at and despise, especially if the culture of succeeding years tends to supply the gap which might

have been readily filled by the rudimentary science of earlier days. And the third answer is no less hurtful in my candid opinion, because it leads the child to attach ideas of supernatural and inexplicable causation to, it may be, a very common readily explained phenomenon. It supplies, in short, an ideal instead of a real cause for natural laws and operations. Do not, I pray you, mistake my meaning here. If I reply to a child who has asked me a question regarding a primrose that "God made it," I lead my little inquirer, who is unskilled in reading the ordinary meaning of the expression—for children. I need not remark, take most expressions of their elders in a literal sense—to believe that there is nothing of an appreciable kind, or that his senses can perceive, to be learned regarding the flower. My reply tends to invest the flower with a false importance in his eyes, whilst no less surely will such a mode of explaining nature lead the child to draw subtle distinctions, intelligible only to himself, about some things which God has made, and other things, again, which God has not made. If, on the contrary, for an unreasonable method of answering the questions of youth, you substitute the true and natural method of direct explanation, you will cause the child to believe in the regulation of every part of the universe by laws of well-defined kind; you will enlarge his perceptions, and establish his notions of nature on a sure basis; you will lead him to assign reasonable causes for all events, in place of the superstitious, know-nothing reasons in which people who ought to know much better often indulge; and you will also, in such a manner, most successfully pave the way for the reception of true and lasting impressions regarding the Mind which sustains the whole fabric of nature. I fearlessly assert that there is something materially deficient in a system of education which, as the child grows, offers no encouragement and supplies no matter to fill the niche which unquestionably exists in the mind of every human being, and which is destined by nature to be tenanted by the knowledge of herself and her laws.

But I must next, in the briefest possible manner, explain how the niche may most reasonably and successfully be filled. How, in other words, are you to teach the child or the youth? I reply, "By full illustration of, and by direct appeal to, nature herself." And this leads me to remark that the commonly received notion that science and scientific men together represent the abstruse technicalities of existence, is an idea for which a more enlightened generation will have good cause to blush—so thoroughly misconceived is that notion which regards science as a dry collection of intricate details. Many worthy persons really receive a severe shock to their feelings when they open a text-book of Botany, for example, and find that a buttercup is described as possessing a polysepalous, inferior calyx, a polypetalous corolla, hopogynous, polyandrous stamens, and a superior, apocarpous pistil. To understand such jargon, you are told, would require a mind of the capacity of that possessed by Butler's philosopher, who could

"—distinguish and divide  
A hair, 'twixt south and south-west side;"

and who

"—made an instrument to know  
If the moon shine at full or no."

Whilst to understand the mysteries of Zoology, and to know that a cockroach is the *Blatta Orientalis*, of the order Orthoptera and section Hemimetabola of the class Insecta, would, in the opinion of many persons, require



a mind of the depth and exactitude of that possessed by the famous chronologer Mr. Blair, who, in his famous work, describes Adam and Eve as "created Friday, October 28th, b. c. 4004." But names are not the whole of science. Names are to know things by, and it so happens that scientific names enable us not merely to know the objects they describe, but also give us a vast deal of information packed into the smallest possible compass regarding such objects. And when persons object to study science because of their non-familiarity with its terms, the man of science might reasonably expect such objectors to refuse to study German because the type differs from our English style, and because German phraseology is of singular, and, to one unacquainted with the language, of uncouth nature. There is no royal road to science any more than there is an easy pathway to acquire a foreign language in a true or grammatical fashion. But as the difficulties of orthography are lessened, and disappear when the rudiments of the grammar have been thoroughly acquired, so in science, when, through demonstration and skilful teaching the pupil has learned to use eyes and fingers, the so-called "barbarisms" of scientific language no longer represent "a confusion of tongues," but appear as veritable aids to the clear and succinct expression of our thoughts.

Beyond all scientific methods, however, there is the highest delight to be found in the direct study of nature, such as a true system of science-teaching exemplifies. The careless, unskilled visitor to a garden is soon satiated with the beauty around him, and speedily wearies of the continual feast which nature is presenting to every sense. He sees insects buzzing about, prying with curious intent into flowers, and searching as if for some concealed floral treasures, without in the least degree appreciating the ends of their search. The colours of flowers possess for him no meaning deeper than that of ministering to sense, or of having been produced aimlessly and in a meaningless manner. But to the mind which has come prepared by previous knowledge to understand, and through understanding to enjoy, the prospect set before it, how different does that prospect appear! The insects are seen to visit the flowers, attracted by the floral odours, and for the purpose of discussing the stores of sweets which the flowers secrete; and the botanist would show us that, as the insect leaves the flower, it carries off with it to another flower the pollen or matter wherewith to fertilise the seeds of the latter. Nature thus employs the insects as unconscious flower-fertilisers, and the colour, scent, and sweets of flowers exist for the purpose of attracting these little ministers of the floral state. And were our knowledge more perfect, we should be able to show that each combination of colour in flowers is destined to serve the end just mentioned in the best possible manner. Then, also, the eye of the botanist sees in every green leaf a great provision of nature for the purification of our atmosphere. But for the presence of the green colouring matter, our atmosphere would become a huge stagnant pond of deadly vapour, and animal life at large would simply become extinct. The discovery of purpose and design subserved by structures teeming with beauty and grace, and a sense of the highest enjoyment in knowing and understanding even a part of the order of nature—such are by no means the least notable amongst many other results of a simple study of Natural Science, such as all may undertake, and for the due acquirement of which there is, or should be, every opportunity at school.

I think I may perchance hear some of my young friends saying, that such studies might be left until

school-days are over. Every mind who tries to snatch a few hours for culture from the busy routine of life well known how easy appears the task of learning after school days are past, and how difficult—nay, how impossible—in many cases such an undertaking will prove. The world is in truth "too much with us" after school days, to make learning an easy matter; and it is only in the time of youth, when the faculties are bright, and accustomed to overtake and surmount difficulties in learning, that any study can as a rule be successfully acquired. Besides, the very training of the mind involved in the study of science is too valuable a result to be lost sight of, and too powerful an argument in favour of science being studied in youth to be omitted. There are, I am sure, many persons hearing these words who will re-echo their purport in an expression of regret that their school-days may not come again, or that time and opportunity may not once more present themselves for acquiring a better and fuller knowledge of this fair world. Carlyle speaks with regret of the absence of all natural history knowledge from his school days, and the want of such knowledge represents in truth a gap in the intellectual life which nothing else—not even the highest literary culture—can fill. Unless, then, you will hold that it is better to remain wholly ignorant of nature,—unless you will maintain that you may very reasonably feel less curiosity about its living and wonders than you do about the ordinary concerns of life,—unless human nature, with all its faults, is much worse than I take it to be,—you will heartily respond to the call I make upon you as parents and guardians to see that your boys and girls are trained, as they should be, in the study of nature, and the universe and its constitution. I claim no great gift of foresight or prophecy; but I have no hesitation in declaring my belief that, ten years hence, a school without science will represent the condition of a certain primitive village I have "in my mind's eye," wherein a week's old newspaper is thought to contain the very latest intelligence, and wherein the oldest inhabitant declares that no event of public importance has occurred since the battle of Waterloo. If one could only remember all that one thought about in the train, my remarks would have a much better chance of successfully appealing to you in the cause of a reasonable scheme of education. But I make bold to think that, in some things I have elicited your sympathy and approval. And if, in any one point, I have succeeded in inducing a belief in the power of science not only to educate, but to supplement other branches of education, I shall feel that my labour has assuredly not been in vain.

### Spelling "Reform."

To spell well has hitherto been considered to be one of the primary marks of an educated man. That the art is not really difficult of acquirement is proved by the fact that it is very generally acquired, and that most men would as soon think of confessing to a weakness in this respect as of acknowledging a diffidence as to the proper use of the aspirate. It would, of course, be absurd to deny that our accepted system of spelling is full of anomalies and absurdities, but if we are to set ourselves to the immediate redress of all anomalies and absurdities in our practical life, we shall find ourselves committed all at once to a variety of important changes which will suffice to put the question of Spelling Reform out of sight for a generation or two at least. It is well

known that there has long existed a section of the community which has devoted itself with singular persistence to the establishment of what is called a phonetic system of spelling. That it is persistent does credit to its enthusiasm; that it is numerous is a proof that wisdom is not always associated with enthusiasm; but neither its numbers nor its persistency, nor yet the powerful advocacy of some of its partisans, suffice to convince us that it has right on its side. It may be invincible obstinacy—Professor Max Müller would tell us that it is—but we confess to a prejudice in favour of established and traditional modes of spelling. We do not want to render all existing books in the English language illegible in order that little boys and girls who will never read much in any case may learn to read a little with greater ease. We do not want to surrender our existing system of spelling, imperfect no doubt, but understood by all educated men, in favour of a system yet to be invented, and concerning which it may safely be predicted that it can never be an accurate transcript of the spoken language of all men alike. We do not want to sacrifice the history and growth of English speech more than they have been sacrificed already, and will be sacrificed in the future by the inevitable phonetic decay which all language suffer as they grow older. It will be a long time before we are brought to acknowledge that the needs, however urgent, of elementary education will sooner or later compel us to re-write our noble language in the fashion of the phonetists.—*The Times*.

## THE JOURNAL OF EDUCATION.

QUEBEC, FEBRUARY, 1878.

### The Protestant Committee.

Our readers will find printed in this number of the Journal, transmitted to the Department by the Secretary of the Protestant Committee, for publication, the full minutes of proceedings at a meeting held on the 27th ultimo—also a notice relative to examination of Protestant candidates for Teachers' Diplomas.

## OFFICIAL NOTICES.



### Department of Public Instruction.

#### APPOINTMENTS.

##### ANNEXATIONS OF SCHOOL MUNICIPALITIES.

His Excellency the Lieutenant Governor has been pleased, by order in Council, dated the 4th of February, instant 1868, and in virtue of the powers conferred on him to make the following annexations, to wit:

Lotbinière, Saint-Patrice Beauvillage.—To annex to this parish all that part of the parish of Saint-Gilles, which is situated in the L'Embarras concession, to the property of Jean Drouin or representatives, south west of the river Beauvillage exclusively, and to the property of Nazaire Drouin, north east of the said river, also exclusively.

Rimouski, Sainte-Cécile du Bic.—To annex to this parish all the east part of the third range of the parish of Saint-Fabien, to Lambert Roussel's property, inclusively.

By order in Council, dated the 5th of February instant, 1878: Bagot, Saint-An tré d'Acton.—The Revd. Louis C. Wurtele, M. A., vice John McLean, who left the municipality. (The appointment of a school trustees for Acton Vale, dated the 21st of January last, 1878, is revoked.)

#### ERECTION OF A SCHOOL MUNICIPALITY.

By order in Council, dated the 18th of February instant 1878: To separate the village of Saint Ephrem d'Upton, county of Bagot, from the remainder of the parish and erect it into a distinct school municipality, with the same limits as those assigned to it for municipal purposes, by proclamation, dated the twenty seventh day of December last, the said erection to take effect in the month of July next.

#### SCHOOL COMMISSIONERS.

County of Arthabaska, Saint-Albert.—*vr.* Magloire Tartif, vice Mr. Alexis Hébert, who has definitively left the municipality, and Mr. Prudent Lainesse, vice Mr. Augustin Paque, who has also left the municipality.

County of Wolfe, Saint Camille.—Mr. Damase Bonhomme, vice Mr. Antoine Devins, who has definitively left the municipality.

## POETRY.

### Life and Death.

"What is Life, father?" "A battle, my child,  
Where the strongest lance may fall,  
Where the wariest eyes may be beguiled,  
And the stoutest heart may quail;  
Where the foes are gathered on every hand,  
And rest not, day nor night,  
And the feeble little ones must stand  
In the thickest of the fight."

"What is Death, father?" "The rest, my child.  
When the strife and toil are o'er;  
The Angel of God, who, calm and mild,  
Says we need fight no more;  
Who driveth away the demon band,  
Bids the din of battle cease;  
Takes the banner and spear from the failing hand,  
And proclaims an eternal peace."

"Let me die, father! I tremble and fear  
To yield in that terrible strife."  
"The crown must be won for Heaven, dear,  
In the battle field of Life.  
My child, tho' thy foes are strong and tried,  
He loveth the weak and small;  
The Angels of Heaven are on thy side,  
And God is over all."

### Memoir of Pope Pius IX.

His Holiness Pope Pius IX died in the Vatican, at Rome, on the seventh of February instant.

The departed Pontiff whose family name was Giovanni Maria Mastai Ferretti, was born on the 13th of May, 1792, at Sinigaglia, in the Province of Ancona. He was, therefore, in the 86th years of his age at the time of his death, and had occupied the Pontifical chair longer than any of his predecessors—being the only Pope who proved an exception to the rule, long held to be invariably, that none of them should live to "see the years of Peter. In his early youth he was distinguished for his remarkable sweetness of disposition, and for an active charity beyond his years. At the age of eighteen he went to Rome, with the intention of entering the body-guard of Pope Pius VIII, but an epileptic seizure disabled him from entering upon any kind of military service. The reigning Pontiff, remarking in him

signs of superior ability, ordered him to make a "novena," or nine days' supplication for the recovery of his health, and for Divine guidance in choosing his future vocation. He did so: his health was restored, and with his recovery came the resolution of taking Holy Orders. In due course he was admitted into the priesthood, and first exercised his spiritual functions as chaplain in an educational institute for orphans at Rome, founded by a poor citizen for the benefit of his poorer brethren. From this quiet sphere of duty he was called away by the Pope, and sent out to South America, where he spent some years as auditor to Monsignore Mugi, Vicar Apostolic of Chili. On his return to Europe, Pope Leo XII. appointed him Prelate of his household, and President of the great Hospital of St. Michael, on the Ripa Grande. In 1827, being then in his thirty eight year, he was raised to the archbishopric of Spoleto, from which see he was transferred in December, 1831, to that of Imola. Whilst here, his purse and his personal goods were placed by him at the disposal of the poor to such an extent, that his steward often knew not how to provide for the wants of the archiepiscopal household. In 1840, he was elevated to the dignity of Cardinal; and it is said that the only occasion on which he ever quitted his diocese was that of this compulsory visit to Rome to receive his Cardinal's hat.

Pope Gregory XVI. died on the 1st of June 1846. The Cardinal Archbishop was summoned to attend the solemn conclave of the Sacred College, held for the purpose of electing a successor to the Papal chair. The first ballot being unsuccessful, as no candidate had a sufficient number of votes, a second reckoning of votes took place, and Cardinal Ferretti, who was one of the scrutators, found a majority (thirty-five) recorded in his favor. He was proclaimed Pope at once, under the title of Pius IX. and solemnly crowned, on the 21st of the same month, at St. Peter's.

On assuming the Pontifical chair Pope Pius IX was but fifty-four years old, being one of the youngest Popes ever elected. His accession was hailed with general satisfaction, his personal virtues and affability of character having endeared him to the people. He took immediate steps for the granting of an amnesty for past offences against the government, for the discharge of the public debt, and for the prevention of the infringements which the police displayed too great readiness to make upon the personal liberties of his subjects. He likewise submitted to the consideration of the Council of State propositions for the discharge of all foreign troops, then employed in the Papal dominions, for a more extended system of public education, and a remission of the censorship of the press. On the 16th of the same month a decree of amnesty, signed by the Pope himself, without any countersign of a Minister, appeared, granting a free pardon in all criminal proceedings for acts against the State. The enthusiasm of the Roman people on the publication of this decree exceeded all bounds. Accompanied by musicians, they repaired to the Quirinal, where, in response to their repeated acclamations, the Pope was obliged to present himself four times upon the balcony to receive their homage.

During the entire of the first year of his Pontificate the exertions of the Pope were directed to perfecting reforms in the Government, lightening the burdens of the people, and restoring the financial prosperity of the country. In these efforts he had to encounter the incessant hostility of the Austrian party, which put in possession of Italy by England, in 1815, had long profited by the confusion and misgovernment that prevailed throughout the peninsula, and saw with unconcealed dislike an approach towards a liberal system of rule. But if the Retrogradists were alarmed at the Liberal tendencies of the Pontiff, the consternation of the Mazzinists was greater. They saw the Pope was every day becoming more beloved by the people, whom no efforts of mis-representation could induce to disregard the evidences, continually presented, of his desire to govern for the general good. He spread content among the people and ensured peace and tranquility the very last things desired by the infidel Revolutionists: and as they could not hope to keep alive the ferment of the popular mind, their efforts were directed to force the Pope back into the arms of the Austrians. Unfortunately, circumstances favored their designs.

On the 22nd February, the Revolution began in Paris; on the 24th, the people took the Tuileries by assault; and Louis Philippe—who would have conceded Reform when he no longer had the power—fled to England, whose friend and tool he had long been. The Republic was proclaimed. The impulse spread all over Europe, and the people everywhere became intoxicated with joy as they saw the dawn of freedom once more break upon their long night of slavery. It was at this time that Pope Pius IX. had just matured his plan for the construction of the two Chambers, as the basis of the representation of the nobles, and the people in the government of Rome; and the promulgation of the Constitution took place soon after. The two parties already indicated beheld these proceedings with dismay, and left nothing undone to check the progress of the Pope as a reformer. And they did succeed; though the whole credit of that success must be given to Mazzini and his party, who did every vile and violent and mischievous act, which was calculated to bear out the fears and prophetic warnings of the Conservatives, and thereby

deter the Pope from proceeding in his career. The sequel is well known, and needs but to be briefly repeated here. The scene which occurred at the opening of the Chamber of Deputies, the assassination of Count Rossi, the arming of the people of Rome, their collision with the Swiss Guards, the detention of the Pope as a prisoner within his own palace, his refusal to sanction the acts of the Mazzinian Ministry that had usurped the reins of government, and finally, his escape to Gaeta, are within the memory of all. So also is the fate of the ephemeral Republic which was proclaimed by the revolutionary party, only to be as quickly extinguished by the combined arms of Republican France and despotic Austria.

For eighteen months Pius IX continued in exile at Gaeta and Portici, near Naples; when, escorted by the Neapolitan troops, and amidst the thunder of French cannon, he returned to the city of Rome, April 14th, 1850.

The second revolution which followed the expulsion of the Austrians from Italy, the Invasion of the Pontifical States by the Sardinians, the withdrawal of the French garrison from Rome, the seizure of the city by Victor Emmanuel, and the virtual seclusion of the Pontiff within the limits of the Vatican, are events that belong to the present time, and need no extended recapitulation. They served, however, to show the attachment of the Catholic population of the world to their chief Bishop; for stripped as he was of all his temporal possessions, and reduced to the condition of a prisoner in his own palace, Pope Pius IX, was stronger in the hearts and affections of the Catholic millions than even in the days when he seemed most popular and prosperous in his own territories: and the outpouring of the faithful to do honor to him on the occasion of his Jubilee, last May, and the spontaneous tribute of reverence and affection paid him from all parts of the world have no parallel in the history of any of his predecessors. His reign as Pontiff was glorious and fruitful of good to his people and to humanity at large. Until deprived of his temporal possessions, his paternal care of his subjects was evinced in a charity that was boundless, and a zeal for education which found its exposition in the erection of schools, hospitals and public works of general utility. In private life he was characterized by a gentle softness and suavity of manner and easiness of approach that won the love and respect of all who came in contact with him. Altogether, his Pontificate has been one of the most remarkable in the history of Church, whether considered in the light of the advancement of religion, or for the virtues and sufferings of him to whose efforts and wisdom that progress has been so largely owing.

(True Witness.)

### Leo The Thirteenth.

His Eminence Cardinal Gioachino Pecci, Archbishop of Perugia, was elected to the papal throne under the above title on the 20th February instant, on the second day of the meeting of the conclave.

This extraordinary quick election shows the general esteem in which the present Holy Father was held by his brother Cardinals. He has assumed the name of Leo, out of affection for the last Pope of that name, who died Feb., 1829. Leo XIII was born of noble family in Carpenitto in the diocese of Anagnin, on the 2nd of March, 1810. He is richly favoured by nature in a noble and commanding presence, a mild but penetrating glance, and graceful manners. His talents are of a very high order. He performed his studies in the Roman College and in the ecclesiastical Academy for nobles, where he attained high distinction in theology and laws. Pope Gregory XVI. appointed him domestic prelate on the 16th of March, 1837. He was soon named Pronotary Apostolic, and Pontifical Delegate to Benevento, Spoleto, and Perugia. He gained so much distinction in these offices that he was appointed in 1843 Archbishop of Damietta, and sent to the King of the Belgians as Apostolic Nuncio, in which delicate office he was singularly successful. Monsignor Pecci on his return from Belgium was named to the See of Perugia. In a Consistory of the 19th January, 1846, on being named to the above See, he was created Cardinal of the Holy Roman Church being reserved *in pello*. The Pope died before he was preconized Cardinal, but the late great Pontiff Pius IX, in a Consistory of the 9th December, 1853, created him Cardinal of the Order of Priests, under the title of St. Chrysostom, and he was assigned to the congregations of Rites and also of Discipline of Religious Orders. He governed his diocese with rare prudence and with profound wisdom, and performed all the duties of a vigilant pastor. He was surrounded by continual vexations, but his moderation united to an intrepid virtue acquired him respect and veneration even from his enemies. He addressed many pastoral letters full of wisdom and learning to his diocesans. As Cardinal who was named to the first dignity after the Pope, he was Grand Chamberlain of the Holy Roman church and chief administrator during the vacancy of the Holy See. He is a great Pope and worthy successor of Pius IX.

### Industrial schools in Germany.

The French Government has recently issued a Report by Mons. F. Buisson, the delegate from France to the late Vienna and the Philadelphia Expositions, on the present condition of Technical Education in the principal countries of Europe and America, where of late years a great number of institutions, of a novel character, designed to form the transition between the school and the workshop, have been established. We abridge from this Report what M. Buisson says of the state of technical education in some of the principal states of Germany, where the movement may be said to have originated, and where we have to look for the best models of those industrial schools, which efforts are now being made in various quarters to establish among ourselves.

In Saxony, contrary to the practice elsewhere almost universal in Germany, instruction in trades and for business is made to follow immediately that of the daily primary school. To this circumstance is owing the establishment of the schools of building at Leipsic, Dresden, and other places; and all that fine group of special schools at Chemnitz, designed to give preparation for mechanical, manufacturing, and chemical, industries, industrial, art, etc.; and, in addition, a great number of lower schools for weaving, lace-making, needle-work, and wood-carving.

In North Germany the model of the industrial establishments of all grades is incontestably that at Hamburg. The general school and the special school for building, open in the evening and on Sunday for apprentice and workmen, and every day to pupils who have the time at their disposal, imparts remarkable instruction in all respects, in its simplicity, its excellent method, its practical character, and the variety of its applications. The industrial school for girls which was founded in 1867, is managed in the same spirit, and with a success equally marked. The organization of these establishments, and the course of instruction which they have adopted, were the object of the most lively attention and sympathy at Vienna.

Of all countries in Germany, Wurtemberg was the first to give large development to popular industrial instruction. The great special school for building, at Stuggard, numbers some seven hundred students of whom it demands for admission only good primary instruction, or the qualification of apprentices or workmen in the branch of industry. The State aids of establishment by a yearly appropriation of 80,000 francs. The course requires from two to five years. Wurtemberg has also several good schools for weaving, of which three received awards for excellent methods and the practical character for their work. In all, there are fifty industrial schools in Wurtemberg. The Grand Duchy of Baden has also had for many years in operation very good industrial schools which have exercised a marked influence on the industries of the country.

Bavaria, although introducing this kind of practical instruction at a later day than some of the neighbouring countries, possesses already from a hundred to a hundred and fifty industrial schools, some of them elementary, and placed immediately above the primary schools; others in a degree higher, eight of them serving as model schools for eight Circles; and still others devoted to special industries as building the construction of machines, drawing and sculpture applied to the making of furniture and objects of art of all kinds.

The single polytechnic association of the Circle of Wurzburg has established within a few years 111 industrial schools or courses, of which 16 are for apprentices and workmen. These different establishments, spread over a territory scarcely larger than one of our French departments, employ 315 professors; and teach German, French, Calligraphy, Book-keeping, Arithmetic, and the Metric System with special reference to applications to commercial affairs, Geometry, Design, Modeling, outline of Natural History, Hygiene, Political Economy, &c.

Austria began the organization of industrial instruction at a later day than Germany, but she has developed it with a rapidity and a success which are truly extraordinary. There is no other country, we believe, which has done more in this regard within the last six or eight years.

After having placed herself among the first nations in Europe for the encouragement given to superior or polytechnic education, Austria had no industrial establishment for the people. She resembled ten years ago an army which has at its head a brilliant major general, very mediocre corps, and no subordinate officers at all. Between the highest and the lowest industries, as between patron and workman, the tie of union failed.

The trade and business of the country seemed manacled for the want of foremen. The gradual decrease of the middle class, the elite among workmen, indispensable as they are to commerce, agriculture, manufactures, and all other kinds of industry, so stirred up public opinion that the Government, urged and seconded by numerous societies of landlords, manufacturers, and economists, undertook to establish at once a system of institutions for imparting instruction in trades and business, to large class of workmen and labourers and their children. The Real Schools were at first re-organized in a way to lead from polytechnic instruction to the higher special industries. Then, below the Real Schools, designed for the burgher class, they established schools more popular and of a character more specially industrial, adapted to prepare foremen for different important branches of industry. Some of these are "complementary" schools, and merely review the ordinary branches of school instruction with a view to their practical application, or impart this knowledge in connection with a more special course of preparation for apprenticeship; others devote themselves exclusively to preparation for apprenticeship, and still others assume as a preliminary an apprenticeship to some trade or branch of business.

Thus Austria possessed eight years ago three schools for weaving, at Vienna, Reichenberg, and Brunn; she has now added, as popular "complementary" schools, twenty lower schools for weaving, two or three schools for lace making and as many workshop schools. Several of these schools so recently established, received marked commendation at the Exposition, for the success with which they already apply the latest improvements introduced into the process of manufacturing in the different stages of their instruction, and, for what is more difficult, the style and taste which they apply in developing new departments of design.

In another branch, the industry of building, Austria for a long time possessed only an establishment for higher instruction. She opened, in 1862, at Kagenfurt, a school and workshop for the whole group of mechanical industries; then, in 1864, at Vienna, a remarkable school for building, founded by Mr. Maerteus, and subsidized in common by the State, the Province and the Commune of Vienna. This establishment, which receives scholars without any other preparation than that of the primary school, has provided an excellent programme of industrial instruction, both theoretical and practical, for foremen as carpenters, cabinet-makers, masons, &c. Six other analogous establishments have grown up since 1870, in the capital and in the provinces, partly from subsidies granted jointly by the ministers of education and commerce. To this statement we must add the special school for watch making at Vienna; and throughout the Empire, fifteen schools for giving instruction in the arts of working in wood, marble, and ivory; six for instruction in making toys; four for instruction in making baskets and mats; and seven for instruction in making arms and other metallurgic industries.

Several of these foundations have been acknowledged as a public benefit by the rural population of the Empire. The schools for the sculpture of wood, for example, have created a new kind of business in the mountainous districts of Bohemia, Silesia, and Moravia, where they make a great many toys for children at a low price; and also in several localities of the Austrian Alps, in the Tyrol notably, where the shepherds are as skilful as those of Switzerland or the Black Forest in cutting in wood and carving with knives the figures of animals, cottages, boxes and statuettes, without art but not without grace. Besides, in the Duchy of Salzburg, for example, the local industry, which had very much slackened or wholly disappeared owing to the exhaustion of salt in the mines, has returned again very opportunely upon the introduction of new kinds of business, with schools to prepare the young for them.

Even among the schools that give instruction in woodwork only, each is required by the Government to specialize sufficiently to accommodate itself to the particular needs and resources of the region in which it is located. In the Tyrol, for example, the shop school of sculptor Greissmann, at Imst, attracting attention at the Exposition for the good taste shown in its scholars' work, is designed to develop, over all others, artistic cabinet work and ornamental furniture. At Innsbruck, the industrial school applies itself to figures; that of Mondsee, to groups of animals; and that of Saint Ulrich, to the sculpture of religious statues, and that of Wallern, to the commoner kinds of furniture, and to cases for clocks, &c.

The industry of glass-making, especially in Bohemia, had,

before 1870, only a single special school, that at Steinschœnau; at the present time all those who desire to learn the art, commence with the appropriate studies of industrial design, and apply themselves later to the technical work of making crystals, manufacturing glass, and decorating enameled and porcelain. They are now organizing in Bohemia several schools of modelling, in view of the ceramic industries.

(*Educational Times.*)

**Copy of Minutes of Proceedings of a Meeting of the Protestant Committee of the Council of Public Instruction held on Wednesday February 27th, 1878.**

Education Office, Quebec,  
Feb. 27th, 1878.

Present: Dr. Cook, The Lord Bishop of Quebec, Dr. Dawson, R. W. Heneker, Esq., Hon. Jas. Ferrier, Dr. Cameron, M. P. P., W. W. Lynch, Esq., M. P. P., and the Hon. G. Ouimet, Superintendent of Public Instruction.

In the absence of the Chairman, Dr. Cook was requested to take the chair.

The Minutes of the former quarterly meeting of the 23th November 1877, and of the special Meeting of the 16th January 1878, were read and confirmed.

The Secretary stated that, as directed by the Committee at its last meeting he had made out a notice regarding the Examinations of Protestant Candidates for Teachers' Diplomas for insertion in the "Journal of Education," and had given the same to Dr. Miles, but that through some inadvertency it had not been published in said "Journal of Education". The Hon. the Superintendent of Public Instruction undertook to have the notice in question inserted in an early issue of the "Journal of Education."

The forms of Returns for Boards of Examiners approved of at the last meeting, and ordered to be sent to the department with the request that they be printed and circulated among said Boards of Examiners, had been returned to the Secretary by Dr. Miles with an intimation from the Hon. the Superintendent of Public Instruction—that he had no means at his disposal to cover the cost of such printing. Said Forms of Returns for Boards of Examiners were put into the hands of the Hon. the Superintendent of Public Instruction with the request that they be printed—the expense, if necessary, to be defrayed from the Committee's Contingent Fund.

The Hon. the Superintendent of Public Instruction stated—that the vacancies in the Quebec and Bonaventure Boards of Examiners had been filled up as recommended in the Minutes of last meeting.

A letter from Mr. Thom, Teacher, was ordered to be returned to him, as the Committee has no jurisdiction in the matter to which it refers.

Two communications from the Corresponding Committee of the Colonial Church and School Society, Montreal, having been read, asking for the continuance of the Grant from the Superior Education Fund, it was moved, and resolved:—

"That the letter of the Rev. Dean Bond and others in reference to the claim of the Colonial and Church Society School, Montreal, to a grant from the Superior Education Fund, be referred to the Hon. Judge Day, the Hon. Mr. Ferrier, and Dr. Dawson, to confer with the parties interested and report."

A letter from Robert Cowling, Esq., Secretary Treasurer to the School Commissioners of Bury Model School, P. Q., was read complaining of the withdrawal of the grant from the Superior Education Fund to the said Bury Model School. The Secretary was instructed to say in reply—that the Committee had no return from said Bury Model School, when the moneys from the Superior Education fund were last apportioned; that Mr. Emberson had visited and examined said Model School at Bury on the 26th June 1875, and that claim of the School Commissioners of the Bury Model School would be considered at the next annual distribution of the moneys from the Superior Education Fund on the last Wednesday of August 1878, provided the Returns from said Model School were then before the Committee.

The Secretary was requested to prepare an Abstract of the Committee's Minutes for publication in the Journal of Education.

A letter was read from Mr. W. I. Gage agent for Adam Miller

& Co.—Publisher, Toronto, urging on the Committee the claims of "The Canada School Journal" as a professional paper for the use of Teacher, stating the relation it sustains to Education in Ontario, Nova Scotia &c., and offering it through the Department at a low figure to Teachers. The Committee recommend Teachers to avail themselves of the advantages offered by this Journal.

A letter was read from Messrs. J. Thornton and William Sawyer in regard to the filling of the vacancy caused by the death of the Hon. Judge Sanborn. It was agreed to postpone the consideration of this matter till next meeting.

The Publications of Adam Miller & Co., publishers, Toronto, were next considered, and the Committee agreed to add Hamblin Smith's Mathematical and Arithmetical works to the List of Schools-Books sanctioned by the Committee.

It was moved and resolved: "That the Superintendent be requested to furnish Professor Weir and Mr. Emberson with forms of returns similar to those employed in a former examination by Mr. Emberson."

There being no further business the meeting adjourned to meet on the 29th May, or sooner on the call of Chairman if necessary.

**Notice regarding the Examinations of Protestant Candidates for Teachers' Diplomas.**

The next Examinations of Protestant Candidates for Teachers' Diplomas will be held on Tuesday and Wednesday, the 7th and 8th of May 1878.

The Protestant Committee of the Council of Public Instruction have decided; 1st. That these examinations shall take place semi-annually and not quarterly as heretofore, beginning for the present on the first Tuesday of May and November; 2nd. That to secure as far possible uniformity, examination-papers prepared by a joint committee of examiners shall be printed and forwarded under seal to the several Presidents of Protestant and Mixed Boards of Examiners; 3rd. That the answers shall be read and decided on by the Local Boards and thereafter sent with Report thereon duly filled in to the Secretary of the Protestant Committee of the Council of Public Instruction.

It appears from the Returns from the examining Boards in November last, the first under the amended Regulation, that there existed in the minds of several candidates some misapprehension as to the subjects of examination Owing to these misapprehensions irregularities were then allowed to pass, as it was the first examination under the new Regulations. In future the schedule of subjects is required to be strictly adhered to. This schedule of subjects together with full particulars regarding these examinations will be found in the last September number of the Journal of Education, but that none may plead ignorance of them in future they are here repeated.

**I. PRELIMINARY.**

All candidates for any grade of Diploma must pass in the following subjects:

1. English Dictation (including Hand-Writing).
2. English Reading.
3. English Grammar.
4. Arithmetic (ordinary rules).
5. Geography (4 Continents and British North America).
6. Sacred History (An Epitome of the Old Testament and one of the Gospels).

**2. SPECIAL.**

(a) *Elementary Diploma.*

1. Art of Teaching.
2. History of England and of Canada.
3. French, Dictation, Grammar and Reading in the case of those who desire a certificate in that language.

(b) *Model School Diploma.*

1. English Composition (a short essay).
2. Advanced Arithmetic and Mensuration.
3. Geometry, Euclid, Books I, II, III.

4. Algebra including simple equations.
5. French, Dictation, Grammar and reading.
6. History of England and of Canada.
7. Art of Teaching.
8. Book-keeping, Use of the Globes, or Linear Drawing.

(c) *Academy Diploma.*

1. Greek, Xenophon, Anabasis Book I and Grammar.
2. Latin, Cæsar, Bel. Gal. Book I and Grammar.
3. French, Grammar, Reading and Composition.
4. Euclid, Books I, II, III, IV and VI.
5. Algebra including Quadratics.
6. History as above, Natural Philosophy or Scientific Agriculture.
7. Art of Teaching.

Editors of English News Papers in the Province of Quebec will please insert this notice, and Teachers and others interested in the cause of Education will have the kindness to make it known to intending candidates for Teachers' Diplomas.

GEORGE WEIR, M. A.,  
Secretary Protestant Committee of the  
Council of Public Instruction.

## MISCELLANY.

*The Education of Girls.*—Here is the root of the prevailing disappointment in the result of the education of our girls. The school is not at fault; the teachers are not to be blamed. The fault is with the mothers in their homes. They fail to attend personally to the education of their daughters. They limit the idea of a girl's training to the sphere of household duties, and yet permit a training which carries them beyond it, and makes them restless and disappointed because they have not been prepared to reach out to larger studies at the time when they begin to feel the inspiration of generous culture in the work of life. The mothers sacrifice the future of their girls because it is too much trouble to see that they study systematically at home, and are properly encouraged. Society is crowded with girls who know just enough to desire to do in literature, in daily employment, what they cannot do well enough to make a living by. The ability is not wanting, but their minds are not disciplined, because the years of study in the public schools were not directed by skillful and anxious mothers at home. The boys succeed and the girls fail, and the mothers are, in most cases, the parties to be blamed. It is the exception to find women who entertain high ideas, and act upon them, in the education of their girls, Harriet Martineau's "Household Education" might do an excellent missionary work in thousands of Homes, in teaching anew how women are to educate their daughters, and what Miss Martineau omits to say is presented plainly and wisely in Herbert Spencer's excellent work on "Education."—*Boston Sunday Herald*,

*Curiosities of Language.*—Mr. M. Patterson, who seems to have a peculiar talent for examining into the peculiarities of language, gives the following as a specimen:—

One of the principal difficulties in learning the English language is the inexplicable manner in which most of the words are spelled, the twenty six letters of the alphabet vieing with each other to represent the forty or forty two sounds of the language in the most bungling and disorderly manner.

Be the capacity of a child ever so good, yet he must spend years in learning these "curiosities of literature," while a foreigner can only master our noble language by a vast expense of labor, patience, and time.

The Protean nature of the vowel sounds is familiar to all. A few amusing examples will show that the consonants are nearly as bad:—

B makes the road broad, turns the ear to bear and Tom into a tomb.

C makes limb climb, hanged changed, a lever clever, and transports a lover to clover.

D turns a bear to beard, a crow to crowd, and makes anger danger.

As in Elementary Examination.

F turns lower regions to flower regions.  
G changes a son to a song and makes one gone!  
H changes eight into height.  
K makes now know and eyed keyed.  
L transforms a pear into a pearl.  
N turns a line into linen, a crow to a crown and makes one none!

P metamorphoses lumber into plumber.  
Q of itself, hath no significance.

S turns even to seven, makes have shave, and word a sword, a pear a spear, makes slaughter of laughter, and curiously changes having a hoe to having a shoe!

T makes a bough bought, turns here there, alters one to tone, changes ether to tether, and transforms the phrase "allow his own" to "tallow his town!"

W does well, e. g., hose are whose, are becomes ware, on won, omen women, so sow, vie view; it makes an arm warm, and turns a hat into—what?

Y turns fur to fury, a man to many, to to toy, a rub to a ruby, ours to yours, a lad to a lady!—*St. Louis Christian Advocate*.

*Technical Education in the United Kingdom.*—Technical education in the United Kingdom for many years experienced much difficulty in making its influence felt, but (says *Industrial Art*) since the exhibition of 1851, and more especially in recent years, the progress made has been more satisfactory. In the first number of a new monthly—*Industrial Art*—a few details furnished respecting the schools of art and science founded by Government are instructive. They were commenced "in 1837, under the title of 'Schools of Design,' and were first opened at Somerset House. Afterwards, in 1853, they were transferred to Marlborough House. The classes continued to increase, and in 1857 were moved permanently to South Kensington. Many valuable prizes are attached to these schools, and are open to male and female students. Besides these at Kensington, which may be called the central organisation, there are eleven schools of art in the Metropolis, and 915 schools and classes over the country, all connected, as to instruction and Government grants, with the Science and Art Department. In 1876 there were 51,222 students examined in these schools. We also learn that the science schools, in which a complete course of subjects are taught, and which were opened four or five years ago, and are permanent, have already gained a firm root in the community forming "the centre for sciences classes dispersed throughout the country," and being fitted "up completely both for lectures and practical work"

*Goldplating experiments.*—Mr. A. E. Outerbridge, of the Philadelphia Mint, has recently made some curious experiments to determine the thickness necessary for a film of gold to impart its characteristic colour to the surface covered. The extraordinary malleability and ductility of the metal are well known, and it said that one ounce of gold can be beaten out into a sufficient number of sheets to cover ten acres of ground. That is the result by the purely mechanical method; the electro-chemical process gives more extraordinary results. A strip of very thin copper was covered by the battery process with sufficient of the precious metal to give a fine gold colour, the thickness of the film being estimated at a little more than the one millionth of an inch. Portions of the strip, having had the gold stripped from one side, were placed in weak nitric acid until the copper was dissolved, and the film of gold floated on the surface. The film was taken up on glass, and the microscope disclosed the fact that it was perfectly continuous, very transparent, and of a bright green colour by transmitted light. Continuing his experiments, Mr. Outerbridge has succeeded in obtaining films of gold so thin that more than two and a half millions would be required to make up an inch, and yet the films, when examined by the microscope, are perfectly continuous as well as transparent. By reflected light the films appear of the true gold colour but transmitted light they vary through the shades of green, according to their thickness. From these experiments it appears that one grain of gold is sufficient to cover nearly four square feet of copper, and they thus help to explain the cheapness of the battery process of gilding, for it is impossible to reduce gold to such thinness by means of the gold-beater's hammer.

*The Evils of Cramming.*—The psychological mischief done by excessive cramming, both in some schools and at home, is sufficiently serious to show that the reckless course pursued in

many instances ought to be loudly protested against. As we write four cases come to our knowledge of girls seriously injured by this folly and unintentional wickedness. In one the brain is utterly unable to bear the burden put upon it, and the pupil is removed from school in a highly excitable state; in another, epileptic fits have followed the host of subjects pressed upon the scholar; in the third, the symptoms of brain ag have become so obvious that the amount of schooling has been greatly reduced, and in a fourth fits have been induced, and complete prostration of brain has followed. These cases are mere illustrations of a class, coming to hand in one day; familiar to most physicians. The enormous number of subjects which are forced into the curriculum of some schools, and are required by some professional examinations, confuse and distract the mind and by lowering its healthy tone often unfit it for the world. While insanity may not directly result from this stuffing, and very likely will not, exciting causes of mental disorder occurring in later life may upset a brain which, had it been subjected to more moderate pressure, would have escaped unscathed. Training in its highest sense is forgotten in the multiplicity of subjects, originality is stunted and individual thirst of knowledge overlaid by a crowd of novel theories based upon yet unproved statements. Mr. Brudenell Carter, in his "Influence of Education and Training in Preventing Diseases of the Nervous System," speaks of a large public school in London, from which boys of ten to twelve years of age carry home tasks which will occupy them till near midnight, and of which the rules and laws of study are so arranged as to preclude the possibility of sufficient recreation. During the last year or two the public have been startled by the suicides which have occurred on the part of young men preparing for examination at the University of London, and the press has spoken out strongly on the subject.

*Habits of Disrespect in the Family.*—One of the dangers of home life is this habit of disrespect—that which is bred by familiarity. People who are all beauty and sunshine for a crowd of strangers, for whom they have not the slightest affection, and all ugliness and gloom for their own, by whose love they live. The little prettiness of dress and personal adornment, which mark the desire to please, are put on purely for the admiration of those whose admiration goes for nothing, while the house companions are treated only to the ragged gowns and threadbare coat, the tousled hair and stubby beard, which, if marking the ease and comfort or the *sans façon* of home, mark also the indifference and disrespect that do so much damage to the sweetness and delicacy of daily life. And what is true of the dress is still truer of the manners and tempers of home, in both of which we often find too that want of respect which seems to run side by side with affection in the custom of familiarity. It is a regrettable habit under any of its conditions, but never more so than when it invades the home and endangers still more that which is already too much endangered by other things. Parents and bringers—up do not pay enough attention to this in the young. They allow habits of disrespect to be formed—rude, rough, insolent, and impatient, and salve over the sore with the stereotyped excuse, "They mean nothing by it," which, if they look at it aright, is worse than no excuse at all; for if they really do mean nothing by it, and their disrespect is not what it seems to be, the result of strong anger, or uncontrollable temper, but is merely a habit, then it ought to be conquered without the loss of time, being merely a manner that hurts all parties alike.

*Dips into good books.*—I think, among the greatest errors that language has imposed upon us, there is none more remarkable than the sort of antagonism which is established in common language as between Nature and Art. We speak of Art as being, in a certain manner, the rival of Nature, and opposed to it; we contrast them—we speak of the superiority of nature and depreciate Art as compared with it. On the other hand, what is Art but the effort that is made by human skill to seize upon the transitory features of Nature, to give them the stamp of perpetuity? If we study Nature, we see that in her general laws she is unchangeable; the year goes on its course, and day after day pass magnificently through the same revolutions. But there is not one single moment in which Nature, or anything that belongs to her, is stationary. The earth, the planets, and the sun and moon are not for any instant in exactly the same relation mutually as they were in another instant. The face of Nature is constantly changing; and what is it that preserves that for us but Art, which is not the rival, but the child, as well as the handmaid, of Nature? You find, when you watch the setting sun, how beautiful

and how bright for an instant! Then how it fades away! The sky and sea are covered with darkness, and the departed light is reflected, as it had been just now upon the water, still upon your mind. In one evanescent moment, a Claude or a Stanfield dips his pencil in the glowing sky, and transfers its hue to his canvas, and ages after by the lamp of night or in the brightness of the morning, we can contemplate that evening scene of Nature, and again renew in ourselves all the emotions which the reality could impart. And so it is with every other object. Each of us is but for the present moment, the same as he is in this instant of his personal existence through which he is now passing. He is the child, the boy, the man, the aged one bending feebly over the last few steps of his career. You wish to possess him as he is now, in his youthful vigor, or in the maturity of his wisdom, and a Rembrandt, a Titian or a Herbert, seize that moment of grace, or of beauty, or of sage experience; and he stamps indelibly that loved image on his canvas; and for generations it is gazed on with admiration and with love. We must not pretend a fight against Nature, and say that will make Art different from what she is. Art is, therefore, the highest image that can be made of Nature.—*Wiseman*.

Not long ago, I was slowly descending this very bit of carriage road, the first turn after you leave Albano, not a little impeded by the worthy successors of the ancient prototypes of Viento. It had been mild weather when I left Rome, and all across the Campagna the clouds were sweeping in sulphurous blue, with a clap of thunder or two, and breaking gleams of sun along the Claudian aqueduct, lighting up the infinity of its arches like the bridge of chaos. But as I climbed the long slope of the Alban mount the storm swept finally to the north, and the noble outlines of the domes of Albano and graceful darkness of its ilex grove rose against pure streaks of amber and blue, the upper sky gradually flushing through the last fragments of rain-cloud in deep palpitating azure, half ether and half dew. The noon-day sun came slanting down the rocky slope of La Riccia, and the masses of entangled and tall foliage, whose autumnal tints were mixt with the wet verdure of a thousand evergreens, were penetrated with it as with rain. I cannot call it color, it was conflagration. Purple, and crimson, and scarlet, like the curtains of God's tabernacle the rejoicing trees sank into the valley in showers of light, every separate leaf quivering with buoyant and burning life; each, as it turned to reflect or to transmit the sunbeam first a torch and then an emerald. Far up into the recesses of the valley, the green vistas arched like the hollows of mighty waves of some crystalline sea, and silver flakes of orange spray tossed into the air around them breaking over the gray walls of rock into a thousand separate stars, fading and kindling alternately as the weak wind lifted and let them fall. Every glade of grass burned like the golden floor of heaven, opening in sudden gleams as the foliage turned and closed above it, as sheet lightning opens in a cloud at sunset; the motionless masses of dark rock—dark though flushed with scarlet lichen—casting their quiet shadows across its restless radiance, the fountain underneath them filling its marble hollow with blue mist and fitful sound; and over all—the multitudinous bars of amber and rose, the sa red clouds that have no darkness, and only exist to illumine, were seen in fathomless intervals between the solemn and orb'd repose of the stone pines, passing to lose themselves in the last, white blinding lustre of the measureless line where the Campagna melted into the blaze of the sea.—*Ruskin*.

Happiness is *not* what we are to look for. Our place is to be true to the best which we know, to seek that and do that; and if by "virtue its own reward" be meant that the good man cares only to continue good, desiring nothing more, then it is a true and noble saying. But if virtue be valued because it is politic, because in pursuit of it will be found most enjoyment and fewest sufferings, then it is not noble any more, and it is turning the truth of God into a lie. Let us do right, and whether happiness come or unhappiness it is no very mighty matter. If it come, life will be sweet; if it do not come, life will be bitter—bitter not sweet, and yet to be borne. On such a theory alone is the government of this world intelligibly just. The well-being of our souls depends only on what we *are*; and nobleness of character is nothing else but steady love of good and steady scorn of evil. The government of the world is a problem while the desire of selfish enjoyment survives; and when justice is not done according to such standard (which will not be till the day after doomsday, and not then), self-loving men will still ask Why? and find no answer. Only to those who have the heart to say, "We can do without that; it is not what we ask or desire," is there no secret. Man will have what he deserves, and will find what is really best for him, exactly as he honestly seeks for it. Happiness may fly away, pleasure pall or cease to be obtainable, wealth decay, friends fail and prove unkind, and fame turn to infamy; but the power to serve God never fails, and the love of Him is never rejected.—*Froude*.

It is sad to think that the one genial earth produces, in every successive generation, fewer flowers than used to gladden the preceding ones. Not that the modes and seeming possibilities of human enjoyment are rarer in our refined and softened era—on the contrary

they never before were nearly so abundant—but that manhood is getting so far beyond the childhood of their race that they seem to be happy any longer. A simple and joyous character can find no place for itself among the sage and sombre figures that would put his unsophisticated cheerfulness to shame. The entire system of man's affairs, as at present established, is built up purposely to exclude the careless and happy soul. It is the iron rule in our day to require an object and a purpose in life. It makes us all part of a complicated scheme of progress, which canonically result in our arrival at a colder and drearier region than we were born in. It insists upon everybody adding somewhat—a mite perhaps, but gained by incessant effort—to an accumulated pile of usefulness, of which the only use will be to burden our posterity with even heavier thoughts and more inordinate labors than our own. No life now wanders like an unfettered stream; there is a mill-wheel for the tiniest rivulet to turn. We all go wrong by too strenuous a resolution to go right.—*Hawthorne.*

There is one law interwoven into the constitution of things which declares that force of mind and character must rule the world. This truth glares out upon us from daily life, from history, from science, art, letters, and from all the agencies which influence conduct and opinion. The whole existing order of things is one vast monument to the supremacy of mind. The exterior appearance of human life is but the material embodiment, the substantial expression of thought, the hieroglyphic writing of the soul. The fixed facts of society, laws, institutions positive knowledge, were once ideas in the projector's brain—thoughts which have been forced into facts. The scouted hypothesis of the fifteenth century is the time-honored institution of the nineteenth; the heresy of yesterday is the common place of today. We perceive, in every stage of this great movement, a spiritual power, to which we give the name of Genius. From the period when our present civilized races ran wild and naked in the woods, and dined and supped on each other, to the present time, the generality of mankind have been contented with things as they were. A small number have conceived of something better, or something new. From these come the motion and ferment of life; to them we owe it that existence is not a bog but a stream. These are men of genius.

*Mary Queen of Scots.*—Mary Queen of Scots stands, in several respects, almost supreme among women. We need not dwell on her personal charms, which are known to have been incomparable. No one, perhaps, except the immovable Knox, was able to bear up against them. Her transcendent beauty was joined to the most bewitching manners, and few even of her bitterest enemies could help doing homage to the mastery which she thus exerted over the hearts of men. But her mental gifts were still more remarkable. Acuteness, grasp, readiness, and fertility of resource were all characteristic of her intellect. The subtlest statesman could not circumvent her. The most practised reasoners failed to get the better of her in discussion. Menace could not daunt, danger rather inspirited her. We have said that Knox was invulnerable to the graces of her person and the witchery of her manners; but it is plain, even from his own reports of interviews which took place between them, that he was no match for her in argument. She seemed indeed born to rule the world; and had her self-control been at all proportionate to her courage, her talent, and her beauty, she would in all probability have accomplished results in her day that must have had an enduring influence upon the destinies of Europe. But the strength of her passions ruined all. Combined with her penetrating intellect and her noble physique there was an emotional nature as ardent as it was unscrupulous. It is when we take all these elements into consideration, and view her conduct in the light of them, that alone we have any chance of dispelling the almost enigmatic obscurity which has appeared so long to surround her history.

*Do not ask favours.*—If you want to be happy, never ask a favour. Give as many as you can, and if any are freely offered, it is not necessary to be too proud to take them; but never ask a favour or stand waiting for any. Who ever asked a favour at the right time? To be refused is a woeful stab to one's pride. It is even worse than to have a favour granted hesitatingly. We suppose that out of a hundred who petition for the least thing—if it be even an hour of time—ninety-nine wish, with burning cheeks and aching hearts, they had not done so. Don't ask favours of your nearest friend. Do everything for yourself until you drop, and then if any one picks you up, let it be of his own free choice, not from any groan you utter. But while you can stand, be a soldier. Eat your own crust, rather than feast on another's dainty meals; drink cold water rather than another's wine. The world is full of people asking favours, and people tired of giving them. Love or tenderness should never be put aside, when its full hands are stretching towards you; but as few love, so few are tender; a favour asked is apt to be a millstone around your neck, even if you gain the thing you want by the asking. As you cast your bread on the water, and it returns, so

will the favours you ask, if unwillingly granted, come back to you when you least expect or desire. Favours conceded upon solicitation are never repaid. They are most costly in the end than overdue usurer's bills.

*Origin of Some Famous Legends.*—Not among the different members of the great Aryan family only are the germs of many of our best known stories discoverable. They seem to belong to humanity. A lively American, Professor Fiske, of Harvard University, noticing how the "William Tell" legend (for it is a legend) and that of which the Welsh form celebrates the death of Gelert's faithful hound, and a good many others besides, are found everywhere, says: "We must admit, then, that these fireside tales have been handed down from parent to child for more than a hundred generations; that the primitive Aryan cottager, as he took his evening meal of yava, and sipped his fermented mead, listened with his children to the stories of 'Boots,' and 'Cinderella,' and the 'Master Thief,' in the days when the squat Laplander was still master of Europe, and the dark-skinned Sudra was as yet unmolested in the Punjab." True; but may we not go further, and say that, finding these tales, or their counterparts, among Zulus, Mongols, Malays and red Indians, we must either pronounce them to be "innate id-as," or else hold that men had invented them in the old, old time when the differences between Aryans and non-Aryans had not yet grown up? Sir H. Rawlinson seems to prove, from the earliest Assyrian remains, that, "in the beginning," Hamite, Shemite, and Japhetic were all one—that even what afterwards became of the Aryan tongues were then "agglutinative," like the red Indian of to-day. Some one, too, has just "proved" that the old Peruvian was a kindred speech to the Sanscrit! No wonder, then, that the same stories are current all the world over.

*Traits of a Gentleman.*—Why does every traveller feel that an Arab is a gentleman, or that a Turk is a gentleman? Because both the Turk and the Arab manifest perfect self-possession, without a touch of self-assertion, have an air of command devoid of arrogance, are tranquil amid riot, and composed amid difficulty and disturbance. These qualities seem to us to spring from habits of command, and from an inherent sense of superiority, and the observation will apply with equal force to English gentlemen. A gentleman is a gentleman, and there's an end on't. He does not want to be anybody else, because he does not recognize any superior, save of the titular or disciplinary sort. Your vulgar person, or even your person who, without being vulgar, is not a gentleman, is conscious of his inferiority, and periodically labours to conceal or cloud it. There is no concealing it, and the attempt only exposes the fact more glaringly to view. This sort of person, too, is not calm, not self-possessed; he is fussy, solicitous, domineered by circumstances instead of quietly settling down to a level with them. This by no means implies that a gentleman must not cope with circumstances when they are important enough to demand the exercise of his energies. But when he comes out of the battle, or the senate, or the hunting-field, no matter what he has gone through, he is composed and quiet once more. He never swaggers; he never makes unnecessary apologies or explanations. He takes things as he finds them. Now and then no doubt the idiosyncrasies of genius will lend an exceptional fervour to the manner of a gentleman; Lady Blessington was so unaware of this that she expressed herself surprised that Byron's manner in conversation was not as quiet as she would have expected from a person of his rank. The observation was at once stupid and snobbish. There is no cut-and-dry receipt for a gentleman; but he is as unmistakable to those who know one, as the colour of a flower, or the scent of a leaf.

## THE JOURNAL OF EDUCATION,

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ABSTRACT FOR THE MONTH OF JANUARY, 1878.

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

Day.	THERMOMETER.				BAROMETER.				Mean pressure of vapor	Mean relative humidity.	WIND.		SKY CLOUDED IN TENTHS.			Rain and snow melted.	Day.
	Mean.	Max.	Min.	Range	Mean	Max.	Min.	Range			General direction.	Mean velocity in m. p. hour.	Mean	Max	Min.		
1	15.69	2.5	6.7	15.8	29.7781	29.834	29.729	.105	.0676	75.1	W.	11.7	5.9	19	0	Inapp.	1
2	12.90	22.	-1.0	23.0	29.9132	30.13	29.768	.366	.0640	77.4	N.	11.6	8.7	10	0	0.30	2
3	1.30	8.5	-5.5	14.0	30.38	30.440	30.236	.201	.0315	69.5	S. W.	7.6	1.5	7	0		3
4	14.7	20.2	4.8	15.4	30.0	30.334	28.617	.717	.0774	86.1	E.	12.5	9.4	10	7	1.50	4
5	8.12	20.2	-8.5	28.7	29.7722	30.009	29.512	.587	.0579	80.9	W.	20.1	4.6	10	0	0.09	5
Sunday 6		-3.0	-15.6	12.6							N. W.	4.4					6 Sunday
7	-1.17	-0	-6.5	15.5	30.4304	30.592	30.261	.33	.096	81.5	W.	7.3	3.2	9	0	Inapp.	7
8	-9.25	0.5	-7.8	18.3	30.4674	30.681	30.402	.279	.0266	94.1		6.2	8.	10	4	Inapp.	8
9	14.14	25.3	-2.8	28.1	30.3281	30.38	30.217	.168	.019	81.5	S. E.	8.8	10.0	10	10	0.14	9
10	26.41	32.	18.3	14.3	30.0102	30.177	29.729	.448	.1341	92.5	E.	4.8	9.9	10	9	0.08	10
11	34.00	37.2	32.0	5.2	29.4616	29.667	29.239	.428	.1706	87.0	N. E.	25.8	0.0	10	10	0.21	11
12	35.22	40.0	32.5	7.5	29.9939	30.169	29.747	.422	.1575	76.7	N. W.	17.6	4.5	10	1	Inapp.	12
Sunday 13		34.2	29.8	4.4							S. W.	7.3					13 Sunday
14	30.20	34.0	27.8	6.2	29.6322	30.002	29.425	.577	.1531	90.7	S. E.	10.8	10.0	10	10	0.43	14
15	23.37	32.0	8.0	24.0	29.6377	29.924	29.442	.482	.1042	80.1	N. W.	16.1	7.9	10	2	0.09	15
16	-0.91	8.	-6.0	14.1	30.1669	30.273	29.9	.6	.029	70.6	W.	16.2	3.1	10	0		16
17	1.35	11.8	-6.5	18.3	30.2714	30.15	30.244	.071	.0375	80.9		6.0	7.5	10	2		17
18	12.44	24.0	0.7	23.3	30.2951	30.361	30.230	.111	.0569	72.2		6.5	4.4	10	0		18
19	27.76	33.8	17.0	16.8	30.0651	30.172	30.001	.171	.1232	79.9	S. W.	10.2	9.7	10	8		19
Sunday 20		41.9	31.5	10.4							S. W.	9.4					20 Sunday
21	33.52	35.3	33.0	2.3	29.7634	29.909	29.619	.290	.1825	95.0		2.5	10.0	10	10	0.18	21
22	33.57	34.8	32.8	2.0	29.5592	29.584	29.36	.048	.1701	88.4	W.	10.3	10.0	10	10	0.06	22
23	5.9	33.0	7.5	40.5	29.9014	30.13	29.485	.828	.0580	79.7		7.1	10	0	0	0.18	23
24	-0.31	8.1	-9.3	17.4	30.2861	30.144	30.067	.377	.0337	79.6		7.5	10	4		Inapp.	24
25	14.46	17.6	2.3	14.7	30.1827	30.251	30.065	.186	.0619	83.7	N.	10.0	10	10	10	0.92	25
26	17.70	20.0	12.9	7.1	29.9249	30.131	29.816	.315	.0890	91.6	N.	10.0	10	10	10	0.25	26
Sunday 27		31.4	19.0	12.4							S. W.	12.4				0.02	27 Sunday
28	12.60	31.2	0.1	31.1	29.8059	29.994	29.612	.382	.0319	72.2	N.	12.8	4.0	10	0	0.09	28
29	1.64	11.0	-6.5	17.5	30.1819	30.106	30.014	.392	.0365	72.5	N. W.	15.1	2.1	7	0		29
30	1.6	12.2	-3.1	15.3	30.5762	30.639	30.471	.168	.0327	71.0	W.	7.9	0.6	2	0		30
31	2.26	11.0	-8.9	19.9	30.4211	30.593	30.171	.422	.0375	75.9	N. E.	16.3	7.5	10	2		31
Means.....	13.145	22.25	6.25	16.00	30.0489			.3404	.07961	81.01		11.04	6.99				Means.

\* Barometer readings reduced to sea level, and to temperature of 32° Fahrenheit. † Pressure of vapor in inches of mercury. ‡ Humidity relative, saturation 100. § Observed.

Mean temperature of month. 13.14. Mean of max. and min. temperatures, 14.25. Greatest heat was 41.9 on the 20th; greatest cold was 17.8 on the 18th,—giving a range of temperature for the month of 59.7 degrees. Greatest range of the thermometer in one day was 40.5 on the 23rd; least range was 2.0 degrees on the 22nd. Mean range for the month was 16.0 degrees. Mean height of the barometer was 30.0189. Highest reading was 30.681 on the 8th; lowest reading was 29.239 on the 11th; giving a range of 1.442 in. Mean elastic force of vapor in the atmosphere was equal to .0796 in. of mercury. Mean relative humidity was 81.0. Maximum relative humidity was 100 on the 4th, 6th, 7th, 8th, 17th, 21st, 25th and 26th. Minimum relative humidity was 28 on the 30th. Mean velocity of the wind was 11 miles per hour; greatest mileage in one hour was 50 on the 23rd. Greatest velocity in gusts was at the rate of 60 miles per hour on the 23rd. Mean direction of the wind, west, north-west. Mean of sky clouded 70 per cent.

Rain fell on 5 days. Snow fell on 18 days. Rain or snow fell on 20 days.

Total rainfall, 0.49 inches. Total snowfall 30.5 in., equal to 2.95 in. water. Total precipitation in inches of water was 3.35.