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# Educational Weekly

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## The Educational Weekly

Edited by T. ARNOLD HAULTAIN, M.A.

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TORONTO, MAY 6, 1886.

In a recent number of *The Current*, a writer, after quoting at length from Mr. Andrew Carnegie's "Triumphant Democracy" in which the common-school system of the United States is highly praised, says:

"It will be found that the splendid results of the system have depended upon two things: First, the liberal disposition of the tax-payers; and, second, the self-sacrificing devotion of the teachers. The former have provided ample means, but the latter have not received anything like their due proportion thereof. A just share of the money has not been spent for teaching. Building contractors have received too much of it. Local authorities have always held the provision of competent teachers to be of secondary moment. Therefore we find in States which boast of their educational facilities and the magnitude of their annual educational budget, the teachers receiving, on an average, less than the wages of unskilled labour in other vocations; and we also

find in these same States, where one would expect naturally to meet with liberal ideas resultant from these mighty educational processes, women regarded as disqualified, by the mere fact of sex, from receiving the wages given men for the identical work."

He goes on then to show that the teacher is deserving of greater recompense at the hands of the State. "If," he says, "the State deserve the unremitting and unswerving services of the teachers, it should pay to them such wages as would enable them to live in comfort and respectability while engaged in that service, and, as they cannot be expected to engage in outside pursuits for pecuniary profit, those wages should either be large enough to enable them to provide against the incapacity of old age, or they should be pensioned in comfort after they have spent their best days in the service of the State. But whichever be the better policy—and surely the teachers deserve as much at the hands of the State as the soldiery—it remains that the teacher at least should be relieved of anxiety lest he be suspended at the end of the school-term for no fault of his own."

One cause, and that a principal one, of low salaries he has well shown:—"Positions as teachers are now sought by many who deliberately use them as stepping-stones to something else—young women pending marriage, young lawyers pending the coming of their first clients, young doctors pending their first calls. The profession deserves better than this. It should not be regarded as a make shift, or a kind of temporary refuge for the distressed of other vocations. Such members can afford to work cheaply, and to such the school-boards look for recruits and have no difficulty in finding plenty of them, thereby being enabled to expend the people's money for the benefit of contractors and for paraphernalia of questionable utility. It is not to the work of such recruits, though they comprise a large proportion of the school-teachers of the country, that the progress of education

is owing; it is to those who, in the face of small salaries and other discouragements, loyally cling to the work to which they believe they have been called, who devote themselves to teaching as to a science which is worthy their continuous study and life-long pursuit. Teachers are not to be employed as we employ diggers of ditches. It is not every man who can teach, though there be few who cannot use a spade. They should be employed because they are skilled in teaching. The State confesses the need of skilled teachers in the provision of the normal schools."

But to skilled teachers he thinks the State cannot be too liberal. "The State can well afford to be generous in this matter. If such admirable results have been achieved through the free-education policy of the people thus far, it would be found, under a policy which would involve the improvement of the teacher's condition, that the cause of education would advance at a rate unparalleled in the previous educational history of the country. Made secure in their offices, they could go confidently forward in the great work they have to do, battling against ignorance, prejudice and the powers of darkness. They would not be tempted to trim, compromise, or abate their self-respect. They would acquire personally the prestige which properly belongs to their high and worthy office, and could command the consideration they must now implore. It used to be said during the war that it was the school-house against slavery, and the school-teacher triumphed most certainly when the shackles fell from the limbs of the bondman. For his services to humanity he receives much wordy tribute. It is quite time he should enjoy more substantial reward. The people are entirely willing. But the will of the people often finds curious expression from delegated authority, and things go strangely awry when the books of a State treasurer will show millions spent for education and the teachers receiving on an average but little more than a dollar a day."

## Contemporary Thought.

THE teacher or board of education that does not foster goodness by esteeming estimable qualities and merit, by approving meritorious acts, has sadly neglected to perform the whole duty involved, and will eventually have an uncomfortable responsibility to meet.—*N. E. Leach.*

THE man who reads habitually breathes the atmosphere of social human experience, and is so far made to feel the substantiality of social life over mere brute life. He learns to look upon his every act from the standpoint of public opinion. He views all his own industry in its relation to the industry of his fellow-men.—*W. T. Harris, L.L.D.*

A CORRESPONDENT of the *Citizen*, of Boston, U.S., holds that "teaching in civics should begin on the day when the child enters school." It may, perhaps, be necessary to premise that the new word "civics" is used to denote the science of citizenship. The school certainly fails in one of its highest duties if the whole course and influence of its training do not tend to fit the future men and women to become good citizens, whatever may be thought as to the desirability of adding a new science, under the name of civics, to the already overgrown curriculum of the public school.—*Schoolmaster (London, Eng.)*

A KNOWLEDGE of sanitary chemistry is an important aid to the preservation of health. Almost anywhere may be found nice houses, well furnished throughout, and occupied by first-class people, where no speck of innocent dust is allowed to find lodgment on chair or table; all seems right about the premises, and the inmates wonder why typhoid fever lurks about the house, why somebody is always sick there. A knowledge of practical chemistry would soon enable them to trace the presence of disease to bad drainage or some other sanitary defect. Chemistry enjoins thorough cleanliness in all departments. It forbids breathing impure air, drinking impure water, etc., or suffering any sources of disease to find permanent lodgment in human abodes.—*New England Journal of Education.*

"CANADA is too young a country." So we are constantly told when one artist (musician and painter) after another has to leave this country for want of support. There is such a thing as the "vice of contentment," and there are people whose wealth consists in the fewness of their desires. Can any country be too young for art? Surely it does not exist merely for the so-called educated people, and those whose riches enable them to spend and exhibit it on art. Being the exponent of imagination, thought, memory, emotion, and the great cultivator of all that is highest, noblest, and best in man, what can be of greater importance? Its influence should be felt in the education of the young, both rich and poor. The love of nature and of the beautiful cannot be too early impressed on a child, helping to endow it with "sensibilities of great preciousness to humanity," and art is the nurse. For heaven's sake let those who realize the value of art in "teaching the young ideas how to shoot" do their utmost to encourage and keep their devotees in this country;

for Canada needs all the warm and loving influences of art to raise her above the cold and hardening effects of mere money-making. It is well her sons should grow rich, but let them also grow rich in the love of the beautiful and noble, and not rest in the "vice of contentment."—"Freder" in the *Week.*

An apostle once wrote, "Let love be without dissimulation." Had he lived in our day, he might have thought it quite as important to say, "Let love be without sentimentality." In looking over the reports of charitable institutions—especially purely voluntary ones—we are frequently struck by the utter absence of any attempt to deal in what might be called a scientific manner with the facts that come within their scope. Instead of this, we have any amount of sentimentality and gush, pious ascriptions of thanks to Providence, considerable laudation of the officers engaged in the work of the institution, and long lists of donations, with the names of the donors, of course. Now, we would cheerfully exchange all this for a little information likely to be servicable in a scientific point of view. Say it is an "orphan's home." What we should like to know in connection with the operations of such an institution may be roughly indicated under the following heads:—1. In regard to each inmate, whether he or she is really an orphan or not. 2. If so, how the condition of orphanage and dependence arose. 3. How it happened that private aid from friends or relatives was not forthcoming—whether, for example, the existence of a convenient asylum into which the orphan could be put had anything to do with the child being placed there rather than otherwise provided for. 4. What moral effects seem to flow from the absence of parental affection and influence. 5. What the special influences of the home or asylum seem to be in different classes of cases. 6. What the subsequent course in life of children released from the home has been.—*Popular Science Monthly.*

M. DE CANDOLLE's opinions respecting the influence of politics and government patronage on scientific pursuits are, in fact, very decidedly expressed. After showing how religious prepossessions, which are usually more positive, more firmly held, and more exclusive than any other kind of prejudices, may interfere with the free exercise of scientific thought, he observes that the incompatibility of political relations is still greater; for politicians defend, not what they believe to be true, but what appears practicable or possible to realize, and are subservient to the authority of chiefs and majorities. Politics agree well with the aims of those whose chief pursuit is that of material gain, for such men frequently have to use the same methods as politicians to succeed; but the person who is seeking for pure truth in history, in law, or in moral, natural, or other science, is out of his place in a political assembly. He would hardly go there except from motives of patriotism, or under a transitory, enthusiastic impulse, and would very soon find out that he did not belong there. How could he lend himself to the manoeuvres of politicians? How, for example, could he trade off a principle against a railroad, a charitable foundation for an election? How could he consent to transactions between truth and falsehood, to the batter of opinions, which is the rule in political affairs? Men of science are

sometimes found in considerable numbers in political assemblies, but the others always do their best to make them ridiculous, and kill them off by giving them bad names. "As a rule," M. de Candolle adds, "governments too much confound teaching with progress in science. Many of them believe they have done everything when they have created schools and universities. They do not comprehend that they often do more harm than good by restricting these institutions in their methods, or in the choice of teachers. They do not know to what degree science lives on liberty and on the individual work of masters and pupils outside of the lessons."—*From "De Candolle on the Production of Men of Science" in Popular Science Monthly.*

I COME now to speak of the struggle for existence which is constantly going on between languages geographically near to one another and between different dialects of the same language. Unless one of the idioms is especially favoured in the struggle by political circumstances, it is evident that the one which is most advanced in evolution will gain upon those which are less advanced; this fact can be established by many examples. Thus, in the territory which is now France, Latin, introduced into Gaul by a relatively small number of persons, shortly surpassed the Celtic dialects. The French language is wholly Latin, having retained from the Celtic only a few recollections in its vocabulary; but, when the Germans established themselves in a large part of Gaul, instead of giving their language to the conquered population, they abandoned it in the end and adopted the neo-Latin, which afterwards became French; and the French language is no more Germanic than it is Celtic. Natural selection has caused the disappearance of a considerable number of idioms. Languages which come into conflict are like groups of animals that have to struggle with one another for existence. They must gain upon their competitors, or resign themselves to disappear before them. Just as, in the contest for life and development, the best-armed races finally prevail over those which are less favoured, so languages which are best served by their own aptitudes and by external circumstances prevail over those whose evolutive force is less considerable, and over those which historical conditions have less well prepared for the combat. In France, the French, the ancient *langue d'oïl* gradually supplanted the *langue d'oc*, the Corsican, the Breton, the Flemish, and the Basque. In the British Islands, English eclipsed the Celtic languages, Irish, Scotch, Manx, and Gaelic, and will shortly have supplanted the Cornish. German has overcome a number of Slavic idioms. Another kind of selection is going on within the language itself with reference to the use of particular forms and words. In reference to this, the study of dialects is of great interest. Dialects should not be regarded as degenerate conditions of literary languages. These languages are simply fortunate dialects, whose rival dialects have been less favoured. We are constantly meeting in dialects forms and words which their sister literary languages have not preserved; and this fact gives dialects an important place in the study of the natural history of language.—*From the "Evolution of Language," by M. A. Hovelacque, in Popular Science Monthly.*

## Notes and Comments.

TUPPER is preparing his literary memoirs. The volume will bear the title, "My Life as an Author."

MR. POOR's paper on Art which we print in this issue was embellished by many excellent chalk sketches on the blackboard. We regret that it is impossible to give any cuts of these.

HARVARD University, following the example of Johns Hopkins, will shortly begin the publication of a series of contributions to political and economic science. It has been enabled to do this by John E. Thayer, who has donated \$15,000 for the purpose.

CARDINAL GUIBERT, the Archbishop of Paris, gives utterance to most plaintive protestations against the withdrawal of state aid from bishops, priests, and Roman Catholic schools. France, he declares, has thus been branded with "the stigma of official atheism."

THE first Report of the Art Students' League contains, in addition to statistical matter, a report written by President Waller. The League is a noble institution to which American art owes much, and the apologetic and slightly eleemosynary tenor of some of Mr. Waller's remarks can hardly be commended. The League long ago proved its ability to stand alone and ask no favours.—*The Critic*.

MUST we put aside our hope of pure Anglo-Saxon to the day of millenium when all good things will come? A glance at a page of the Note-Book, the work of a half-hour with our morning paper, makes us believe so. The first news item is of an "inebriated individual," the book reviewer praises certain "dainty booklets," an advertisement calls attention to an "élite event," and a correspondent from the South tells how the "flowering trees may be seen in a perfect galaxy of beauty," and that he went on a "recherché drive."—*The Chautauquan*.

MR. CHURTON COLLINS has written a book on Bolingbroke, in which, it is said, it is to be proved to demonstration that, though Newton may have been in his garden when his grand idea struck him, may even have sat beneath an apple tree, none of the fruit fell. There it hung, and if Newton could not work out his laws of gravitation without it, then he must try something else. The apple story is an invention of Voltaire. It is first given in the fifteenth of his "Lettres sur les Anglais," published about 1733. The "Life" of 1723 makes no mention of it, nor does Whiston; and Pemberton only says that Newton was in a garden when his theory occurred to him.—*Ex*.

AN unforeseen trouble has arisen in consequence of the secularization of the Pan-

theon in Paris. The splendid frescoes which have occupied the leading artists of France nearly ten years are already showing signs of injury from damp. So long as regular services were held in the Pantheon the constant influx of fresh air and the warmth generated by the congregations kept the interior tolerably dry. Now these influences are withdrawn, steps must be taken to preserve the frescoes. Unfortunately there are no existing means of warming the building, so that it will be necessary to erect stoves if the works of Puvis de Chavannes, Cabanel, Laurens, H. Levy, and others are to be preserved.—*Ex*.

"HORRORS in Architecture, and So-called Works of Art in Bronze in the City of New York" is the imposing and (to use a Teutonism) curiously-stimulating title of an anonymous brochure recently issued in this city. When examined, it is found to resemble the mountain that groaned and heaved and finally brought forth a mouse. We are all painfully aware that our municipal architecture and public sculpture possesses many defects, but personal attacks upon sculptors and architects are not likely to elevate either our artistic or our moral tone. Calm, serious, impartial criticism is always welcome, but anonymous pamphlets deserve no more attention than anonymous letters.—*The Critic*.

"LOUNGER," in the *Critic*, says: "I have lately heard an authentic anecdote of Darwin, that seems quite worth repeating. It refers to his old age—the period when he was bringing out his books on the habits of plants. His health was poor; and an old family servant—a woman—overhearing his daughter express some anxiety about his condition, sought to reassure her by saying: 'Hi believe master 'd be hall right, madam, hif 'e only 'ad somethin' to hoccupy 'is mind; sometimes 'e stands in the conservatory from mornin' till night—just a-lookin at the flowers. Hif 'e only 'ad somethin' to do, 'e'd be hevver so much better, hI'm sure.' No one enjoyed the joke more than the great naturalist himself."

UNDER the title, "How to Talk to Young Children," the *American Leader* well says: "It requires more than ordinary wisdom and tact to conduct a profitable conversation with young children. The topics should be carefully chosen with a definite purpose in view. A good 'talk' requires a good subject and an accurate use of language. The style should be inspiring and cheerful, and may often aptly illustrate the definition of *humour* which Miss Thackeray repeats from the lips of a lady friend: 'Talking in fun while thinking in earnest.' Such 'talks' often have a surprising effect, stimulating thoughtful questions and arousing the dormant faculties of children, and leading them into

new fields of observation and thought; even playful conversations should have an element of moral dignity associated with them on the teacher's part; the language should always be pure, grammatically correct, and free from vulgarisms or slang phrases. The example of the winsome teacher is contagious; good habits of expression will have an elevating tendency, while loose, inaccurate, and carelessly chosen words in conversation will counteract much of the good work done through language lessons in the class-room. Remember that 'talking' wisely is a 'fine art,' and must be practised constantly to give the highest effect, even when accompanied with genius."

THE death of Archbishop Trench will be a cause of deep regret to many. There are thousands of teachers and students who must deplore his death as that of a friend, for his books have been among those which are highly prized by the educator. His works on the words of the English language have done much, not merely to inform the student, but to arouse his curiosity and to impel him to fresh discoveries in the same field of inquiry. The Archbishop's philological lectures "On the Study of Words" were first delivered to the pupils at the Diocesan Training School in Winchester. They must be extremely popular, as the edition of 1878 is the seventeenth. The lectures do not compete with those of Max Müller, or more austere learned men, but are popular and anecdotic. The archbishop showed how personal names had been played and punned upon; he revealed the poetry in words denoting flowers, "meadow-sweet," "sundew," "love-in-idleness," "rosemary," and so many others. Birds and stars, with their popular names, the windhover and the halcyon, all come in. The Morality of Words also (as the *Daily News* observes) was not neglected. Much was done to disengage the thought that has gathered, like lichens of many hues, on the old terms which have lived with men through uncounted generations. It was a pleasant, poetical kind of philology. "The word, we know, becomes a wonder to us," as the Laureate says, and it was the Archbishop's part to reveal this wonder where people, perhaps, had not suspected it. The ideas lay just a little below the common surface of thought, so near that every one could delve them for himself when he had been shown the knack; yet so deep that, till people were taught the knack, the treasure of thought lay absolutely hidden. History, religion, edification, and intellectual bric-à-brac, all were unearthed from below the crust of words. This little book has well deserved the very wide appreciation which greeted it, and, no doubt, set many readers about quite a novel business—thinking for themselves.—*The Schoolmaster (Lon., Eng.)*

## Literature and Science.

### THE PACE OF METEORS.

ABOUT six weeks ago we referred to the fact of an extraordinary brilliant meteor having flashed across the sky in this neighbourhood, and we invited communications upon it from any who might have observed it. It seems that upon the same night a similar meteor was observed in England. Now, under ordinary circumstances, there was nothing notable in this, for meteors are known to be continually falling, it having been calculated that many millions of them fall annually upon the earth. But that one should fall of exceeding brilliancy, and described in almost identical language by correspondents in the *Times* and by ourselves, is worthy of note and of further inquiry. We recorded that such a meteor appeared at 27 minutes past 12 in the direction east-south-east from Cumballa Hill, from which place it was seen. It was subsequently reported from Rutnagherry that a meteor was seen there but to the north. A correspondent wrote us from Mahableschwur, who reported that he saw a very bright meteor at half-part 1 (local time), but the great difference in time pointed to some error in recording the exact appearance, or else proved that it was some other meteor that was seen. In England there was a meteor which seems to have passed over London about 5.5 p.m., Greenwich time, or 9.55 Bombay time. And it appears to have been travelling eastward. It does not seem beyond the bounds of possibility that the meteors seen here and in England were the same. The absolute difference in time would thus be 2 hours 32 minutes, which is equal to the time taken to travel the distance between these two points. Assuming this distance to be about 5,500 miles, the rate at which the meteor was travelling was about 35½ miles a minute in the earth's atmosphere. The rate at which meteors travel in interstellar space is about 40 to 50 miles per second. So that the difference between these two rates of speed shows the retardation due to the earth's atmosphere, always going upon the assumption that the meteor seen in England was the same as that seen here. To settle this point it will be of interest to know if any one between Bombay and London noticed the brilliant meteor of the 16th of January, and it would also be interesting to know if any one saw it on the other side of India and further east. Though meteors and meteorites fall in such great numbers, it is very rarely that their history can be traced, and it appears that a service may be done to science by tracing out the path of this particular one, if so be that two points in its journey have been fixed.—*Times of India*, March 6, 1886.

[This calculation is somewhat crude. The distance, 5,500 miles, which the *Times of*

*India* supposes the meteor to have traversed in 2 hours 32 minutes, is the length of an arc of the circle the radius of which is a line drawn from the centre to the surface of the earth—say 4,000 miles. The calculation is very much more complicated than the *Times of India* supposes. For (1) the meteor certainly was at first travelling in an ellipse; (2) one (the aphelionic) focus of this ellipse it would be extremely difficult to discover; (3) but even if the foci were known, it would be extremely difficult to trace the path described, inasmuch as it is impossible to know at what point in its orbit the gravitation of the earth was strong enough to cause the meteor to alter its course from an elliptical to a parabolic curve; (4) and, consequently, it would be proportionately difficult to determine the nature of this curve; (5) its altitude was unknown; (6) the direction in which it was travelling was unknown. The planes of the orbits of the different groups of meteors form very different angles with the ecliptic, and this meteor might have caught up the earth, or met it, or approached it at an angle of 90°. The only point of interest which the *Times of India* has perhaps discovered is, that the same meteor was seen in India and in England. But that these bodies are occasionally seen from points of view widely separated is no new discovery. Our readers may remember that a brilliant falling star which appeared in Canada in the autumn of 1884 (about, if we recollect aright, 2 a.m., of September 1st) was noticed and commented on by newspapers printed in towns separated by 300 miles and more.—ED.]

### LONGFELLOW.

THE qualities which render Longfellow's art delightful have passed over into the popular conception of his personality; and it is a great satisfaction to find, now that his letters and diaries have been published, how truthful and generally accurate this popular conception has been. Mr. Samuel Longfellow, in editing his brother's life, has wisely chosen to restrict his labor for the most part to the selection of illustrative passages from the diary which the poet kept and the letters which passed between him and his most constant correspondents. We have no reason to suppose that this selection has been made upon any other principle than that of presenting the most interesting and most characteristic features of a long and varied career; it would scarcely have been possible, in the range of this material, to conceal any marked trait of the poet, and therefore we have a right to believe that in these two abundant volumes we have a faithful and adequate portrait of Longfellow.

\* \* \* Life of Henry Wadsworth Longfellow, with Extracts from his Journals and Correspondence. Edited by SAMUEL LONGFELLOW. In two volumes. Boston: Ticknor & Co. 1886.

We repeat that it is a satisfaction to find this record tally so well with the popular apprehension of the poet's life. There are no rude contradictions, no ugly disclosures; those traits which we knew, whether personally acquainted with him or not, are presented in deeper, more abiding lines; some fresh and happy revelations are made, in harmony with the general conception, but not before so distinctly asserted; occasional commentaries on his work offer themselves. But on the whole we may say that we know Longfellow better and more intimately; not that we know a different man from what we had imagined, or that we are obliged to reconstruct and modify the image already clearly formed.

It is singular, when one stops to consider, how entirely the popular conception of Longfellow has sprung from his art, and how little it owes to external testimony. He shrank from publicity, and though he was the recipient of numberless visitors, and accepted with patience the burdens which his fame imposed upon him, there was a charmed circle within which he dwelt, and beyond whose line none passed except the very few who would be the last to disclose any of the knowledge which they thus obtained. The occasions on which he took part in any public exercises were so rare as to intensify his privacy; and this retirement was a note of his character, not the result of any deliberate choice or policy. "Was to have gone to the Franklin birthday banquet in the Port," he writes in his diary; "but sent the carriage away, hearing that I was expected to reply to a toast in honor of 'the poets of Cambridge.'" But no one who was present can forget the occasion of his little speech in Sanders Theatre, in Cambridge. The hall was filled with an audience of school-children, and such of their elders as could find admittance, met to celebrate the two hundred and fiftieth anniversary of the settlement of Cambridge. The chair made from the spreading chestnut-tree, which the children had given him, stood upon the platform, as a pleasant, silent response from the poet. He himself was among the guests grouped about the speakers of the day. Suddenly there was a hush of expectation. The governor was to have spoken, but was not present. The mayor, who was presiding, leaned over and spoke to Mr. Longfellow, and rose to say that the poet had consented to speak to the children. The quiet voice with which, standing where he had been sitting, he uttered the few graceful sentences that rose to his lips was the expression of a nature acting spontaneously and naturally, undisturbed by circumstance, yet moved by a force of sentiment which was set in motion by the spectacle before him.

There are but slight witnesses to the external course of his life to be found in

Longfellow's prose or verse. In one of his letters to Mr. Greene, when *Hyperion* had just been printed, he says, "The *feelings* of the book are true; the events of the story mostly fictitious. The heroine, of course, bears a resemblance to the lady, without being an exact portrait. There is no betrayal of confidence, *no real scene* described. *Hyperion* is the name of the book, not of the hero. It merely indicates that here is the life of one who in his feelings and purposes is a 'son of Heaven and Earth,' and who, though obscured by clouds, yet 'moves on high.' Further than this the name has nothing to do with the book, and in fact is mentioned only once in the course of it. I expect to be mightily abused. People will say that I am the hero of my own romance, and compare myself to the sun, to *Hyperion* Apollo. This is not so. I wish only to embody certain feelings which are mine, not to magnify myself." It is common enough for readers to insist upon a close correspondence between a poet's impersonations and his personal experiences, and in the case of Longfellow they have refused to accept any but the most literal rendering of *Hyperion* and of a few of his poems. Nor is it impossible to trace the lines of his life, now and then, in his verse; especially is it easy to recognize his companionship. Still, the revelation which Longfellow's poetry makes is of that inner experience more important to understand than any mere external circumstance, and it is because of the freedom and fullness of this revelation that we are able to say, we knew the poet from his poetry before we were able, from these volumes, to see how perfectly this inner life was in harmony with the outer shell in which it was formed.

Here may be observed a difference between Longfellow and Hawthorne. Both were men of seclusion; both were instinctively artists. The evidence concerning both may be said to be all in; we have their works, their private journals, and we have external testimony regarding them. But Hawthorne has been brought very much closer to men, in his personal relations, through the publication of his life; there have been laid open almost unknown tracts of his nature. His books, for all their apparently confidential air, never really told very much of the man. Longfellow, on the other hand, concealed himself behind a veil so thin that while it was a perfect protection to his own consciousness, it was a transparent medium for the public. His journals and letters make this clear, and only translate into the language of fact what we may already be said to have read in the language of symbol.

It belonged to both of these men to be intimate chiefly with themselves. But Hawthorne cultivated this intimacy, and by long

habit made his journals hold a very important place in his mental and spiritual life. Longfellow, less of a recluse, was surrounded by other intimate friends than himself, and his diary, while apparently regular, was by no means so necessary a confidante as was the case with Hawthorne. It was less the record of his spiritual life, though often interesting in this view, and more the transcript of his thoughts about his occupation, and the memorandum book of literary and personal judgment. The short, frequent entries attest the method of his life, and indicate also the large absorption in work and friends which forbade too close an attention to his own moods. His letters reflect his intimate thought less directly; they are free, generous gifts of himself. They do not spring, as some letters of literary men do, from a naive interest in his own performances; they always suppose the recipient, and show how gracefully and unaffectedly the writer entered into the life of others.—

*Atlantic Monthly.*

(To be continued.)

## Special Papers.

### DEVELOPMENT OF THE MORAL FACULTY.\*

BY JAMES SULLY, M. A.

It has long been disputed whether the moral faculty is innate and instinctive, or whether it is the result of experience and education. The probability is that it is partly the one and partly the other. The child shows from an early period a disposition to submit to others' authority, and this moral instinct may not improperly be the transmitted result of the social experience and moral training of many generations of ancestors. Yet, whatever the strength of the innate disposition, it is indisputable that external influences and education have much to do in determining the intensity and the special form of the moral sentiment. We have now to trace the successive phases of its development.

A consciousness of moral obligation arises in the first instance by help of the common childish experience of living under parental authority at the outset. The child's repugnance to doing what is wrong is mainly the egotistic feeling of dislike to or fear of punishment. By the effect of the principle of association or "transference," dislike to the consequences of certain actions might lead on to a certain measure of dislike to the actions themselves. And such an effort would greatly strengthen the innate disposition to submit to authority.

When the forces of affection and sympathy come into play, this crude germ of moral

feeling would advance a stage. An affectionate child, finding that disobedience and wrong-doing offend and distress his mother or father, would shrink from these actions on this ground. Not only so, the promptings of sympathy would lead the child to set a value on what those whom he loves and esteems hold in reverence. In this way love and reverence for the father lead on naturally to love and reverence for the moral law which he represents, enforces, and in a measure embodies.

Even now, however, the love of right has not become a feeling for the inherent quality of moral rightness; it is still a blind respect for what is enjoined by certain persons who are respected and beloved. In order that the blind, sympathetic regard may pass into an intelligent appreciation, another kind of experience is necessary.

Thrown with others from the first, a child soon finds that he is affected in various ways by their actions. Thus another child takes a toy from him or strikes him, and he suffers, and experiences a feeling of anger, and an impulse to retaliate. Or, on the contrary, another child is generous and shares his toys, etc., with him, and so his happiness is augmented, and he is disposed to be grateful. In such ways the child gradually gains experience of the effect of others' good and bad actions on his own welfare. By so doing his apprehension of the meaning of moral distinctions is rendered clearer. "Right" and "wrong" acquire a certain significance in relation to his individual well-being. He is now no longer merely in the position of an unintelligent subject to a command; he becomes to some extent an intelligent approver of that command, helping to enforce it, by pronouncing the doer of the selfish act "naughty," and of the kind action "good."

Further experience and reflection on this would teach the child the reciprocity and interdependence of right conduct; that the honesty, fairness and kindness of others toward himself are conditional on his acting similarly toward them. In this way he would be led to attach a new importance to his own performance of certain right actions. He feels impelled to do what is right, e. g., speak the truth, not simply because he wants to avoid his parents' condemnation, but because he begins to recognize that network of reciprocal dependence which binds each individual member of a community to his fellows.

Even now, however, our young moral learner has not attained to a genuine and pure repugnance to wrong as such. In order that he may feel this, the higher sympathetic feelings must be further developed.

To illustrate the influence of such a higher sympathy, let us suppose that A

\*From "Elements of Psychology, with Special Applications to the art of Teaching." In press of D. Appleton & Co.

suffers from B's angry outbursts or his greedy propensities. He finds that C and D also suffer in much the same way. If his sympathetic impulses are sufficiently keen he will be able, by help of his own similar sufferings, to put himself in the place of the injured one, and to resent his injury just as though it were done to himself. At the beginning he will feel only for those near him, and the objects of special affection, as his mother or his sister. Hence the moral importance of family relations and their warm personal affections, as serving first to develop habitual sympathy with others and consideration for their interests and claims. As his sympathies expand, however, this indignation against wrong-doing will take a wider sweep, and embrace a larger and larger circle of his fellows. In this way he comes to exercise a higher moral function as a disinterested spectator of others' conduct, and an impartial representative and supporter of the moral law.

The highest outcome of this habit of sympathetic indignation against wrong is a disinterested repugnance to wrong when done by the individual himself. A child injures another in some way, either in momentary anger or through thoughtlessness. As soon as he is able to reflect, his habit of sympathy asserts itself, and causes him to suffer with the injured one. He puts himself at the point of view of the child he has wronged, and from that point of view looks back on himself, the doer of the wrong with a new feeling of self-condemnation. On the other hand, when he fulfils his duty to another or renders him a kindness, he gains a genuine satisfaction by imaginatively realizing the feelings of the recipient of the service, and on looking back on his action with complacency and approval.

When this stage of moral progress is reached, the child will identify himself with the moral law in a new and closer way. He will no longer do right merely because an external authority commands, or because he sees it to some extent to be his interest to do so. The development of the unselfish feelings has now connected an internal pain, the pang of self-condemnation, and of remorse, with the consciousness of acting wrongly; and this pain being immediate and certain, acts as a constant and never-failing sanction.

—*Popular Science Monthly.*

(To be continued.)

MILLS COLLEGE, California — Homer B. Sprague, LL.D., President—offers \$700 in prizes, to be divided equally among those candidates who shall pass a satisfactory examination, and be admitted to the freshman class during the month of July. The subject for examination are the same as at Smith College, Massachusetts, last year, with the addition of an examination in English literature, and the omission of English into Greek. The list of subjects will be furnished upon application to Dr. Sprague.

## Educational Opinion.

### PATRIOTISM IN THE SCHOOL-ROOM.

I NOTICED with pleasure in a recent number of the EDUCATIONAL WEEKLY an article entitled "Canadian National Homogeneity," from the pen of Dr. J. G. Hodgins, Deputy Minister of Education. I regard Dr. Hodgins' paper as both timely and suggestive. Every teacher knows that the schoolroom should be a very temple of patriotism wherein young hearts may be imbued with a love of country, and drawn to its allegiance by a study of the great men who have left their impress upon the pages of history by wise and heroic deeds in council and in field. No doubt it is well to garner wisdom from the pages of the dim past—to read of the once glories of Greece, Rome and Carthage—to trace the full tide of liberty and national freedom through centuries back, even to the rugged wild whence it sprang; yet no period can be laden with a deeper interest to us than our own, and no greatness equal to that which envelopes our homes and lives, and breathes through the pages of Canadian history and Canadian literature a patriotic spirit, pure as the altar-flame of Canadian hearts. The Hon. the Minister of Education, with a wisdom which does him credit, has seen well to give the study of Canadian history a "local habitation and a name" in the High School curriculum. He has also recommended to Teachers' Reading Circles Parkman's "Wolfe and Montcalm," a work beautifully written and of deep interest to every student of Canadian history. But could not a step further be taken by giving the subject of Canadian literature a place in the High School programme of studies? I make no doubt the want of this is what Dr. Hodgins means, when he says in his paper, "We fail to emphasize the school in developing patriotic national sentiment and high moral aspirations in youth." And in a ruder Dr. Hodgins remarks, "Canada is rich in historic memories: Parkman's works; Stone's Brant and Sir William Johnson; Ryerson's United Empire Loyalists; Details of the War of 1812; Richardson's Wacousta, and Canadian Brothers; Mair's Tecumseh, and many other such works are full of historical and heroic incidents. If properly presented to the pupil on fitting occasions, they would exercise a powerful influence in promoting a good healthy national feeling throughout Canada." It is frequently said that Canada has no literature. Perhaps in the strict sense of the word it has not. But what, I ask, are you to do with the following writers, if you exclude them from a place in the circle of Canadian literature: In poetry, Reade, Roberts and Sangster; in the domain

of fiction, Kirby and Lesperance; in Science, Logan, Dawson, Wilson, Bell, Selwyn and Sterry Hunt; as orators, publicists, essayists, and miscellaneous writers, McGee, Howe, Haliburton, Grant, Todd, Lindsey, Griffin, Stewart, LeSueur and Rattray. Have these men given nothing to the intellectual life of Canada, that is worthy of being called literature? Again, look at the French. Have they done nothing for the literature of Canada? Have they not enriched it with a grace and fertility that completely overshadows the English portion? Have not some among them won recognition in the land of Molière, Corneille, and Victor Hugo? And yet pessimists assert that we have no literature in Canada. Every artery in the maple leaf is a tale, a legend and a poem. Granted, then, that Canada has a literature and a history, where, I ask, should these be taught? Undoubtedly in the schoolroom. One line from a Canadian poet, one spark from the fire of a Canadian orator, may kindle in the breast of the school-child a patriotic flame bright as the shaft which crowns the Plains of Abraham, and pure as the rill that sings its way to the sea. By all means, then, even should we offend against Greece, Rome and England, and forget to tell the tale of "The Ancient Mariner," let us teach Canadian history and Canadian literature in our schools.

THOMAS O'HAGAN.

### ENGLISH SPELLING.

MR. LENT'S article in the WEEKLY of April 22, deals with a very important matter. His contention, that we learn to spell through the medium of the eye is indisputably sound, and so is his criticism on the specimen question he gives in his article. If it is true that we learn to spell by the eye, then it follows (1) that so-called "oral-spelling" is comparatively useless as a method of teaching spelling, and (2) that the true way to ascertain whether a pupil can spell properly is to make him write down sentences, either as read to him or as composed by himself on some theme about which he can fairly be expected to know something. Writing from dictation is, when properly managed, one of the most useful of school exercises, as it can be made to serve a variety of purposes, some of which are even more valuable than learning to spell words correctly according to a needlessly irregular system of orthography.

Besides the form of examination question of which Mr. Lent gives a specimen, there is another that is far too common. The examiner gives a list of words, some of which are correctly spelt, the others being purposely misspelt, and the candidate is asked to write out the whole list correctly. I would

suggest that instead of such questions as the above and the one referred to by Mr. Lent the examiner should give a list of common words correctly spelt, and ask the candidate to show how the spellings might be improved phonetically, or philologically, or both. Let us suppose the list, for example, to contain the words "island," "exceed," "resistance," "conceive," "believe," "agast," and "philosopher." The forms, "iland," "excede," "resistence," "conceve," "beleve," "agast," and "filosofer" are preferable both phonetically and philologically.

The "s" in "island" is an intruder; it does not occur in the old English word, which was variously spelt "iland," "yland," etc., but never "island." In all probability it was introduced by some would-be philological reformer who thought the word had an etymological connection with the French "isle" (from the Latin "insula"), whereas it has no such relationship. As the "s" was put in by an ignoramus, scholars have a perfect right to throw it out.

From the Latin "cedere," we form, by dropping the "re," "accede," "concede," "intercede," "precede," "recede," and "secede." From the same root we form, by doubling the radical "e," "exceed," "proceed," and "succeed." Obviously the former of these methods is philologically preferable, and the last three words should, for the sake of uniformity, be made to conform to the first six.

From "sistere" we form several nouns, "consistence," "subsistence," "insistence," "persistence," "resistance," all but the last of which retain the "e" of the root. For the sake of uniformity, then, we should write "resistence," which, I may add, was the form in both Old English and Old French.

The Latin verb "capere" has by a process of phonetic decay been corrupted into the French "cevoir," in which form it occurs in several French verbs "concevoir," "percevoir," "recevoir," etc. From these we have the corresponding English forms "conceive," "perceive," "receive," but in all cases "i" has been improperly inserted before the "v." As the intruding letter does not occur in either the original Latin root or the intermediate French form, and as it is phonetically useless and practically mischievous we should drop it.

In old English we find "beleve" and "beleeve," but never "believe." The first form is philologically correct and phonetically sufficient, and as dropping the "i" would get rid of a troublesome orthographical difficulty it should be dropt.

"Agast" is the old English spelling, and the word was so spelt by Milton. The "h" is philologically illegitimate, and is phonetically worse than useless.

Whatever the phonetic value of the Greek "phi" may have been, it was not properly a double letter, and a single letter should have been used as its equivalent in Latin. In both Italian and Spanish "f" is now so used, and we should adopt the same practice, as in fact we do in the word "fancy." If "philosopher" is good spelling, then we should write "phancy." If usage be appealed to then the obvious reply is that usage can be changed and that if we all agree to write "filosofer" it will soon cease to look odd.

I might have given in the list words of a different class, such as "have," "definite," "people," "head," "heart," "though,"—all of which can be spelt more phonetically without any philological loss, as "hav," "definit," "peple," "hed," "hart," "tho." In some cases the improved forms are actually those in use in old English, thus corroborating the statement made by Prof. Skeat in the introduction to his "Specimens of English Literature." Speaking of old English spelling he says: "It is frequently far better than our modern spelling, and helps to show how badly we spell now, in spite of the uniformity introduced by printers for the sake of convenience. Old English spelling was conducted on an intelligible principle, whereas our modern spelling exhibits no principle at all, but merely illustrates the inconvenience of separating symbols from sounds. The intelligible principle of old English spelling is that it was intended to be phonetic."

If orthography were treated by both teacher and examiner in the way above outlined it would become a means of training the reasoning faculties instead of merely burdening the memory, and the coming reform of our curiously anomalous system of spelling words would be indefinitely hastened. The great need is the removal of prejudice, and this is most easily done with the young. Every teacher should be a rational spelling reformer, and so should every examiner.

WM. HOUSTON.

#### HOW AN ALPHABET IS DEVELOPED.

SUPPOSE that some old nation of Asia, after having for ages drawn an ox when they wished to recall an ox, began at last to draw the picture of an ox also when it was needful to write about plowing. Then instead of an ox it would convey an idea relating to an ox, and would be what is called a *symbol*. After a while some one would say to himself. What is the use of drawing all of the ox when the head alone, which every one will know from its shape and its horns, gives just the same thought? Now suppose this ox-head gradually gets to mean the *sound* of ox

in all words of the language wherein that syllable occurs, as in the name of the river Ox-us. Then the ox-head would appear in words having nothing whatever to do with cattle or plowing. Then it is called a piece of *sound-writing*, because it does not recall a certain given thing, but a sound. Sound-writing is thus an improved kind of picture-writing. You all know sound-writing, and have probably composed sentences in it, but you know it under another name. Hardly a magazine for young people is printed in which you will not find rebuses. Well, many rebuses are nothing but sound-writings. And many, many thousand years ago our ancestors had no other kind of writing.

And the next step onward from sound-writing was *syllable-writing*. Remember that people who had reached that stage thought of a sign or symbol as representing one syllable at the least. Suppose the ox-head was called *aleph*. It would soon be found more convenient to employ it in all words where there was the sound or syllable of *al*. And this was the process with as many other letters as there were in such early writing. We will call this the *syllabary* stage, because signs stood for syllables, and so distinguish it from the alphabet that came later.

The next advance would be to take the little picture for the sound *a* alone, and thus begin to use a real alphabet.—From "*Wonders of the Alphabet*," by Henry Eckford, in *St. Nicholas*.

THE *Critic* remarks: "That classical scholarship is making rapid advances in America, no one familiar with educational matters can doubt. The widespread opposition to the study of Greek and Latin has brought about a result far different from that anticipated by the opponents of the classics. Courses of study have indeed been broadened, and a larger choice of subjects has been placed before the student; but the position of the classics as a means of education has in reality been strengthened. At the same time, the process of instruction has been revolutionized. The practical directness of method, so characteristic of the American life, has been applied to the teaching of the ancient languages, thus stimulating interest and producing better results in regard to both discipline of mind and general culture; while the familiarity of the younger generation of scholars with the work of the Germans has quickened the spirit of investigation and production. Thus it happens that at present more books having to do with the classics are being put forth in this country than ever before; and that in them there is revealed a broader and sounder scholarship, corresponding with the general improvement in methods of work."



TORONTO:

THURSDAY, MAY 6, 1886.

## CAPITAL AND LABOUR.

I.

No apologies are needed for touching upon a few of the problems connected with capital and labour in an educational periodical. Indeed, if we consider not only how greatly education influences the views we each severally take of such problems, but also how greatly education should influence any solution of such problems, an educational periodical may rightly be looked upon as a fit vehicle for the expression of opinion on all social questions.

A glance at the various remedies proposed shows at once how difficult, nay impossible, it is for many to view the relationships of labour and capital in a wholly unbiassed light. Before us lie three very typical varieties of opinion: those expressed by T. V. Powderley, General Master Workman of the Knights of Labour; by a writer in the *Current*; and by a writer in the *Week*.

The first says:—

The workingman of the United States will soon realize that he possesses the power which kings once held—that he has the right to manage his own affairs. The power of the king has passed away. The power of wealth has passed away. The evening shadows are closing in upon the day when immense private fortunes can be acquired. The new power dawning upon the world is that of the workingman to rule his own destinies. That power can no longer be kept from him.

The hours of labour must be reduced throughout the nation, so that the toilers may have more time in which to learn the science of self-government.

The employer and employed must no longer stand apart. The barriers of pride, caste, greed, hatred, and bitterness must be torn down.

This, of course, is the extreme view, and it requires but a very few words to show how short-sighted and vague a view it is. For first, several millions of working-men, with different degrees of intelligence and different degrees of self-interest “possessing the power which kings once held” is a idea that can only be held by those who know nothing of what they speak. Second, the proposition that the hours of labour should be reduced in order that the labourers may “learn the science of self-government” seems to us to be too preposterous to need comment. And third, the suggestion that capital and labour are naturally antagonistic is, on the face of it, an erroneous and mischievous one.

The *Current* takes a different view:—

It seems none too soon, it says, to so regulate the influx of foreign populations, that the United States should not be overrun by any criminal or

pauper expatriation that other nations might deem beneficial to themselves, nor permit the purchase and absorption by foreigners or natives of such immense tracts of land for non-residents, as would “mar the inheritance of our posterity,” and eventually exterminate the yeomanry of our land, the owners of moderate-sized farms, the moderately skilled mechanic and labourer, from whose midst have arisen some of our most prominent men.

As remedies in addition to the foregoing the *Current* suggests:—

Capitalists co-operating with their workmen: stipulating first for a good, remunerative percentage on their capital and for a fair salary to offset their skilled administration or superintendence of the joint-stock association, finally permission to the workmen to elect their own foremen in the different departments, and the larger ratios of remuneration going to skilled labour, the remainder of the profits be equally divided; access to the books and accounts being permitted to the foreman, so that they may satisfy the workmen as to the honesty of the whole transaction and thus maintain mutual confidence. And a “Board of Arbitration,” selected either by the people at their elections, authorized by the necessary legislation, or in any other approved manner.

Even these proposals are weak in the extreme. What can bring about co-operation between employers and employed? Who shall say what is a “remunerative percentage” or a “fair salary”? What could prevent the election of dishonest foremen, and how could the ability of the foremen to understand the books be guaranteed? A just “Board of Arbitration” no party or parties could “select.”

The *Week* takes the very opposite view.

The merits of a dispute as to terms of remuneration between one man and a hundred, or between hundreds of shareholders and thousands of employes is—if we are to abide by free and unrestricted competition—a matter as much outside the business of the state, or of onlooking individuals, as is a dispute on the same question between a merchant and a clerk. The expediency, or in expediency, of the action of the disputants is no business of outsiders. But it is the business of the state to see that parties unconnected with the strife shall suffer as little as possible from it; and that those who may profit by it by entering into new contracts, shall not be hindered from so doing if so inclined. This may be called very cold-blooded language. It is merely the language which follows from the doctrine that every man is the best judge of his own interests, and should be left free to pursue them by contract until his action shall check that of other people.

This provides no remedy; it only points out the evils of regarding unions as possessing any legitimate social or political power in the community.

Doubtless as the case now stands: labour in open revolt against capital; each believing the other to be its bitterest foe; and the whole question complicated by the existence of monopolies on the one hand and unions on the other, no perfect solution will or can be found. The question for us is, not so much where the solution is to be found, as what it is that has brought about this lamentable state of

affairs, and what it is that will tend to cause the community as a whole to regard it in its most serious light and to provide such means as shall prevent its continuance or recurrence. Education, we believe, is the pass-word. On this we shall have more to say in our next issue.

## BOOKS RECEIVED.

*Report of the Minister of Education (Ontario) for the Year 1885, with the Statistics of 1884.* Toronto: Warwick & Sons, 26 & 28 Front St., W. 1886.

*Selections from Latin Authors for Sight-Reading.* By E. T. Tomlinson, Head Master of Rutgers College Grammar School. Boston: Ginn & Co. 1886. 237 pp. Price \$1.10.

*Essays on Educational Reformers.* By Robert Herbert Quick, M.A., Trin. Coll. Cam., late Second Master in the Surrey County School, and formerly Curate of St. Mark's, Whitechapel. Reading Club Edition. Syracuse, N. Y.: C. W. Bardeen, Publisher. 1886. 330 pp.

*First Steps in Latin: A Complete Course in Latin for one Year, Based on material Drawn from Caesar's Commentaries, with Exercises for Sight-Reading, and a Course of Elementary Latin Reading.* By R. F. Leighton, Ph.D. (Lips.), Author of Critical History of Cicero's Epitole ad Familiares, History of Rome, Latin Lessons, Greek Lessons, etc. Boston: Ginn & Co. 1886. 507 pp. Price \$1.22.

## REVIEWS AND NOTICES OF BOOKS.

*Hints and Suggestions on School Architecture and Hygiene, with Plans and Illustrations.* Prepared under the direction of the Honourable the Minister of Education. By J. George Hodgins, M.A., LL.D., Deputy Minister. Toronto: Printed by the Grip Printing and Publishing Company for the Education Department. 1886.

This is the title of a handsome volume on the material side of school management. We are apt in forming an idea of a school to conceive of it in the abstract as a gymnasium of the youthful mind, having neither necessarily position nor form. Every provision possible is made to surround the child with correct intellectual influences, and the latest appliances, physical and metaphysical, are eagerly adopted to further its mental development. All of us who have experienced some of the discomforts of a country schoolhouse of early days can bear witness to the countless discomforts and even dangers under which this development has been carried on. Much of this has doubtless been due to an illiberal and short-sighted policy on the part of trustees and parents, and the rest, and that no small proportion, to the lack of any definite information on the scientific problems to be solved in constructing a school fitted for the reception of delicate and tender children. Generally a house is constructed of such dimensions that it will seat a certain number. Windows and doors are put in; a stove is added and the school is complete. Fifty or one hundred pupils breathe the same quantity of air as five or six persons in an ordinary

home. That is a point very little considered, and if considered is eventually dropped as being beyond the ordinary capabilities of the Board. No one is able to venture further than to theorize on the subject, and as experiment is always distasteful the school is generally built on the old lines and on the models of private houses.

Technical works on the subject of ventilation are scarce and not readily understood, and their principles are not directly applicable to the special building proposed. As a result it has been found (on the authority of the Provincial Board of Health) that sixty per cent. of our schools do not afford half the air space requisite, according to the highest authorities, for the health of the pupils, and only eight per cent. afford the minimum prescribed. Such a state of affairs in the single item of ventilation will give some idea of the necessity for some practical treatise on school architecture. Let it be understood that this is not necessarily a reflection on the lack of funds to properly construct the building, but simply proves that the best disposition has not been made of the resources available.

Beauty of design is a phrase which is never heard of in connection with school buildings outside of our cities and larger towns; and yet is there not a lesson to be conveyed in bricks, stone and mortar that cannot be conveyed through other known channels?

Suggestions such as are contained in this book cannot, therefore, fail to have a beneficial effect on the character of our educational buildings, and through them on the taste and refinement of the youth of the Province. It shows wherein we are farthest behind the older countries in matters educational—in the design of our schools both as regards convenience and taste. It also gives practical hints sufficient to largely supply the remedy, giving as it does the best experience of the United States and England. It is a safe book. The author has no theories of his own to urge upon his readers, but has collected a large mass of useful facts and principles that are the outcome of enlightened experience in Europe and America.

The last two chapters contain many useful hints in regard to builders' specifications, and useful notes on the legal aspect of builders' contracts. One suggestion might be made while on these matters. A complete set of specifications with conditions attached, and form of tender, for one of the smaller schools described (that on page 105, for example) would probably be of great value as models for rural school boards.

Dr. Hodgkin's work has already received many encomiums from abroad. General Eaton, late United States Commissioner of Education, says: "You have done a most valuable service not only to Ontario but to the United States, on the subject of school hygiene in your work on 'School Architecture, etc.'"

And the President of the Christian Brothers' College, Memphis, says: "I know of no more emphatic way in which I can bear testimony to the value of your 'School Architecture and Hygiene,' than to say that I would feel profoundly grateful for at least eighteen or twenty-four copies of the work for distribution among our Provincials and Superiors. Its value cannot be estimated in dollars and cents." J. MCD.

ANSTER'S translation of Goethe's *Faust* is the first fortnightly volume in Routledge's World Library, edited by the Rev. H. R. Haweis, and published at \$2.60 a year.

"As a study of characters for the most part commonplace, in circumstances just sufficiently abnormal to be interesting, the book could hardly be better," says *The Athenaeum* of "Indian Summer."

MR. BROWNING has written about two-thirds of his new poem, which will fill a volume by itself, and may be ready before the autumn. He has promised to be present at the Shelley Society's first performance of "The Cenci," on the afternoon of his seventy-fourth birthday, May 7th.

"OTHELLO," the sixth volume of Mr. H. H. Furness's Variorum Shakespeare, will soon be issued by Messrs. J. B. Lippincott Co. The text adopted is that of the First Folio, reprinted with the utmost exactitude, the various readings of all other critical editions being recorded in the notes.

G. P. PUTMAN'S sons have in preparation a series to be entitled the "Boys and Girls' Library of American Biographies, in which the following volumes are announced: "Robert Fulton and the History of Steam Navigation," by Thomas W. Knox; "Abraham Lincoln" by Noah Brooks; "George Washington" by Edward Everett Hale.

THE announcements of Henry Holt & Co. include the second volume of Doyle's "English Colonies in America," and of Fyffe's "History of Modern Europe," respectively; "A Cyclopedia of Greek and Latin Literature," by Thomas Sergeant Perry; and "Whom God Hath Joined," a novel by Mrs. Elizabeth G. Martin, reprinted from *The Catholic World*.

NEW books to be published by the Putnams are, "The Political History of Canada," by Goldwin Smith; "The Greeks of to-day," by Charles K. Tuckerman; "Documents Illustrative of American History, 1606-1863," edited by Howard W. Preston; and "History of the United States from 1840 down to the close of 1885," by Prof. Alexander Johnston.

To the excellent and rapidly growing series of "The World's Workers" (Cassell & Co.) is now added a "Life of General Gordon," by Rev. S. A. Swaine, who sketches the singular career of the hero-martyr from a Christian standpoint, and particularly for the benefit of the young. Such a life, in many of its striking details, cannot be too often presented as an inspiration and encouragement to a noble manhood. Mr. Swaine does his subject scant justice, not from any lack of appreciation, but from a constitutional inability to portray many thrilling scenes which might be made to glow under a more enthusiastic touch. Yet even with this shortcoming, the narrative must serve a good purpose.—*The Critic*.

IN Bohn's Standard Library has been published Coleridge's "Miscellanies, Aesthetic and Literary," to which is added "The Theory of Life." The volume is collected and arranged by T. Ashe, and sold in New York by Scribner & Welford. It brings together a variety of scattered essays, notes and articles, including some pieces not hitherto collected, and various marginalia never before printed. It includes the essays on the prin-

ciples of sound criticism concerning the fine arts, the essay entitled "On Poesy or Art," fragments of essays on taste and beauty, and an essay on the "Prometheus" of Æschylus. Then follows the notes on the lectures, and the marginalia, the volume concluding with "The Theory of Life." Those who know Mr. Ashe's "Coleridge's Lectures on Shakespeare, etc." will feel confident that they will find in this admirer of perhaps the greatest English expounder of Shakespeare an admirable editor of "Coleridge's miscellaneous works."

WILLIAM SHEPARD'S "Enchiridion of Criticism" (J. B. Lippincott Co.) aims to present the judgments of the best critics upon the best authors of the Nineteenth Century. It is somewhat on the plan of Clark Russell's "Book of Authors," though not so full nor covering so large a field. The criticisms vary in length from one line—"Glorious Christopher North"—to nine pages—Hannay's estimate of Thackeray—and in tone from Hawthorne's "most unkindest cut"—"Bulwer nauseates me; he is the very pimple of the age's humbug; there is no hope of the public so long as he retains a reader, an admirer, or a publisher"—to Matthew Arnold's mellifluous averment that "No one else in English poetry, save Shakespeare, has in expression quite the fascinating felicity of Keats, his perfection of loveliness. There is an index of the seventy-four authors criticised, but none of the writers quoted. The volume is, unintentionally perhaps, a satisfactory refutation of Disraeli's dictum that a critic is one who has failed in original composition.—*The Critic*.

THE *Literary World's* criticism of Mr. Swinburne's "Victor Hugo" is trenchant and well-expressed. "In this ecstatic volume," it says, "on the work of Victor Hugo and 'La Légende des Siècles' Mr. Swinburne has apparently endeavoured to reduce eulogy to the palpably absurd. In the short space of the first four pages we are told that Hugo was 'the greatest Frenchman of all time—the greatest poet of this century—above all other apostles of spiritual life the one best deserving to be called the son of consolation,' that 'we know of no such great poet so good, of no such good man so great in genius,' that Hugo was 'the most multiform and many-sided genius that ever wrought in prose or verse,' and so on *ad nauseam*. These introductory pages leave one convinced that even such a language-slinger as Mr. Swinburne must be exhausted of rapture before long, and be obliged to use a few sober words out of sheer necessity. But it is not so. The Swinburnian force-pump plays a full stream to the end. There is no commonplace poem of Hugo's which is not pronounced to be unequalled by any other verse in the literature. If any one is so unfortunate as to peruse the whole of this incessant gush, let him turn to Amiel's *Journal*, and learn what a true critic of the first order thinks of this god of Mr. Swinburne's idolatry: 'Proportion and fairness will never be among the strings at his command. His gold is always mixed with lead, his insight with childishness, his reason with madness. . . . There is always some falsity of note in him. The great poet in him cannot shake off the charlatan. This is discrimination and just judgment; Mr. Swinburne's work is the product of a hypertrophical organ of language.'

## Practical Art.

### THE ADVANTAGES AND AIMS OF DRAWING TAUGHT IN PUBLIC SCHOOLS.

*A Paper read at the Meeting of the Kingston and Co.  
of Frontenac Teachers' Associations.*

THE question has often been asked, and doubtless by those who considered that they had viewed the matter consistently from all its standpoints: Of what present benefit is drawing to those attending the public schools; and what is the probability of its utility to them in after life? To such my remarks are particularly addressed, as I am desirous of removing a very general impression that, while a most pleasing and intellectual pastime for those possessed of wealth, it is almost, if not entirely, useless to those who have only a life of labour and toil to look forward to. There are those who allow that in exceptional cases it may be of advantage to those possessed of talent sufficient to allow of their taking a prominent place in art, but who consider that the time devoted to drawing in public schools might more advantageously be employed in the study of other lessons. In answer to these questions, I would point out a few of the many advantages to be derived from the study of drawing, systematically taught. While granting that all may not hope to attain a desirable proficiency, there is no reason why all should not advance beyond mediocrity. We teach all to write, and expect—and find in nearly every case—fair progress and sufficient advancement to meet the requirements of ordinary occupations; but do not expect, nor do we find, except in an occasional case, professional or ornamental penmen. Why, then, look for more in drawing?

I have referred to drawing as systematically taught, and this point touches more closely the teacher than the pupil. In the present day we incline to system in almost everything, and successfully so; and certainly, so far as regards drawing, system has made many strides in advance of the style pursued by our ancestors—and while deprecating their style of teaching, I would not wish to be understood as saying anything derogatory to the great lights of art in past generations; my remarks merely apply to teaching.

In the English language the word talent is generally understood to represent genius, a hidden power, lying dormant, requiring only the magic touch of the instructor to blaze forth in full effulgence. The French use the same word in a different sense, for to them talent is the power gained by hard work, close application, and conscientious study—the ability being merely the result;

and while talent or genius is of great assistance to all, I would desire to advocate that talent or ability gained by hard work, which is sure to lead to the best results; for it assists genius in restraining the ideas which would otherwise grow in wild profusion, cultivating and training them as a gardener would the flower or tree under his charge, bringing it to the greatest possible perfection. More particularly is this restraint necessary in the present day, when the tendency is to great haste in art, as in other studies. He who would succeed must hasten deliberately, always striving to do his best, convinced that it is only of secondary importance to consider the time spent, as long as the object is obtained. To do thoroughly whatever is done, is by far the most essential point. In this manner both artists and writers who have attained the highest steps in the ladder of fame, have bent their neck to the yoke, no matter what amount of natural ability they possessed. Therefore, in drawing we must commence with the lowest rounds in the ladder, in the primary school; and gradually, as in all other studies, work upwards, so that by the time the pupil (having passed through the several grades) leaves the school he will have gained sufficient knowledge in art to be of practical use to him in after life; for it will be hard to find any position in life in which a trained acquaintance with Industrial Art will not be of benefit. In using the term Industrial Art, I intend only to apply it as suitable to my present subject (for it covers a wide field, and would encroach too much on the time at our disposal), conveying to our minds the idea of reconciliation between the two aims of industry and art, namely, utility and beauty. They are joined together, as the mind and body in man; only perfect when in complete unity. In application, therefore, the man who handles the chisel or brush labours, according to his rank, from artisan to artist.

The mere handicraftsman makes a chair to sit in, a bed to lie on, or a house to live in; in fact, gives us what, as material beings, we must have in order to live according to the manner in which we have been educated, which may be of a very low order: on the other hand, the skilled artisan (as his name implies) introduces into his work a higher element—makes the chair, the bed, or the house more shapely and pleasing—weds beauty to utility. He gives us a cup which will not only hold water but is in itself a thing of beauty, and which has value irrespective of its use; and therefore for this reason taste and a knowledge of art have, in all civilized countries become the first conditions of their industry, and the most potent factor of their wealth.

Here let me ask if the average citizen would not willingly exchange a portion of his

knowledge concerning the interior of Africa for the ability to draw the plan of a house, or produce the necessary design for some article of furniture he is desirous of having constructed? and this alone I consider sufficient reason why we should curtail the time spent on less essential studies, and devote the time thus saved to the acquisition of so desirable an accomplishment. In teaching drawing it should be borne in mind that the pupil must not be wearied by being kept too long over mere geometric forms, and hard, stiff outlines. Such a course only tends to destroy all interest in the work, and interest is at all times essential to satisfactory progress; but should be taught the more difficult lines, curves, and their combinations, using them for the purposes of design. Outline drawing is of the greatest importance, and cannot be too much insisted on in the more advanced classes; for it teaches the practical use of all curves and combinations, in addition to giving freedom with the pencil, and a knowledge of how to transfer proportions correctly, that can never be gained by a pupil who devotes his time to technical or geometric forms. In all cases it is advisable for the pupil to use a soft pencil, but particularly so in his earliest efforts (Faber's hexagonal "F" being the one most suitable), for it is much easier to remove any mistake that may have been made, and also cultivates greater freedom in the drawing, the tendency being, when a hard pencil is used, to labour too carefully over the work, causing it to appear stiff, and bearing no favourable comparison with that produced with a soft pencil and freedom of hand. Every form has a meaning, and this is particularly evidenced by the outlines traced by a master hand, which, though slight, bespeak to all the thoughts which directed it, with unmistakable clearness, to people of every nation and of every clime; while the finest colour ever mixed on the palette of a Titian, unless circumscribed by lines, can convey no definite idea to the mind. Drawing is practically useful to all, for it teaches them to observe, quickens the perceptive faculties, and increases the power of the eye, and is the one language which mankind have retained in common; and thrice armed is he who can use his pencil to illustrate, as well as pen and tongue to describe, whatever of interest he may have seen in his travels through foreign lands: and of the three there is no question which is the most effective, for though he may talk and read to his friends for hours on his return home, when gathered in the social circle, yet it is to his sketch-book he turns if he would make them fully realize the aspect of some striking scene in nature, or bring it back vividly to his own mind: and as he may in after years in solitude turn over the leaves of his sketch-book, how many a forgotten incident comes back to him, recalled by the lines traced long ago. But,

if knowledge of drawing is essential to the artist as well as to the traveller, how much more is it of inestimable value to the artisan or mechanic, for it raises him from the mere machine, following in the path laid out for him, to the master mind, with power to create and carry out new ideas new thoughts, and new aspirations. In fact the correct answer to the question, "What is the proper definition of a skilled artisan?" would be. "A mechanic who knows how to draw, and thanks to such knowledge, has quadrupled the value of his labour to himself and to his country." The close connection between general excellence of the workmanship in the mechanical trades, and scientific education of artisans, make it most desirable that it should be taught in a practical and thorough manner, both for their own sakes and for the community at large.

OTTAWA. HENRY W. POOR, A.M.

### Mathematics.

#### A CURIOUS CASE IN TRIANGLES.

EUCLID tells us that triangles on the same base and between the same parallels are equal in area. The proof of this arithmetically, is one of the most abstruse problems I have ever tried. In the triangle whose sides are 3, 4, 5, if we take 4 as base we should get two rational sides other than 3 and 5 that will give 6 as area. The distance between the parallels must be 3, the perpendicular. I have raised a Diophantine formula, but I was two weeks over it. It appears that if the three sides and area are all rational, another set of rational numbers can be found. I should like to see what action readers will take on this.

JOHN IRELAND, Fergus.

#### PROBLEMS IN HYDROSTATICS.

NOTE.—The following problems are selected from various sources. In most cases a knowledge of Hamblin Smith's Hydrostatics is sufficient for their solution. The following rule, not given by H. Smith, is often of service. The whole pressure on any area immersed equals the weight of a column of liquid which has that area for base; and the depth of its centre of gravity below the surface of the liquid for height.

1. 1000 cubic centimetres of gas whose density is 12, are mixed with 2000 cubic centimetres of a gas whose density is 16, and the volume of the mixture is diminished by a third. Required the density of the mixture.

2. Find the pressure on a verticle rectangle 30 inches long and 6 inches broad, immersed in water with its longer sides horizontal, and with the upper one two inches below the surface.

3. A watch chain which weighs 200 grains in air weighs only 184.7 grains in water. Find the ratio of the volumes of brass and gold in it, the sp. gr. of brass being 7.8, and of gold 19.3.

4. A piece of cork weighs  $\frac{1}{2}$  oz. in air; a piece of metal weighing 6 ounces in air and  $3\frac{1}{2}$  ounces in water is attached to it, and the two together weigh two ounces in water. What is the sp. gr. of the cork?

5. The pressure at the bottom of a well is four times that at the depth of two feet; what is the depth of the well if the pressure of the atmosphere is equivalent to 30 feet of water?

6. A piece of iron, sp. gr. 7.21, and weighing 360.5 grams, is tied to a piece of wood weighing 300 grams, and the weight of both in water is 110.5 grams. What is the sp. gr. of the wood?

7. A piece of cork floats in a basin of water, and the basin is placed under the receiver of an air pump. A quantity of the air in the receiver is pumped out; and the cork sinks lower in the water. Why?

8. A cylindrical diving bell 9 feet high is to be sunk to the bed of a river 40 feet deep; find the height to which the water will rise within it.

9. If the volume of the receiver of an air pump be eight times that of the barrel, compare the density of the air after the third stroke with its original density.

10. The sp. gr. of mercury is 13.6, and the height of the mercurial barometer is 30 inches. What is the greatest height to which water can be raised by means of the common pump?

11. A vessel in the shape of a pyramid five feet high, with a base four feet square, is filled with water. What is the pressure on the base?

12. A piece of copper sulphate weighs three ounces in air, and 1.36 ounces in turpentine of sp. gr. .88. What is the sp. gr. of copper sulphate?

13. A body weighs 2300 grains in air, and 1100 grains in water, and 1300 grains in spirit. What is its sp. gr.?

14. A diamond ring weighs 65 grains in air and 60 grains in water. Find the weight of diamond in the ring, the sp. gr. of gold being  $17\frac{1}{2}$ , and of diamond  $3\frac{1}{2}$ .

15. To what depth may a closed empty glass vessel capable of sustaining a pressure of 200 lbs. to the square inch be sunk in water before it breaks?

16. If a man whose body has a surface of 15 square feet, dives into the water to the depth of 20 feet, what pressure does his body sustain?

ANSWERS. 1.—22. 2.—173 $\frac{1}{2}$  oz. 3.—9529:8066. 4.— $\frac{1}{4}$ . 5.—98 feet. 6.— $\frac{1}{2}$ . 8.—4.66 feet. 9.—512:729. 10.—34 feet. 11.—5000 lbs. 12.—2 $\frac{1}{2}$ . 13.— $\frac{1}{2}$ . 14.—5 $\frac{1}{2}$  grs. 15.—345 $\frac{1}{2}$  inches. 16.—18750 lbs. A. M. H.

#### SOLUTIONS TO FIRST CLASS "A" AND "B" ALGEBRA PAPERS FOR 1885.

No. 9.—Second part.\*  
If two determinants  $\Delta$  and  $\Delta'$  of the  $n$ th degree be such that the first row of the one is the same as the last row of the other, the second row of the one the same as the  $(n-1)$ th row of the other, the third row of the one the same as the  $(n-2)$ th row of the other, and so on, then will

$$\Delta = (-1)^{\frac{1}{2}n(n-1)} \Delta'$$

Proof.—In order to change  $\Delta$  into  $\Delta'$  we must have  $(n-1) + (n-2) + (n-3) + \dots + 1$  interchange of columns.

\* This problem was omitted in Mr. Ferguson's MS.

Now the sum of  $1+2+3+4+\dots+(n-1)$

$$= \frac{(n-1)}{2} \left\{ 2 + (n-1-1) \right\}$$

$$= n-1 + \frac{(n-1)(n-2)}{2}$$

$$= \frac{1}{2}n(n-1).$$

Now at each interchange we obtain a new determinant, the same as the original determinant, except that the sign of the determinant is altered at each interchange, and we have shown that  $\frac{1}{2}n(n-1)$  represents the number of interchanges,

$$\therefore \Delta = (-1)^{\frac{1}{2}n(n-1)} \Delta'$$

No. 11.—In how many orders can  $m$  positive units and  $n$  negative units be arranged so that the sum to any number of terms may never be negative ( $m > n$ ).

Begin with a positive unit. Then we have,  $n$  inseparable pairs, each consisting of a positive unit followed by a negative unit, and  $m-n$  single positive units besides.

We have to find the number of permutations of  $m$  things all together of which  $n$  are of one kind and  $m-n$  of another.

The number of these is

$$\frac{m!}{n! (m-n)!}$$

If  $n$  be even we can also arrange them in groups of four, each group consisting of two positive units followed by two negative units, and we have  $m-n$  single positive units besides.

Then we have  $m - \frac{n}{2}$  things to permute, of

which  $\frac{n}{2}$  are of one kind and  $m-n$  of another.

The number of these is

$$\frac{(m - \frac{n}{2})!}{(\frac{n}{2})! (m-n)!}$$

$\therefore$  if  $n$  be even the whole number is

$$\frac{m!}{n! (m-n)!} + \frac{(m - \frac{n}{2})!}{(\frac{n}{2})! (m-n)!}$$

$$= \frac{1}{(m-n)!} \left\{ \frac{m!}{n!} + \frac{(m - \frac{n}{2})!}{(\frac{n}{2})!} \right\}$$

(To be continued.)

THE entrance examination to the Smith's Falls High School will be held on July the 5th, 6th and 7th. Candidates intending to write at this time should apply to the headmaster, Mr. Robertson, at once, who will give them all the information required.

## Methods and Illustrations

### DIFFICULT WORDS FOR PRO- NUNCIATION.

The following list of words is intended for teachers preparing pupils for the Entrance Examination:—

error	receipt
volatile	were
pumpkin	associate
saith	nominative
preface	Cairo
contrary	Hughenden
says	croquet
aliv	moustache
discern	Tel el Kebir
imbecile	intrigue
desist	futile
destine	soften
bonnet	advertisement
arctic	Ajaccio
anxiety	donkey
chasten	dromedary
Avignon	irrefragable
osten	admirable
iron	orthodoxy
mountain	Skayer Rack
nothing	zenith
apparent	cleanly
florist	consummate
alias	deaf
been	tortoise
blackguard	conversant
forehead	exemplary
archipelago	deficit
miasma	recess
another	photographer
defalcate	telegrapher
acquiesce	yacht
calm	indisputable
disaster	opponent
municipal	ennui
portrait	encore
fertile	peremptory
disdain	finance
category	medicinal
column	towards
canal	accessory
feminine	despicable
cowardice	sergeant
bouquet	colonel
Portage la Prairie	precedent
mischievous	indict
recipe	paroxysm

A. M. II.

[To these we might add:—

inveigle	inexplicable
harass	mattress
hospitable	fanatic
advertisement	capitalist
esoteric	vagary
Uruguay	hortative
import (substantive)	putative

ED.]

### WORK IN ENGLISH.

IN "Quincy Methods" are given some "Guessing and Thinking Games," and "Conversation Lessons" of a character admirably suitable for arousing the child-mind to vigorous thinking, which should precede the attempts at expression. Their language, fitting and forcible, becomes a matter of easy, pleasurable attainment. In many of the so-called "Language Lessons" I have examined, this vital necessity is too much ignored. *Make the child think, and he will talk; make him think and talk and he will write.*

#### THE TALKING LESSON.

Little folks, what did you see as you came to school this morning?

Did anyone see anything that could fly?

Each one may choose a bird, about which he will tell me. *Each pupil rises, stands erect and speaks distinctly. See how nicely you can do it, says the teacher with a smile full of love for the little souls.*

Herman, what do birds do?

Joe, what do they say?

What do they eat, Mary?

What do they wear, Lizzie?

Who can tell me of what uses they are to us? Answers to this will be poured in, but the teacher must impress the children that a great use is yet to be discovered; the people at home will be brought into use to aid the child in its search for knowledge.

#### THE PICTURE.

What is this boy doing?

What has he in his hand?

Tell us of everything you can see in the picture.

Where was the boy going?

Look at the picture, copy the following, putting the right words in the blanks.

Frank has a little — in his —. Frank found it near a —. In the tree was a —.

#### THE WRITING.

Write answers:

Where did Frank put the bird?

What did the bird do every day?

The children will write:

Frank put the bird in his cage.

The bird sang every day.

Note how these sentences differ. Such exercises will aid in teaching the use of capitals and interrogation points. Now is the time to exercise in comma using also. As busy work, the children will take intense delight in drawing pictures of any bird you may show them, or in making sentences or stories about it. Get large pictures from the illustrated Toy Books, or from Prang's Series.

Before sending the children home, be sure to ask them to watch for birds and report at the exercise to-morrow. Many a little eye will be open to learn from these singers of the grove and hedge; into many a little soul will sink many melodies that through all

time will draw it into those depths of nature where it is an education to breathe, and immortality to live.

#### THE TALKING.

Whom do you see in the picture? Where are they? What are their names? What is Frank seeing? What did you see, Bennie, as you came to school this morning? So with Sammie, Lizzie, etc. Now for enthusiastic outpourings, in good, strong language, of the divine inpourings from nature's hand.

#### THE READING.

After this has been finished, it will be well for all, if the teacher will conclude by telling some bird story adapted to suit, stopping and writing words on the board for the children to pronounce. On the morrow, the children will find all these words elegantly written on the board for use in reproducing the story, both by tongue and pencil.

#### GENERAL LESSON.

The time set apart for general work can be used by talking about the ways of the birds, where they build their nests, when, how, and why they build them? What do they put in them? One day when I was in the woods, says the teacher. I heard a very strange—teacher writes on board, children utter, noise—it seemed as if a great many—teacher writes, children utter, birds, were very much scared and troubled. I looked around and soon saw a great crowd of—teacher writes, children utter—wrens, who were darting at something on a—teacher writes, children utter, tree. I looked closer and saw a large—teacher writes, children utter, snake—that was slowly crawling up to eat the little wrens in the cosy little nest.

Now, children, you would not like it if you were to go home and find *no home*; find that some mighty giant had carried it away to put in his house for his children to play with. So, I think the bird-children would not be very much pleased if you were to bring me their home to-morrow. But I think you can find me some homes they have deserted and are no longer used. It will do no harm to bring me these. How many will we have to look at to-morrow? I wish you to think why they left these homes? Do all birds live in such places? *Let the children do their work and we will be doing our work, teachers.*

The nests and notes of our bird-friends will be the subjects of lesson to-morrow.

#### THE PICTURE.

1. Write five stories about the picture, using one of the following words in each story: birdie, bills, wings, worms, sing.

2. Copy the following sentences, inserting *is* or *are* as is proper:

A mother bird — with her children.

The children — glad to see her.

The teacher will find such a work profitable.

3. Look at the picture; think— Tell me what you have thought.
4. All go to sleep, dream you are birds. Wake up!  
What kind of a bird are you, Charley?  
What did you do?  
Where did you go?  
How did you feel?  
What did you say?

This exercise will prepare for some delightful studies about the kinds of birds, leading the children to begin early in training themselves to draw from nature her life-giving nutriment, and finally to excel in the high art of description.—*The Southwestern Journal of Education.*

## Table Talk.

### THE MATCHMAKER'S EUCLID.

#### INTRODUCTION.

THE art of match-making and eldest-son hunting having been long since reduced to a science by the mammas of fashionable life, it has been thought desirable to embody the same in writing for the benefit of posterity; and in accomplishing this task the method of Euclid has been followed, both as one which will be universally understood, and as showing more clearly than any other the connection between the successive steps of the science.

#### DEFINITIONS.

1. An undesirable partner is one who has no town-house, and whose income has no magnitude.
2. A doubtful partner is a title without wealth.
3. The extremities of a ball-room are the best to flirt in.
4. A bad business is the plain inclination of two young people to one another, who meet together, but are not in the same circle.
5. When one fair maiden "sits on" another fair maiden (for "outrageous flirting") so as to make the adjacent company notice her, each of the listeners will call it jealousy, and the fair maiden who sits on the other fair maiden will be called "too particular" by them.
6. An obtuse angler is one who does not hook an eldest son.
7. An acute angler is one who does hook an eldest son.
8. A term of endearment is the extremity of a flirtation.
9. A blue stocking is a plain figure having one decided line which is called her erudition, and is such that when forming the centre of a circle all young men will be found equally distant from that centre.
10. A figure is that which is compressed by a more or less confined boundary.
11. A good figure is that compressed within an inch of the owner's life.
12. Dull partners are such as, being drawn out ever so well in all directions, do not talk.

#### POSTULATES.

Let it be granted—

1. That an eligible young man may be drawn by skillful management from any one young lady to any other young lady.

2. That an engagement for one dance may be prolonged to any number of dances by a few fibs.

3. That a visiting circle may be extended to any extent from a west-end square, and may be made to include a marquis at any distance from that square.

#### AXIOMS.

1. If your daughter be married to nobody the match is unequal.
2. If your daughter be married to a duke, the match is equal.
3. Elder sons are preferable to younger sons.
4. If wealth be added to younger sons, the two are equal.
5. If wealth be taken from elder sons the two are equal.
6. Two short lines may enclose a proposal.
7. If one young lady meet with too much attention, so as to make the inferior angels on either side of her equal to tear her eyes out; this conduct, if continually repeated, shall at length meet with such reprobation at the hands of the said angels as shall lead one to believe that they are not quite angels.

#### PROPOSITION 1.

##### Problem.

To secure an aristocratic partner by the help of a given (finite) number of charms.

Let a talent for dancing A, and a pair of fine eyes B, be the given finite number of charms. Let D be the aristocratic partner.

It is required to secure D with AB.

Bring B to bear on an old gentleman C, whom you know to be acquainted with D. Tell the decided fib E that you are not engaged for this dance. Then, since the decided fib E is equal to a very broad hint, if the aristocratic partner D pass by at that moment, he will be introduced.

Then with your captive D, and to the tune of the last waltz out, describe the circle of the room, and if at any point of the dance you meet the gentleman G, to whom you are really engaged, consoling himself with a new partner H, let that be the point when the dancers cut one another.

Then since it has been shown that your fine eyes B have had a great effect on the old gentleman C, much greater will be their effect on D: and with your charms AB you will have secured an aristocratic partner D.

Wherefore, etc.

Q. E. F.

—A. M. Heathcote, in *Longman's Magazine*.

## Educational Intelligence.

MR. JOSEPH MCLAIN has secured the Lynn Valley School.

A SUMMER College of Languages is to be opened by Prof. L. A. Stäger, of St. Louis, at the University of Vermont, Burlington, July 12.

MR. WM. MOORE, B.A., of Perth, has been engaged as second assistant in the Smith's Falls High School, in the place of Mr. Ferrier, resigned. The board has no doubt secured a competent man in the above appointment, as Mr. Moore comes highly recommended from places where he has taught before. The high school is in a flourishing condition under its present staff of teachers.—*Smith's Falls Independent*.

## TEACHERS' COURSE OF READING.

We give publication to the following:—

TO THE TEACHERS OF NORTH HASTINGS.

LADIES AND GENTLEMEN:—

The Committee appointed at the last meeting of our Teachers' Association, to arrange a Course of Reading for the teachers of the Inspectorate, have given the matter their careful attention and recommend,

1. That the Course be extended over the term ending with the autumn meeting of the Association in 1887.
2. That the Course consist of the following works, viz.:—Sully's "Psychology," or Hopkins' "Outline Study of Man," Payne's "Lectures on the Science and Art of Education," Parker's "Talks on Teaching," and Buckley's "The Fairy Land of Science."
3. That, as far as possible, the professional books be read in the order given.
4. That teachers who have First or Second Class (professional or non-professional) Certificates read Sully's "Psychology" and that the remainder read Hopkins' "Outline."
5. That teachers be urged to form, for the reading and study of the Course, local Reading Circles, having, at least, monthly meetings.

Arrangements have been made to furnish some of the books at the following reduced rates, which include postage, but not Custom duties: Scully's "Psychology" (an edition specially edited for Reading Circles), \$1; Payne's "Lectures on the Science and Art of Education," 65 cents; Parker's "Talks on Teaching," 85 cents. Orders for these should be sent to one of the undersigned. Hopkins' "Outline Study of Man" (\$1.25), and "The Fairy Land of Science" can be procured through any bookseller.

Teachers who purpose reading the Course are requested to inform the Inspector of their determination at an early date. At the next convention steps will, we hope, be taken to present, at the fall convention of 1886, certificates to all who have completed the Course.

With the hope that few of the teachers of North Hastings will fail to act upon the suggestion made in this circular, we remain,

Your obedient servants,

W. MACKINTOSH.

President, N.H.T.A.

D. MARSHALL,

Secretary, N.H.T.A.

Madoc, April 24th, 1886.

THE following is an extract from the Minutes of the Teachers' Convention held at Peterboro' on 12 ult.: Moved by Dr. Tasse, seconded by Mr. Rooney. That the thanks of the teachers of the town and county of Peterboro' are due, and hereby given to the Hon. G. W. Ross, Minister of Education, for the judgment shown in the selection of Scripture Lessons, to be used in the high and public schools of the country, and that a copy of this resolution be sent for publication to the *Mail*, *Globe*, and to the various educational journals of the Province.—Carried.

K. MARK.

Sec. Teachers' Assoc., Peterboro'.

# Promotion Examinations.

## EAST MIDDLESEX.

APRIL, 1886.

### DRAWING.

1. Draw (a) eight parallel horizontal lines one inch long; and (b) an equilateral triangle with the base to the left, and over it another equilateral triangle with equal base to the right.

2. Dictation drawing:

(a) Draw a square, side one inch; draw its diagonals, trisect them; through the points of trisection draw lines to form a square.

(b) On each outside of the first square draw another square; join the upper right hand angle of the top square with the lower left hand angle of the left square; similarly join all other opposite angles of outside squares; complete each as in the middle square.

3. (a) Print "The Ontario Readers" from the front cover of your reading-book.

(b) Copy the shield and crown on the back cover of your reading-book.

(c) Stand your book, open about two inches, on its end on the floor, with the front cover towards you and make a drawing of it.

4. Draw to a scale of one foot to an inch, a window sash 1½ inches deep on top, on other sides 3 inches deep, containing two panes each 18 in. by 39 in. (No value for this unless drawn to the scale.)

### GEOGRAPHY.

#### THIRD TO FOURTH CLASS.

Limit of Work—Second Class.—Local geography, map of the school grounds. Definitions of the chief divisions of land and water. Talks and stories about animals, plants, people, air, sun, moon, and shape of the earth. Pointing out oceans and continents on the map of the world.

Third Class.—Definitions continued; first accurate knowledge, then the memorizing of the definition. The great countries, large cities, and most prominent physical features on the map of the world. Maps of the County of Middlesex, Ontario, Canada, America. Map drawing. Motions of the earth, seasons, zones.

1. What name is given to the people of this country? What is the name of their language? What (in one word), is their religion?

2. What is the chief occupation of the people of this province? Name four commodities of which they produce more than enough for their own use.

3. Draw a map of the township in which you live, marking any railways that run through it, and locating the villages and towns in it. (If you live in a village or town take the township in which it is situated.)

State the precise boundaries of the township.

4. Show how a person may travel by rail from Chatham to Stratford. As he proceeds tell what counties he travels through, and what towns and cities he passes.

5. Name in order the five counties crossed by a straight line drawn from Sarnia to Hamilton.

6. Draw the main line of the Canada Pacific Railway from Ottawa to the Pacific Ocean. Mark

the provinces, a mountain range, and four cities or towns on that part of the line.

7. State the position and capital of Maine, Florida, Michigan and California.

8. What and where are Montreal, Fundy, Fraser, Panama, Orkney, Gibraltar, Bosphorus, Burmah, Van Diemen's Land, and Kantschatka.

9. Define and applying the definitions give two examples, one on the Western the other on the Eastern Hemisphere: strait, volcano, cape.

### GRAMMAR.

#### THIRD TO FOURTH CLASS.

Limit of Work.—Parts of speech. Inflections. Analysis of simple sentences as far as subject, enlargements of subject, verb, objective complements, adverbial complements. Correction of errors. Definition should always succeed accurate knowledge or the thing defined.

1. What words are understood in the following sentences: (One mark for each word supplied.)

(a) Please lend me your book.

(b) He is not so clever as you.

(c) John likes me better than him.

(d) Kate likes me better than she.

2. Write the following sentence, introducing the changes required: I am teaching Charles to add his sum.

Change (a) the subject into the plural.

(b) the verb into the past tense.

(c) "Charles" into the corresponding feminine form.

(d) "his" to suit the change in (c).

(e) sum into the plural.

3. "Who will help me to learn my spelling lesson?"

(a) What kind of a pronoun is "who"? Give reason.

(b) Is "will help" transitive or intransitive? Why?

(c) Why is "learn" a verb?

(d) What part of speech is "spelling"? Why?

(e) What is the case of "lesson"? Why?

4. Make a table of words in the singular number in one column and the corresponding plurals in another column, using the following words as one of each pair: child, pence, hero, woman, dice, flies, I, he, scarf.

5. "He is too lazy to walk very quickly." Derive the full definition of an adverb from examining its uses in the foregoing sentence.

6. Parse "come back," he cried, "across this stormy water."

7. Analyze:

(a) And fast before her father's men,

Three days we've fled together.

(b) His horsemen hard behind us ride.

(c) Out spoke the hardy Highland wight.

(d) I'm ready.

(e) One lovely arm she stretched for aid.

(f) The loud waves lashed the shore,

Return or aid preventing.

Subject.	Complements	Verb or Simple Predicate.	Objective Complements	Adverbial Complements

(Two marks for correct division of each sentence into noun-part and verb-part, four marks for correct analysis according to the scheme.)

8. Select the correct word from the following pairs and (optional) give the reason for the selection. (Give two marks extra for each reason correctly assigned.)

Both 

she	and George	has	gone
her		have	went

  
to school 

regularly	this winter.
regular	

### ARITHMETIC.

#### THIRD TO FOURTH CLASS.

Limit of Work.—Practical application of the four simple rules continued. Factoring continued. Reduction and the compound rules. Cancellation. Measures and multiples.

(a) How many times must 19 be added to 87 to give ten thousand one hundred?

(b) How many times must 18 be subtracted from fifty-eight hundreds to leave 58 units?

(c) How many times 17 will give the same product as 69 times 289?

2. A grocer mixes 23 lbs. of tea worth 38 cents per lb., 9 lbs worth 45 cents per lb., and 7 lbs. worth 50 cents per lb. What is the mixture worth per lb.?

2. Reduce:

(a) 13 tons, 9 cwt., 48 oz., to lbs.

(b) 3520 yds, 0 ft., 0 in., to miles.

(c) 8694569 weeks to days.

(d) 8 gallons, 96 quarts, 64 pints to gallons.

4. In February a teamster drew 23 cords of gravel all but 4 cubic feet. His gravel box held 1 cubic yard 1 cubic foot; how much did he earn at 55 cents per load?

5. Make a bill of the following items. Use your ruler in drawing the lines needed for the bill:

Mrs. Selwyn bought of R. F. Smith & Co.

Feb. 27—3 lbs. 8 oz. cheese @ 12 cents per lb.  
12 oz. tea @ 64 cents per lb.

Mar. 13—1 lb. 6 oz. coffee @ 32 cents per lb.  
4 doz. and 6 eggs @ 16 per doz.

Apr. 10—2 quarts vinegar @ 60 per gallon.  
22 lbs. bacon @ \$9 per cwt.

Three marks for the correct work of each item put on paper and denominations all written. One mark for correct amount without the work, two marks for correct entry and addition of the items, and five marks for a neat and correct form of bill.

6. Timothy seed per bushel of 48 lbs. is worth \$2.60; how much will it cost to seed a field 40 rods long by 24 rods wide, sowing 24 lbs. to the acre?

7. Bought 2240 lbs. of wheat at \$1.20 per cwt., and sold it at 78 cents per bushel: find the gain.

8. At 46 cents per bushel (60 lbs.) how many lbs. of potatoes will pay for 1840 lbs. of hay at \$9 per ton?

9. At \$8 per thousand find the price of enough lumber for a tight board fence 6 feet high and 10 rods long.

10. Find the lowest number that contains all the following as factors: 6, 15, 70, 220, 231, 275, 8712.

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We will send the Educational Weekly one year and Stormonth's Dictionary (Full Sheep), for \$7.50.

We will send the Educational Weekly one year, and Worcester's Dictionary (Full Sheep), for \$9.50.

We will send the Educational Weekly one year, and Webster's Dictionary (Full Sheep), for \$11.50.

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The Circassian, the first extra steamer from Quebec, will leave May 14th. The Polynesian will be the first mail steamer, and will leave Quebec May 20th.

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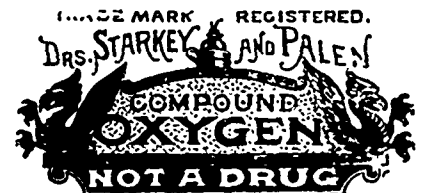
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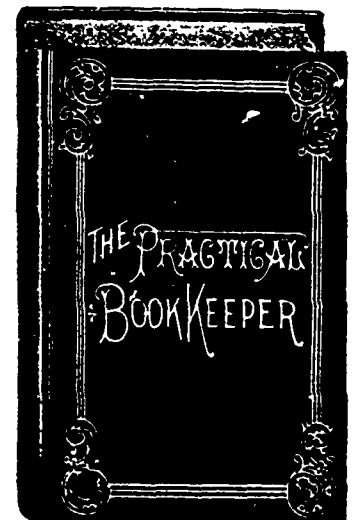


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Springfield, Mass., U. S. A.****IMPORTANT ANNOUNCEMENT.****TEACHERS' EXCURSION**

TO THE

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IN LONDON, ENGLAND, 1886.**

At the request of several School Inspectors and Teachers, DR. MAY, the representative of the EDUCATION DEPARTMENT at the Colonial Exhibition, has applied for Excursion Rates from the principal Ocean Steamship Companies.

The lowest rates offered are from Niagara Falls to London; *via* New York and Glasgow, for \$100, including first-class to New York and return; first-class Ocean Steamship passage from New York to Glasgow and return; and third-class from Glasgow to London and return.

MR. C. F. BELDON, TICKET AGENT, NEW YORK CENTRAL R. R., NIAGARA FALLS, N.Y., will give further particulars as to Tickets, etc.

DR. S. P. MAY, COMMISSIONER of the EDUCATION DEPARTMENT for Ontario, at the Colonial and Indian Exhibition, London, England, will make arrangements on due notice, for Teachers to visit Educational Institutions and other places of interest in London.