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THE CANADA  
EDUCATIONAL MONTHLY  
AND SCHOOL MAGAZINE.

NOVEMBER, 1894.

BRITISH NORTH AMERICA ACT.

BY PETER McEACHREN B.D., TORONTO.

V.—PROVINCIAL CONSTITUTIONS.

*Executive power.*

58. For each Province there shall be an Officer, styled the Lieutenant-Governor, appointed by the Governor-General in Council by Instrument under the Great Seal of Canada.

NOTES :

S. 13 of this Act states that "The Provisions of this Act referring to the *Governor-General in Council*, shall be construed as referring to the Governor-General acting by and with the advice of the Queen's Privy Council for Canada." Hence this office is a part of the patronage of the Dominion Government.

"Under the Great Seal of Canada:" The Great Seal is in the keeping of a Member of the Cabinet. A Lieutenant-Governor cannot, therefore, be appointed without the knowledge of the Cabinet.

*Duties of Lieutenant Governors :*

"The only safe principle that (the Lieutenant-Governor) can adopt for his general guidance, is that pointed out to him by the experience of the working of parliamentary institutions : to give his confidence to his constitutional advisers (Cabinet) while they enjoy the support of the majority of the legislature"—Bourinot.

*Powers of Lieutenant-Governors :*

The Lieutenant Governor "is fully authorized to exercise all the powers lawfully belonging to the sovereign in respect of assembling or proroguing, and of dissolving the legislative assemblies in the provinces"—Todd.

59 A Lieutenant-Governor shall hold Office during the Pleasure of the Governor-General ; but any Lieutenant-Governor appointed after the Commencement of the First Session of the Parliament of Canada shall not be removable within Five Years from his Appointment, except for Cause assigned, which shall be communicated to him in Writing within One Month after the Order for his Removal is made, and shall be communicated by Message to the Senate and to the House of Commons within One Week thereafter if the Parliament is then sitting, and if not then within One Week after the Commencement of the next Session of the Parliament.

NOTES :

Sec. 58 states very clearly that the Governor-General must take the advice of the Cabinet in appointing a Lieutenant-Governor.

Sec. 59 does not expressly state in whom the power of dismissing a Lieutenant-Governor is vested. In

1879, the Home Government instructed the Governor-General to act on the advice of his ministry in the case of Letellier de St. Just who was accordingly dismissed from the Lieutenant-Governorship of Quebec.

The practical publication of the *cause* for removal compels the ministry to assume, with respect to the electorate, full responsibility for the dismissal of a Lieutenant-Governor.

60. The Salaries of the Lieutenant-Governors shall be fixed and provided by the Parliament of Canada.

NOTE:

The salaries of Lieutenant-Governors in Ontario, Quebec and Manitoba are \$10,000; in New Brunswick, Nova Scotia and British Columbia \$9,000; in Prince Edward and the North West Territories, \$7,000 per annum.

The Dominion Government appoints and pays the Lieutenant-Governors.

61. Every Lieutenant-Governor shall, before assuming the Duties of his Office, make and subscribe before the Governor-General or some Person authorized by him, Oaths of Allegiance and Office similar to those taken by the Governor General.

62. The Provisions of this Act referring to the Lieutenant-Governor extend and apply to the Lieutenant-Governor for the Time being of each Province or other the Chief Executive Officer or Administrator for the Time being carrying on the Government of the Province, by whatever Title he is designated.

NOTES:

Sec. 10 of this Act makes a provision in the case of the Governor-General similar to that which Sec. 62 makes with reference to Lieutenant-Governors.

Sec. 67 provides that "The Governor-General in Council may from

Time to Time appoint an Administrator to execute the Office and Functions of Lieutenant-Governor during his Absence, Illness or other Inability."

63. The Executive Council of Ontario and of Quebec shall be composed of such Persons as the Lieutenant-Governor from Time to Time thinks fit, and in the first instance of the following Officers, namely,—the Attorney General, the Secretary and Registrar of the Province, the Treasurer of the Province, the Commissioner of Crown Lands, and the Commissioner of Agriculture and Public Works, with in Quebec, the Speaker of the Legislative Council and the Solicitor General.

NOTES:

The Executive Council of Ontario and Quebec, is the term used in the B. N. A. Act to denote the provincial Cabinets; the name given to the Dominion Cabinet is the Queen's Privy Council for Canada.

Sec. 63 provides that the first Ontario Cabinet should consist of five ministers; the present Cabinet consists of the following eight ministers: Attorney General, Commissioner of Crown Lands, Commissioner of Public Works, Secretary, Treasurer, Minister of Education, Minister of Agriculture and Registrar, and one Minister without a Portfolio. There are also eight ministers in the Cabinet of Quebec.

The expression "as the Lieutenant-Governor from Time to Time thinks fit" is not to be understood to imply that the Lieutenant-Governor is free to make an arbitrary choice of ministers. The Lieutenant-Governor chooses such ministers as can command a majority in the Legislative Assembly.

64. The Constitution of the Executive Authority in each of the

Provinces of Nova Scotia and New Brunswick shall, subject to the Provisions of this Act, continue as it exists at the Union until altered under the Authority of this Act.

NOTES :

The Constitution of Nova Scotia has always been considered "as derived from the terms of the Royal Commissions to Governors and Lieutenant-Governors, and from the instructions accompanying the same, moulded from Time to Time by de-

spatches from Secretaries of State conveying the will of the Sovereign' and by Acts of the Local Legislature assented to by the Crown ; the whole' to some extent, interpreted by uniform usage and custom in the Colony." —Governor Archibald.

Under the French, and for some time after their conquest, Acadia included what is now Nova Scotia and New Brunswick. In 1784, New Brunswick became a separate province, and in 1848 it got Responsible Government.

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WHY I AM OPPOSED TO WOMAN'S SUFFRAGE.

IT has been quite a shock to people who do not know me, but who thought they did, to find me opposed to woman's suffrage. Because I have been for so many years a working woman, and because the profession I chose is, or was at the time I entered it, supposed to be entirely a man's profession, they thought I wanted all the privileges of men. But I don't. You could have counted the women journalists on the fingers of one hand at the time I entered the ranks. Nowadays you could not find fingers enough in a regiment to count them on. There are now certain branches of journalistic work that are almost entirely given over to women, and women not only edit mere departments of daily papers, but there are those who edit the Sunday editions of some of the biggest dailies.

I am a great believer in the mental equality of the sexes, but I deny the physical equality. I believe in putting men's work and women's work of the same kind side by side, and judging them not as a sex work, but simply as work. To have a "Woman's Building" at the World's Fair did not seem to be a compliment to the sex,

but I believe some good reasons were advanced for it. Even some of its staunchest advocates, however, doubt if there will ever be such another building at such another show. I do not believe in sex in literature or art. Every book should be compared with all other books of its kind, and so with every picture, statue or musical composition. There are few trades or professions that I do not think women fairly well equipped for, or capable of being prepared for. I cannot say that I quite like the idea of a woman preacher, but that may be a mere prejudice ; nor do I think I would retain a woman lawyer. But this is neither here nor there.

In politics I do not think that women have any place. The life is too public, too wearing, and too unfitted to the nature of women. It is bad enough for men—so bad, that some of the best of them keep out of it ; and it would be worse for women. Many of the women who are enthusiastic in the cause of suffrage seem to think that if they are once given the power to vote, every vexed question will be settled, every wrong righted. By dropping their ballots in the box

they believe that they can set in motion the machinery of an earthly paradise. I wish I could think so. It is my opinion that it would let loose the wheels of purgatory. If the ballot were the end, that would be one thing, but it is only the beginning. If women vote they must hold office, they must attend primaries, they must sit on juries. We shall have women "heelers" and women "bosses"; there will be the "girls" of the Fourth Ward (when it comes to New York) as well as the "boys."

What will become of home life, I should like to know, if the mother and the father both are at the "primary" or the convention. Who will look after the children? Hired mothers? But can every woman with political ambitions afford to pay for a "resident" or a "visiting" mother? And even if she can, will such a one take the place of a real mother? I think not. Cannot a woman find a sufficiently engrossing "sphere" in the very important work of training her children? If there are any sons among them, she can mould them into good citizens; if there are daughters, she can guide their footsteps along any path they may choose, for all paths but the political are open to them. I do not think that to be a good housewife should be the end and aim of every woman's ambition, but I do think that it should be some part of it; for I am old-fashioned enough to be a pious believer in the influence of a mother's training upon her children. Read the life of any great man and you will see how much of his greatness he owed to his mother. It seems to me it is a bigger feather in a woman's cap—a brighter jewel in her crown—to be the mother of a George Washington than to be a member of Congress from the Thirty-second District.

From the year Adam and Eve were created to the present year of grace,

men and women have been different in all important respects. They were made to fill different roles. It was intended by nature that men work, and that women should share in the disposition and enjoyment of the fruits of their labor. Circumstances alter cases, and women are often—alas! too often—driven out into the world to make their own way. Would they find it any easier if they had the ballot? Do men find it so easy to get work? If they do why are there so many thousands of the clamoring unemployed?

It is said that the laws are unfair to women. Then call the attention of the law-makers to the fact, and see how soon they will be amended. I think that men want to be fair to women, and a petition will work wonders with a congressman. Will women always be fair to women? That is a serious question. They may on some points, but the question of chivalry never comes into consideration between women. It does between men and women, and the latter profit by it.

I speak from experience when I say I don't see how women can cultivate home life and enter the political arena. Circumstances forced me to go out into the world to earn my own bread and a part of that of others. When the mother was living she made the home, and all went well. But after that, after marriages and death, a family of four small children came to me for a home. I don't mean for support, for they had a father living, but for a home. I had to take, as far as possible, the place of my sister, their mother. To do my duty by them and by my work was the most difficult task I ever undertook. I had to go to my office every day and leave them to the care of others. Sometimes the plan worked well, oftener it worked ill—very ill indeed. I had seven people doing, or attempting to

do, what I and two others could have done had I been able to be at home and look after things myself. Suppose that politics had been added to my other cares? Suppose that I had meetings to attend and candidates to elect, perhaps be elected myself? What would have been the result? Even direr disaster! We cannot worship God and mammon; neither can we be politicians and women. It

is against nature, against reason. Give woman everything she wants, but not the ballot. Open every field of learning, every avenue of industry to her, but keep her out of politics. The ballot cannot help her, but it can hurt her. She thinks it a simple piece of paper, but it is a bomb—one that may go off in her own hands, and work a mischief that she little dreams of.—*Harpers' Bazar.*

### ECLECTICISM IN EDUCATION.

**F**UNDAMENTALLY the question is this: Should young men pursue a prescribed course of studies, or should they select from various courses such subjects as their taste, inclination and judgment suggest? The colleges, by their conditions of admission, make the preparatory studies obligatory. The professions of law and medicine do the same for the institutions that prepare their candidates. So, to a large extent, do the churches for the theological seminaries. That is to say, there are definite things that one must study to get into law, medicine or the ministry, though he may go as far beyond these as his talents, time and money, will permit. So there are definite things that the lad must study in order to enter college. He must have learned so much of ancient and modern languages; so much of mathematics, sciences, history, etc. He must not fall below these requirements, though he may have gone very far beyond them. He may have read widely in general literature, or he may have the culture that comes from travel. These are valuable, but they will not be received as a substitute for the required studies in an entrance examination at any college or university.

But when a young man is in college he may choose what he will study. In some institutions he may begin to choose at once; in others, electives are not permitted until the sophomore or the junior year. But the tendency is growing stronger each year to introduce them earlier in the course. Even the smaller colleges are yielding to this pressure; and the prospect at present is that fixed courses of obligatory studies will soon be only a tradition. Is this a revolution in the line of improvement? That it has arisen chiefly from the marvelous advance of recent years in natural science is quite clear. Against this advance classical studies could not hold their pre-eminent place. Room must be made in the college curriculum for many sciences; and naturally along with them, far more of modern languages, and especially of English. Out of this essential readjustment has grown the system of eclecticism. It is said: "The occupations of modern life are largely based on the newly discovered sciences; young men who are to enter these occupations must have the scientific courses in college." The old classical discipline seemed out of place for such young men,

and they were given the option of dropping it.

The present question is not between the classical and the scientific education, but between obligatory and optional studies. The staple arguments for optional studies are two: (1) Let the young men follow their natural aptitudes; and (2) let them study the subjects that will specifically fit them for their life work. Both these arguments proceed upon a fundamentally wrong conception of the purpose and value of a college course. It is not useful primarily for the amount of information secured. This, at the best, is very small. Its value lies in the mental discipline acquired; in the mastery gained over one's powers; in the outlook upon life; in the ideals and ambitions stimulated; in the character formed and solidified. Not one of these ends seems to be best attained by letting the young man follow the lead of his taste. If he is naturally indolent, he will, of course, choose the line of least resistance. If diligent and conscientious, he is still a young man, immature in taste as well as in other things, and far from certain to choose wisely. He will, no doubt, consult his parents and teachers; but few parents are practical educators; and each professor naturally and rightly magnifies his own department. The choice is thus apt to be determined by other considerations than this prime one. What discipline does this young man especially need?

Moreover, the probability is that needs the very thing that his uncultivated taste rejects. What a young-man with weak lungs needs is to stand erect and breathe deeply. But these are just the things that he finds painful and fatiguing, and that he will do only under constraint. So the boy who finds mathematics irksome because he lacks a natural talent in that direction, certainly should not be cut

into a life work where high mathematical attainments is essential; but no more should he be allowed to ignore mathematics in his education. Standing erect and breathing deeply soon come to be a delight; and so does the mastery of the study at first most uncongenial. Again the theory that one is best prepared for his life work by studying only the things that directly bear upon it—that he will use, as the phrases goes—is a total fallacy. He is best prepared by a broad and generous culture. That he should emphasize his special line is probably advantageous. But few boys know upon entering college—many do not know upon leaving it—what their life work will be. And it may be seriously questioned whether their education is not the better for this ignorance. It certainly is the broader. They read more widely. They lay more spacious and secure foundations. If, along with this, they have an eye steadily fixed on a goal, the ideal conditions would seem to be realized.—*Rev. Dr. Teunis S. Hamlin in the New York Independent.*

THE UNITY OF TRUTH.—Those divisions which, for the sake of convenience, we make between one department of learning and another we are too apt to regard as essential and final. They are not stone walls, but curtains temporarily dividing one part of the temple of learning from another. They may serve a useful purpose, but we must not allow them to master us, nor blind us to the great fact of the unity of truth.—*The Globe.*

A TEACHER'S INFLUENCE.—I think that the influence of a good man or a good woman teaching ten or twelve children in a class is an influence in this world and the world to come, which no man can measure, and the responsibility of which no man can calculate.—*John Bright.*

## ARE ARITHMETIC AND GRAMMAR AS WELL TAUGHT NOW AS FORMERLY?\*

BY ARTHUR BROWN, I.P.S., MORRISBURG.

ARE they *well* taught *now*? Let the awkward composition and "bad Grammar" of the papers of Entrance candidates answer. Let the ill-constructed sentences, and faulty syntax, so often to be seen in the applications for situations, not always confined to those of *Third Class Teachers*, and not always excluding an occasional "gem" penned by a University graduate, also make reply. Consult the Examiners of Primary and Junior Leaving Candidates' answer papers, and listen to the admonition given Normal School Examiners not to "pass candidates who show themselves deficient in scholarship." Ask Inspectors what kind of teaching they too often see at their official visits, and enquire of them what story the hundreds of letters they receive tell on this point.

But why select these two branches? Because they constitute the backbone of the Public School course—the subjects most important, whether considered as a basis of mental training or the source of instruction for future use, and a weakness in teaching these involves failure in school work.

Twenty years ago teachers prided themselves upon their knowledge of English Grammar, and their skill in Mathematics, and the measure of their success as teachers was the ability of their older pupils to parse correctly difficult selections, to correct, with reasons, almost any example in false Syntax, and to solve intricate problems in Arithmetic. Whatever may be said of the scholarship of pupils

and teachers in other respects, in *these* branches they were well grounded; within the limits of a narrow course they were well trained.

How is it with the pupils of the Public Schools to-day? Their style of work, as far as neatness and method are concerned, has improved. They have some acquaintance with a larger number of branches, but most of the children have not a real, definite knowledge of any of them. They have a smattering of History and Geography, of Agriculture and Temperance, of Drawing and the Literature of certain lessons, but they are pigmies in arithmetic, and Parsing is a lost art.

How, then, you ask, do so many succeed in passing the Entrance Examinations? They pass on a  $33\frac{1}{3}$  subject percentage, and a 50 per cent. total—a system as destructive of all thoroughness in the important mental-training subjects as can well be conceived of, because it admits of compensation for a low standing in Arithmetic or Grammar, or both, by surplus marks for Reading, Copy-books, Drawing-books, and for the composition of a thirty-line letter that may have been previously drilled upon until it has become a thing of memory.

Is proof of this necessary? Here it is. Summing up the results of the last Entrance Examination at eight centres we find that out of 897 candidates only 336, or about 37 per cent., were successful. Of the whole number 454, or 50 per cent., made less than half in Arithmetic, and 711, or 80 per cent., made less than half in Grammar. These were picked

\* An abstract of a paper read at the last annual meeting of the Provincial Association.



pupils, not from rural schools alone, but from towns and villages as well, and these figures are, probably, fairly representative of the rest of the Province, leaving out the cities. As the total number of the Entrance candidates is about 20 per cent. of the enrolment of pupils in the Fourth Class, the proficiency of the remaining 80 per cent. may be imagined. Would it not be wiser, before substituting the Public School Leaving for the Entrance Examination, to exact a higher standing in the leading subjects of the latter, so as to ensure some thoroughness in old before adding new branches?

On the principle of "like teacher, like pupils," would it be unfair to conclude that the Teachers of these pupils are weak along the same lines?

How many of the successful Primary and Junior Leaving candidates make less than half in Grammar and Arithmetic is, of course, known only to Providence and the Education Department, but judging from the standing of the unsuccessful ones, and from hints dropped by Examiners "in moments of weakness," it is safe to conclude that the showing is not very unlike that of the Entrance.

Let us endeavor to discover the causes of this state of affairs. For the purposes of this inquiry, only the Third Class teachers will be considered, since outside of the cities and towns they constitute about three-fourths of all the teachers. The Primary Examination is a combination and a compromise, an attempt to accomplish by one examination two very different purposes—to test, on the one hand, the scholarship of prospective teachers, and on the other, the fitness of High School pupils for promotion to a higher form. The greater number of students do not propose to become teachers. Their ultimate aim is Law, Medicine, Dentistry, or a Course in Arts, or one at the School

of Science or Agricultural College; and to meet their requirements, Latin, French, German, Physics, and Botany are added to the course of study. It is not *essential* that Third Class teachers should have a knowledge of these, because they have no occasion to teach them, but for the sake of *uniformity*, they must form a part of the teacher's course. The plea is that teachers should know more widely than they teach, that the more liberal their education the better. This is more plausible than real—wide culture is valuable, provided the width be not at the expense of depth, and it is just here that the mode of applying the principle destroys or prevents all good effects. As regards the greater number of the High School students, an average standing in English and Mathematics is all they wish or require, and so again, for the sake of *uniformity*, all are levelled down to the same pernicious  $33\frac{1}{3}$  subject percentage, and 50 per cent. total. As a matter of fact, students pay particular attention to those branches that will be of most importance to them in their future course, and consequently those who propose to follow a profession, easily secure a high standing on the elementary papers set in Latin, French, German, or Physics and Botany. Now each of these is valued for examination purposes at 200 marks, very nearly one-third of the total required for a Primary certificate. It can easily be seen then, that although *all* who pass may not necessarily be weak in Arithmetic and Grammar, it is possible for all to be so, and many are. But this examination opens the gate, so far as literary qualification is concerned, for all students alike to enter the teacher's calling and hence we have the anomaly of teachers better acquainted with the subjects they do not teach than with those they must teach. Judge, for example, what is

the fitness to teach Euclid of a teacher whose course of study covers twenty-six propositions of the First Book of Euclid and who then passes on a  $33\frac{1}{3}$  per cent basis! But this is not the worst. A candidate who has absolutely failed in these important subjects may go in for a Junior Leaving, provided he is not more than 100 marks short of the total. Then, all through his future course, his weakness on these lines is no disadvantage to him, as far as securing authority to teach is concerned.

Let us notice now a few peculiarities in the construction of some of the Examination Papers, and the curious results that may follow. Grammar and Rhetoric constitute one paper, and, under the Regulations, the values are to be as two to one; that is the value of the Grammar part is to be 133 marks, and the Rhetoric 66. At the last Primary Examination there were four questions on the Grammar part of the paper, and three on the Rhetoric, but only two of the latter were to be attempted. The candidate had to secure sixty-six marks for pass, and this he could do by answering the two questions in Rhetoric, and not touching the Grammar at all, or he could answer two questions in Grammar and omit the Rhetoric. The paper on Algebra and Euclid was similarly constructed. The Algebra part contained six questions valued at 133, and the Euclid part three questions valued at sixty-six. The candidate could make his pass by fully answering three questions on the Algebra part and "jumping" the Euclid, or by fully answering the Euclid part and "jumping" the Algebra. This may be denominated, "Passing made easy," since he must be a poor candidate indeed who could not pick out "here a little and there a little," in such papers, and make a pass. This furnishes a significant comment on the plea of "wider culture" for teachers.

To sum up. Under fair conditions, teachers may justly be held accountable for the deficiencies of their pupils. The results of Entrance Examinations show that pupils are deficient in Arithmetic and Grammar, particularly the latter. Therefore the teaching of those subjects must have been poor. The statistics of Primary and Junior Leaving Examinations, and the observations of Examiners and Inspectors lead to the same conclusion. Such a result is what might reasonably be expected from the nature of the examination papers, and the low grade of passing accepted.

What is the remedy? In the first place raise the standard for Entrance—really raise it—not by additional subjects, but by requiring a thorough knowledge of English and Arithmetic within the limits already laid down, so that before entering the High School pupils must be thoroughly grounded in the elementary work, and thus the High Schools relieved from the necessity for doing Public School work. These pupils will then make strong candidates at subsequent examinations.

In the next place, divorce examinations that, by reason of their incompatibility, ought never to have been joined. Make teachers' initial qualifying examination a separate one, and the only gateway to the teacher's calling. Exact from the candidates a thorough acquaintance with the subjects they are required to teach, especially English and Arithmetic. Then if wider attainments be practicable, secure such, but not by lowering the standard on essential subjects. Thus will they have such knowledge as will enable them to profit more fully by their Model School training, and to do better and more efficient work in their own teaching afterwards.

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Virtue and a trade are the best portions for children.—*George Herbert.*

## WHAT IS CRAM?

BY ELLEN E. KENVON.

THE most zealous teachers need to ask themselves this question. There is cram in the Kindergarten, cram in the college, cram in the church, cram in the home, cram in the best as well as in the poorest primary school.

The most pernicious cram of all is that practised on the child at the earliest age—nursery cram. Its exceeding viciousness is due to three facts: (1) It affects human growth at the point of least resistance, thus taking deepest hold of all. A wise old Pope said, "Give me the child until he is five years of age and I care not who takes him afterward." (2) It is practised mainly for the selfish purposes of those who have charge of the children and seek this easiest means of managing them. Forces unethical in nature cannot fail to be unethical in effect when exerted upon the sensitive organism of a child, though the result may not be seen for many years. (3) It deals mainly with lies told the child for temporary purposes, in utter recklessness of the fact that sooner or later he must learn their falsity with something of a shock to his moral growth.

The absorbent nature of the child between cradle and school is ready for all good or all evil. It cannot take directly any great natural laws or moral truth, but it can assimilate thousands of the facts in which those laws and truths are rolled up. To bring it into contact with these facts and leave the rest to the laws of assimilation is the part of the teacher; but the nursemaid leads it away from "the ugly worm" and tells it "a policeman is coming." The fear of the outer world occasioned in early childhood by tales of policemen and

kidnappers exists long afterward as an obstruction of the growth of humanitarian sentiment. The teacher who subsequently tries to awaken a sense of the brotherhood of man has this hidden rock in her way and must do much skilful questioning to find it out. And the bugaboo in the dark corner that frightens the child into silence at bedtime, though it may be unlearned as a fact (and to the child's moral cost), has its evil effect in the nerve tissue, not to be easily, if ever, recovered from.

The management of the Santa Claus myth, beautiful as it is, and taught as much for the children's pleasure as for that of the adults who keep it up, is often such as to cause moral disturbance when it is unlearned as a fact. "Mamma said there was a Santa Claus and now I know there isn't any. I don't believe there's any God, either." This is the just punishment of devout parents who make untrue statements to their children. The bad management of this myth is due to a lack of understanding of the nature of myth in general and of human history.

In primitive days, when mysteries arose, man had to solve them for himself. He had no misleading trusted guardian at hand to give him false explanations. He had no fallen angel to contemn when explanations proved false. If he encouraged bright fictions of his own imagination, only to resign them later with pain, he had none to blame for telling him what was not true.

The Santa Claus myth is of a piece with the special providence idea, which is probably nearly as old as the human imagination itself. The very young child finds what he wants within his reach and accepts it as a wind-

fall. Later, the question, "How did it come there?" arises, and the mystery is deepened by the suggestion from mamma, "I wonder if Santa Claus can have put it there," or the statement from another child, "Santa Claus brought it." The "I wonder" from mamma leaves her non-committed, and does no harm. The confident statement from the child is made in honest belief and does no harm. The romance lives a year and Santa Claus is expected again. He is talked about as a mysterious, semi-earthly personage, of superhuman powers and universal love. Pictures show what he looks like, and his rubicund visage expresses the happiness he gets out of happiness-giving. But there are pictures of Jack Frost, too, and he is only the wind. Santa Claus brings the Christmas tree and Jack Frost the fairy lace upon the window pane. So the children say—and the adults join in the talk and lend themselves to the wonderful tale, but with an air of mystery that at the same time enhances it and leaves them free to accept and countenance any more likely theory they may subsequently offer.

If they are wise, they waive explanations, avoid saying, "Santa Claus is a man and looks like that," and so manage the whole question that the worst charge childhood can ever bring against them will be, "You knew it all the time!" To which reply can be made, "Yes, dear, but it wasn't time for you to know. Mamma wanted you to have your dream out, because it was a pleasant one. You enjoyed it, and so does baby brother. Do not spoil his dream. He will learn in time who old Boreas is, and what the pictures of Father Time with his scythe are meant to represent, and that the moisture is on the window-pane, and Jack Frost is only the cold that turns

it to ice crystals, and that Santa Claus is the happy myth that stands for the love of parents and friends at Christmas time. But it is too soon to teach him these things now. Let him find them out for himself by thinking, as you did, and then he will understand them better."

Thus the question, "Who is Santa Claus?" may introduce the whole noble subject of mythology and acquaint the child, through his own vivid experiences, with those of primitive man, who had a feebler start in thought and less wealth of intelligent suggestion about him, and who, therefore, did not get on so fast. Thus, too, it may lead through higher speculations to the eventful question, "Who is God?" and to loftier conceptions than the concrete images cherished by those crude minds that gave to the Infinite all the limitations of personality,

It would have been cram to tell the child that Santa Claus was a man and came down the chimney. It would have been cram to explain the myth too early. Each day hath its own understanding. Hide not the facts, but leave the understanding to work upon them. The facts are that the gifts are there, and the air is burdened with festivity. Perhaps the jingle of sleigh-bells was heard in the night. Perhaps Santa Claus appeared in a dream. The children say he comes. The grown folks do not seem to know how the presents came unless he brought them. It is a mystery which the child himself is willing to prolong; a problem in which the scientific imagination, seeking realities, consents to be held in check by the romantic imagination, seeking poetic fictions. Let it remain until the understanding acquires strength to gently and lovingly dispose of it.

There is cram in the Kindergarten, the very cradle of the new education.

Is there not, Kindergartners? Do you, in every particular, respect the spontaneity of the child-soul in which your great leader taught you to believe? Do you never hurry the child to conceptions and conclusions which he could not get directly from the facts before him? Do you never mistake dogma for truth, and give him statement in lieu of experience? Do you never abuse your privilege as interpreter, leading the child-mind in the wake of your own, instead of getting behind and following whither it leadeth? Do you never assume that you have final truth in your possession, and give it to the child much as it exists in your own mind? Do you never hasten the development of a faculty by hot-house culture, in dread lest it may not develop in the natural order of growth? Are you in all things consistent in practice with your own beautiful theories?

The uneven development of the primary-school shows the best contrast of cram and teaching offered by any institution where either is prosecuted. There are schools close to the heart of civilization where the alphabet method of teaching reading has never been interrupted, and schools next door to these where Nature's facts and materials are laid before the child in such a way that he teaches himself to observe, to think, to express; to read, to write, and to cipher. In the school-houses of the remotest rural districts the same contrast is to be found.

The proverbial cram of the grammar schools, high schools, and colleges is in great part made unavoidable by the cram perpetrated in the grades below. There is much to be done, and only a definite amount of time to do it in. The children are not prepared to apprehend; they must therefore swallow the hay now and chew the cud after they leave school. If man is a ruminating animal, as some say he is, this ought

to be all right. Results, show, however, that he does not always ruminate.

What is cram? It is an attempt to teach in haste what can be taught only by giving the pupil time to work out his own processes. Sometimes it consists in forcing him up to laboured conceptions and conclusions which are but feeble glimpses to him, and leave no permanent effect upon the mind except that "Jordan am a hard road to trabel." Sometimes it consists in giving a child words to con in utter indifference to whether he gains any of the thought or not. Sometimes it arises from inadequate conceptions of mind development and mechanical notions of education. Sometimes it arises from laziness on the part of the teacher or supervising officer. Sometimes it arises from the necessity, in a graded system, of covering a scheduled course in a scheduled time, with or without due preparation in previous classes. Sometimes it arises from a temptation on the part of an earnest but unpedagogical teacher, to secure to her pupils certain convictions upon which she herself sets great store.

The road leading most directly away from cram lies through the study of evolution. The teacher who is a profound evolutionist most realizes the futility of cram (except for examination purposes); she most fully and firmly believes in the doctrine of self-salvation; she comes nearest to a knowledge of how civilization has come out of barbarism; she knows that child-development follows race-development in its order, though more swiftly through civilization's helps; she is best qualified to recognize the stage of development through which a child is passing, and to meet him upon his own emotional and intellectual plane; she has the best clue to the psychology of his conduct, and therefore to remedial and developing

agents ; she accepts educational law without argument and without elucidation—to her it is axiomatic ; she is likely to be conscientious and devoted, with a steady enthusiasm that does not get in its own way, because her study of mankind's long struggle has made her sympathetic and patient ; she is less of an experimentalist than

her neighbour, because the principles of development are her working property.—*New York School Journal.*

One gift well given is as good as a thousand ; a thousand gifts ill given are hardly better than none.—*Dean Stanley.*

### THE PUNISHMENT OF CHILDREN.\*

Conscientious parents can have no interest in life higher than the well-being of their children. Children furnish an opportunity to do for them what we wish we had done for ourselves. The perplexing problems of life will remain unsolved until we have learned how to educate the future men and women. The home has been called a miniature moral empire, which suggests the idea of order, Order is born of authority and obedience. There can be no order without law, and a law must have a sanction, else it is void. Penalty or punishment suggests suffering. All punishment is painful. But pain and pleasure, however, are the two educators of life. The discipline of the one is negative, that of the other positive. The one attracts to virtue, the other repels from vice. This is not a capricious arrangement of man, but the method of nature. The hands that caress can also hurt, the voice that sings can also rebuke. The little child must know the mother that gives and the mother that denies.

There are those who would make education stand only on one foot. They argue against all punishment. Not authority without freedom, nor freedom without authority, but author-

ity reconciled to freedom should be the aim of education. The instinct of liberty in the child accounts for its resistance to authority ; the instinct of love explains its willingness to obey. We cannot live on equal terms with our children, for, as Perez has said, if we treat them as our equals, they will treat us as their inferiors. There is nothing more humiliating than the spectacle of a parent helpless in the presence of a child. Reliance upon the principle of natural consequences will frequently lead us astray. Will Nature always adjust the effect to the act ? Will the adjustment be always moral ? It is a matter of experience that sometimes the natural consequence of an act comes so late that it is hardly recognized as having any relation to the act which provoked it. Then, again, it comes with such haste and suddenness that it leaves no time for reflection. It ought to be the aim of parents to prevent their children from being thus marred and maimed for life. In fact, this is the mission of the parent—to stand between the child and danger, physical as well as moral. Children are impulsive ; we must counteract this quality by our constancy. They are impatient ; we must be calm. They are fickle ; we must be firm. Children must grapple with the future ; we must make the page of the past clear to them.

\*Extract from a lecture delivered before the Chicago Ethical Society.

In order to be successful in the administration of discipline, two things must be understood; the child and the method of Nature. Every shortcoming in the child should be traced to its beginnings. Why is the child untruthful? Who teaches the child to dissimulate? Nature? There is a difference between the moral and the physical nature of man. We can treat the finger or the eye without very much affecting the entire body. There can be local physical treatment, but no local moral treatment. All moral weakness is organic. Moral education, therefore, must not be limited or local; it must be comprehensive. It must begin with the heart, out of which are the issues of life. What does it mean to punish? It means to direct disobedience to its natural result—pain. The purpose of punishment is to associate in the mind of the child sin with suffering. It is to intensify the hatred of wrong and to provoke repentance. Our aim should not be merely to make the child do right, but to make it love to do right. He who punishes must assume all the dignity and impartiality of an instrument of justice. He must act not from passion but from principle.

The abuse of punishment is more dangerous than the greatest indulgence. At the present day we have outgrown the harsh methods of the past. Corporal punishment is almost entirely excluded from our schools. The arguments in favor of it were ingenious but not convincing. The hurt occasioned by corporal punishment is not to the body but to the mind. It is after all the mind that is struck. But this is not all. In appealing to the mind, we treat the child as a rational creature. This is a claim of the child which we cannot ignore. Corporal punishment is one-sided. Besides, corporal punishment, as Herbert Spencer has shown, is associated with man in the childhood of the

world. It is the savage, who has not patience to reason or explain, who strikes. Corporal punishment can seldom be administered without passion. When we show excitement we give signs of weakness. Then the young boy or girl becomes conscious of a power over us. This is a temptation to youth. The danger of corporal punishment, therefore, is that we can seldom administer it without losing our head. On the other hand, we cannot appeal to the reason without becoming ourselves more reasonable. The punishment must never tempt the child to doubt the dignity of its own nature. All the virtues are born of honor.

Besides corporal punishment, there are other punishments which are not justifiable. To shut up a child in a dark room is to spur its imagination into wild fancies. Darkness is a bad companion. It will contract and terrify the child. Denying children the necessary amount of sleep or food, exposing them to the inclemency of the weather, withholding from them for too long a time the tokens of affection, treating them as strangers, or as enemies, or ignoring them altogether—these are measures which do more harm than good. Punishment should be of such a nature that, if necessary, the parents can share it with the children. The child must know that it cannot suffer alone, physically, much less morally. Its suffering brings suffering to others. This is the lesson which will develop the social element in the child. In the second place, we must correct the faults of the child by its virtues; that is to say, the strong qualities of the mind must spur the weak faculties into play. If a child is physically strong but morally weak, let the parent hold up to view the two sides of its nature, until the physically strong child shall be ashamed of its moral cowardice. Let the child look into the mirror and see first

the robust, healthy, powerfully-built frame; let it look again into the mirror and see the small, selfish soul. To make the higher nature shrink from the lower nature and feel uncomfortable in its presence—to make the discipline self administrative, the fault self-corrective—this is the economic principle in education. Hence not

only the duty, but also the beauty of obedience.—*M. M. Mangasarian, in the International Journal of Ethics, Philadelphia.*

Health is the greatest of all possessions, and 'tis a maxim with me that a hale cobbler is a better man than a sick king.—*Bickerstaff.*

### THE EVIL ASPECTS OF KNOWLEDGE.

THE recent progress of Anarchism must be a heavy blow to those who believe that knowledge is necessarily beneficent, that "to know all is to pardon all," knowledge by itself being the original source of mercy. In Anarchism we have scientific knowledge based upon facts and experience, working pure evil. The new explosion of criminality could not have occurred without a wide diffusion of chemical knowledge. Social hatred might have grown, of course, as it has grown, and the belief that capital is an inherently evil power; but those who felt the hatred and entertained the conviction could have done little to attack society. They could have killed individuals, and perhaps fired buildings; but there are defences against assassination, and buildings, especially in France, are slow to burn. Assassins, too, can be easily traced, while fire-raising can almost be baffled by ably organized fire-brigades, and by a flexible system of fire insurance. To make Anarchists formidable, and therefore, in fact, to produce Anarchists, it was necessary to find a means of scattering death among whole classes, and from a distance—invisible death, as it were, such as the Greek poets attributed the power of shooting-out to the gods—and this means has been supplied by science, which in this instance has

proved itself the pitiless foe, as it has so often been the beneficent friend of humanity.

If the spirit of Anarchism spreads, and the recipes for making safe bombs become a little more widely known, we may yet be able to set the discovery of high explosives against the discovery of chloroform, and to doubt whether scientific research does, on the whole, more evil or more good. In truth it does neither, knowledge being neither more nor less than a force which produces good or evil according to the character—which is not material—of the man who possesses it. The modern notion that knowledge has in itself something divine, is as false as the ancient notion that it has in itself something diabolic. You can rob by the aid of chloroform as well as relieve pain. There are whole branches of knowledge the diffusion of which would almost certainly produce pure evil. Household murder, for instance, would be far more common if all men and women knew what a few physicians know about the really dangerous poisons—were aware, for instance, that there is a drug procurable in almost every field which simulates the effect of one common variety of heart disease, the suspension of vitality through anæmia. And suicide, which, whether it is a crime or not, is certainly a great evil, would



be multiplied tenfold, if everyone knew how it is possible to terminate life instantaneously and painlessly through means which no law against poisons will ever touch, and which can be obtained in every street. There are no means in existence of keeping such facts, when once generally known, from the knowledge of the bad, and it is they, and not the good, who will want to use them.

The world indeed, may one day, and at no very distant period, have awful evidence of the truth of the theory that knowledge is only a weapon, neither bad nor good. It is most probable, it is nearly certain, that means of destroying life on a vast scale, either by the multiplication of existing forces—the Maxim-gun carried to the *n*th power—or by the use of asphyxiating shells, or as half-a-dozen novelists have already suggest-

ed, by explosives directed from aerial machines, will be discovered and eagerly utilized by the able men who in every country are striving to “improve” material of war. No possible precaution would keep such processes secret for long, and they may fall into the hands of the Chinese, of the Arabs, or of the Anarchists, with, as result, either the subjugation of the world, of its partial depopulation. It would be an awful illustration of that irony or fate which sometimes seems to preside over the destinies of men, if science killed civilization: but that is by no means one of the impossible occurrences. True, the good would be armed as well as the bad; but are the good the more numerous—say, in Asia—or would the good remain good if they were forced in self defence, to use continuously such awful means of slaughter?—*London Spectator*.

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#### DR. DALE ON “RESPECT OF PERSONS.”

**C**ONTINUING his exposition of the Epistle of James, at Carr’s Lane chapel, last Sunday morning, Dr. Dale took for text verses 1-13 of the second chapter of that epistle. He said that James, in condemning those who treated the rich with consideration because of their wealth, and the poor with contempt because of their poverty, was thinking of the spirit and habit of mind which such conduct revealed. The apostle’s protest was as much needed, he supposed, in England to-day as it was among the Christian Jews in Asia eighteen hundred years ago. M. de Tocqueville had once pointed out that to attach undue importance to wealth was one of the great perils of democratic communities. That was true. Let us be reasonable, however, Dr. Dale continued; to treat material

wealth with indifference and as though it were worthless is sheer intellectual imbecility. It is to disregard the immense difference between barbarism and civilization. Wealth has its place, but it is so great a place that, where the estimate of its worth is not controlled by Christian faith, it turns men aside—whether rich or poor—in their conception of human blessedness. The law that we find in the book of Leviticus, “In righteousness shalt thou judge thy neighbor,” is exactly what is wanted here. Strip off the mask, whether of wealth or of poverty; judge men and treat men for what they are. To show respect for age, for official position, for authority, for intellectual power and distinction, for character—this is a Christian duty which could be illustrated much more widely. But we owe reverence

to every man, for every man was created in the image of God and shared the nature which was assumed by Christ the Lord of glory.

"The rank is but the guinea stamp,  
A man's a man for a' that."

Yet there are real differences between men, and these, too, should be recognized. To do honor to a man simply because he is rich, no matter how he got or how he spends his wealth—this is a crime. And if to this is added contempt of the poor, though their poverty may be glorified by patience, industry, contentment, the crime becomes still more flagrant, "Thou shalt love thy neighbor as thyself." That is what James calls the "royal law"; how happy he is in his epithets. If we love our neighbor as ourselves, there is nothing servile in our relation to him. We are princes while we do him justice. Nor are we content to do him justice merely; our affection leads us to do for him more than mere justice would demand. There is nothing mean or niggardly in our treatment of him. The law is a "royal law." James says that the law is transgressed if we have "respect of persons"; and, although we keep the law in every other respect, if we commit this offence he says we are guilty of all. He means that to break the law in any one of its requirements is to disregard and disobey the authority by which the law is given and sanctioned. This is a principle which I fear many of us fail to remember. Is it not true that some of us regard ourselves with complacency because we are free from the sins of which some of our neighbors are guilty, and forget that if we are guilty of other sins we are as truly guilty as our neighbor is?

Human life is surrounded by a hedge of divine commandments; one breaks through at one point, another at another; but, wherever we break

through, we are transgressors. What, then, is the conclusion of the whole matter? "So speak ye, and so do, as men that are to be judged by a law of liberty." A law of liberty. That law is not a law which, like all human legislation, defines in precise terms the acts and the words which it forbids—it is a law which demands and inspires the free consent of the heart. It is less concerned about forbidding sins than about requiring the virtues which make the sins impossible. This is the law by which we shall be judged. James warns us that "judgment is without mercy to him that showeth no mercy." Have we loved men? have we been merciful to them! If we have we shall be without fear, or, if conscious of fear in the majesty of God, our hearts do tremble at the judgement, his goodness will reassure us.—*British Weekly*.

MANNERS.—In England "manners is extra," as the old dame school advertisement used to run. Here manners are not taught in the schools at all, nor are the teachers for the most part capable of teaching them. Manners cannot be put in books; they must be acquired at home or at school from cultured forerunners, whose own manners are good, and who are, moreover, somewhat insistent on having those who follow them well-mannered also. The best manners are usually inherited. Yet there are remarkable exceptions, where very perfect gentlemen come at least of very humble immediate extraction, whatever their remoter ancestry may have been. Good surroundings in the formative years are the most important factor in the making of the best manners, as well as of the best speech. At present our manners are growing worse; our schoolboys, and recent school boys, are in many cases intolerable, not because they are bad, but because they know nothing of good manners.—*The Montreal Witness*.

## APPERCEPTION.

BY THEODORE B. NOSS, PH.D., GERMANY.

Herbart calls ethics and psychology the two auxiliary sciences of pedagogy. The first shows the end of education, namely, character; the second shows the means and hindrances.

Herbart left the beaten track in psychology. The old theory of distinct faculties, such as memory, imagination, understanding, etc., he considered erroneous and objectionable. Consciousness is a unit. The mind is not a group of powers working side by side, but a single force manifesting itself in many ways. Mental life is a succession of states of consciousness. These are called ideas; they vary in strength. Herbart endeavored to apply mathematical principles to the relations of ideas to each other. This attempt cannot be regarded as successful in itself, and yet it opened the way for those vast labors in psychological measurements which have given us the new science of physiological psychology.

Herbart's chief service in psychology, at least so far as pedagogy is concerned, lies in the prominence which he gives to apperception in mental growth. This mental activity is *pivotal* in his whole system of instruction. Apperception is to the mental health and growth what digestion is to the body. It is in either case only what is assimilated that makes strength. Dead, unrelated knowledge in the memory serves no good purpose.

Apperception, then, is the controlling principle with Herbart. It dictates what subjects shall be studied by the pupil and in what order, also in what order the parts of each subject shall follow each other. It decides how the various studies shall be connected with each other in instruction,

and finally the method the teacher must follow in presenting the lesson matter.

Apperception is an active appropriation of knowledge, as distinguished from a mere passive reception of it. The new elements are worked over and rightly understood by means of the related ideas already in the mind. One sees, hears, reads, etc., with the ideas he possesses. No two persons get the same results from reading the same book, hearing the same lecture, or visiting the same city. Each one sees only what he is prepared to see. Hence, in any act of learning, there must be not only something to be apperceived, but also a means or power to apperceive. In short, the teacher's instruction must connect firmly with the pupil's existing knowledge, or it is useless.

Herbart's doctrine of apperception involves his doctrine of *interest*, on which he lays great stress. "Interest is the light with which Herbart once for all brought the clearness of day into the dark and labyrinthine mazes of instruction." Continued interest cannot exist without apperception. Interest is an indispensable condition to profitable instruction. That work which is long continued without it wears out mind and body. We have thermometers to measure the temperature of the schoolroom; pity it is that we have not a more exact means of finding the temperature of a child's interests. Voluntary attention, which the pupil can only give with effort, should not satisfy the teacher, if he can by means of interest convert it into involuntary attention. Let the teacher who would truly succeed keep his eye on the pupils' interest, and let not a single day be lost by teaching

without it. And yet this interest must not be artificially produced; it must root itself in the subjects studied. The demand Herbart makes for interest as a requisite to apperception may seem severe, but it is easier, after all, to create interest in the pupil than to do much for him without it. Nearly all difficulties in instruction seemed to Herbart surmountable by skill, patience and effort.

**CHOICE AND SUCCESSION OF SUBJECT-MATTER.**—The chief aim of education is not to impart knowledge, but to develop power. The selection of the matter of instruction and its arrangement must be determined by the subjective needs of the pupil, rather than by the supposed objective value of the knowledge. "Only that should be subject-matter of instruction which is able to awaken and chain the interest of scholars." If subjects are properly chosen, arranged and taught, "interest will arise spontaneously, continue through school life, and inspire as a vital power in after life."

Herbart assigns a leading place in

the course of study to literature, or rather history-literature. It was a favorite idea with him, as it was with Goethe, Pestalozzi, and others, that each individual's life must pass through epochs analogous to those through which the life of the race has passed. The literature that comes nearest to the child's circle of thought, and is at the same time best adapted to form his mind, is that which arose in the childhood of nations, such as the stories from Homer, especially in the *Odyssey*. The disciples of Herbart in Germany to-day generally use "Grimm's Tales" in the first school year, "Robinson Crusoe" in the second, "Old Testament Patriarchs" in the third, the Judges and Kings in the fourth, Life of Christ in the fifth and sixth, Apostle Paul in the seventh, and Luther in the eighth. Herbart would follow the development of human history in the study of literature, and would connect the other branches of instruction as far as possible with this.—*The Journal of Education*.

## A WATCH SCHOOL.

**I**N Geneva, Switzerland, there is a most interesting school, unlike any which exists anywhere else in the world. It is known as L'Ecole Municipale d'Horlogerie. As you know the most reliable watch and most valuable watch is known as the Swiss watch. It is not surprising that the Swiss watch should be the best watch in the world, for the Swiss have been making watches for fifteen hundred years. The boys enter this school when about fourteen years of age, and pay five francs a month for their instruction, if they are natives, and a little more if they are foreigners. They also pay for all the material they

use in this school. It takes five years to complete the course, and at the end of it the boy has made and owns twelve watches. What his certificate shall be depends on the exactness of his watches, which are placed in the observatory and due note made of any variation produced by change of temperature or change of position. If the watches stand the necessary test, a certificate is given to the maker and owner. When the boy enters the first class of this school, he begins by making the utensils required in the manufacture of a watch, even the wooden handles. His next step is the making of a model of a watch in

wood ; five or six months are passed in this class, ten hours each day, but part of the time—about seven hours a week—is given to the study of drawing, the elements of physics, mathematics, mechanical science, and chemistry.

There are different classes of these studies in this school ; the boys are required to attend all. In the second class the students make the inside cases for chronometers, watches and repeaters. The cage, or inner case, and some of the wheels are made of a metal which is a mixture of copper and zinc, while some of the wheels and screws are made of steel. In this grade the student is required to make twelve lever-escapement cases, one cylinder escapement case, and one case for a watch that strikes the hour, half, and quarter hour. There are twenty-one small pieces to be made by hand for the inside case of every ordinary watch, and thirty pieces for a repeater. The mechanism for winding a watch is made in the third class. In the fourth class the different parts of the chronograph are learned. In addition, the pupil makes the different pieces for watches that strike the hour and the calendar watches that denote the days and months, year and change of moon. In the fifth class eight months' work is required, and is devoted to making the wheels and screws which move and regulate the hands of the timepiece. In this grade also the pupil makes the micrometer, for measuring the least possible thickness of wheels and screws.

Mathematics performs a large part in the making of the watch. If the

pupil is given the positions on the inner case of the watch he must determine the exact diameter of the wheels and screws. In the sixth class the pupils are taught to make the lever and cylinder escapements, and, as there are ten pieces in each lever escapement, and three rubies, which the pupils also polish and shape with rough stone, the work must be exact and delicate. It may startle you to know that the wheels of a lever pass nine thousand times over the ruby in an hour. In this grade the pupil must remain thirteen months. In the last grade, where he is required to spend a year, he verifies all the calculations made in the other classes by putting together the different parts to make a watch. Hands, dial, and mainspring are made by special factories. The hair-springs for watches are nearly all made by women. After a watch is completed it is submitted to a certain test—degrees of heat and then of cold : and the exactness with which it keeps time when exposed to these variations decides the grade of certificate which the pupil, who is now nineteen years old, will receive. Many parts of the watch are ordinarily made by machine, and are finished and put together by hand ; but the real master of the art of watch-making learns first to make all parts of the watch by hand. In addition, this institution has a mechanical department in which three years' study and work are required to pass a satisfactory examination.—*Christian Union.*

#### PRACTICAL ETHICS.

THE Theory of Morals has the closest possible relation to the Conduct of Life, and the discovery of a speculative ground of action, or a theoretic ideal of duty, has no relev-

ancy or meaning apart from its realization by the individual and by society. If our aim in the Philosophy of Ethics be the discovery of a true theory of practice, our main endeavor—after we

have found it—should be the practice of the theory. It need hardly be said that to act wisely in this world action must be the result of insight, and that insight must be wide, varied and through; but there are various kinds of insight, and that which leads to inaction, or sits apart, “holding no form of creed, but contemplating all,” may entail a greater loss than gain to the individual and to the world. Every phase of practical virtue has the closest point of contact with every other, man being a moral unity. In arranging these practical virtues, I follow no systematic order; but if we may roughly divide them, first into duties toward self, or duties connected with the estimate of self and the regulation of the personal character, and, secondly, into duties toward others or the estimate of others, then the first five will belong to the former class and the remaining three to the latter.

The *first* in the list is that great and radical virtue of having a root in one's self. The individual is something more than a mere link in the chain of Nature; in virtue of his personality and personal identity, each man is a center, or focus, at which the scattered rays of moral relationship to others meet. The practical out come of this is a certain self-sufficiency which, when true and genuine, does not lead to pride in any of its phases, but only to self-reliance; not self-satisfaction but self-command, not self-elation but self-control, not self-gratification but self-superintendence. The *second* in the list may seem far removed from the first, but it is in reality very closely and akin to it. It is that of openness to all influence that is elevating, invigorating and healthful. It is that directness of soul that is free from prejudice, twist or bias. Some persons always have their shibboleth, whether of orthodoxy—of what alone it is right to believe—or of good manners—of

what it is the correct social form to do; or it may be a political shibboleth—of what alone can lead a nation to prosperity, or of what is certainly leading it to destruction—and they test everything by their shibboleth, so that they never grow any wiser, but worship their fetich till they die. The *third* virtue is that of an earnest purpose in life, the sense of having a serious function to fulfil and a duty to discharge in this world.

The *fourth* is the effort to attain to some kind of unity or harmony in our personal life. By this is not meant an effort to reach ideal completeness but such a practical harmony that, amid the diverse aims and interests which may be properly ours, we do not feel the sense of discord arising within us. Perhaps there is no better safeguard than that which this virtue affords in preventing men from indulging in any one thing, or in any kind of effort, to excess. Another result of the endeavor to reach unity and harmony, both among one's convictions and aims, is this: that it checks partisanship of every kind. Almost every one who enters on a practical pursuit with any ardor, enters it of necessity as a partisan. He therefore overmagnifies it, and sometimes comes to look on his particular line of effort as the very noblest in the world. It is a natural illusion, and it often does undoubted good, by giving energy and enthusiasm in work; but it leads to corresponding evils—e.g., the evils of coterieism, or sectarian views of life—to class prejudices and the feelings of caste. We now reach a [*fifth*] virtue which seems to need special emphasis laid upon it in the nineteenth century. It is that of reverence, and of a reverential habit of mind. By this is not meant the practice of any act of religious observance. Such acts belong to another province than the ethical. What is now referred to is the characteristic of “high seriousness,” to which

Mathew Arnold referred as a distinctive feature in all the great literary work as well as an integral element in all noble character. The fundamental error in sectarian socialism, viz., that every man is as good as every other man, and that all have therefore an equal right to everything—which is as untrue in ethics, sociology and politics, as it is contradicted by all historic experience—seems to be lessening the reverence of our age, both for the great men of the past and for the institutions of our ancestors. The old habit of reverence (of unselfish delight in what is above us, unenvious admiration for what is greater than ourselves, the willingness to defer to the teachings of experience, and to be led by the wisdom of age) is either far less common than it used to be, or it is assuming very strange and unfamiliar phases.

From the preceding five virtues—which are more especially individual—I pass to others which are social. Among them, as number *six* in the list, may be set down the habit of generous construction, or a chivalrous estimate of other people. It is surely a clear practical duty never to put an evil or sinister construction upon the deed of another person, until we have it proved to demonstration that the act *was* evil or sinister; and, even then, it should rather be accompanied by sympathetic sorrow for the offender, than by strong dislike or personal aversion. This virtue is radically akin to that which was placed second in the former list, viz., that of openness or candor of soul, and this will illustrate the unity of the virtues. There are some persons, however, so painfully self-engrossed “in narrowest working shut” that they cannot see—or can with the utmost difficulty see—that the good which is being achieved by others is quite as important to the world as anything which they themselves are doing. Few things are

more helpful to human progress than the ungrudged recognition of the merit and work of other people—a cordial and genial delight in their achievements. Closely allied to the foregoing virtue comes [*seventh*] that of friendship in its highest and purest forms—friendship developed into the habit of universal friendliness, and the constant effort to help other people. Many recognize this after a fashion, as it is one of the strongest social bonds; but the love of personal ease makes them shrink from the active offices of friendship, which demand constant sacrifice and self-surrender if thereby others can be helped. Nay, some friendship is at its root thoroughly selfish. There are those who wish to keep their friends to themselves. They are jealous lest they will lose something if their friends get into a still closer relationship with other people. In connection with this virtue another [*eighth*] may be noted, which grows up under its shadow, so to speak, and flourishes alongside of it. It is that of indifference as to how one is treated *by* others in the course of this devotion to their interests—indifference to dislike or even misrepresentation. The superiority which this virtue gives to one who practices it is marvelous. It creates an inner serenity of spirit. If one has large practical aims and ideals, if he is bent on adding something to the stock of human good that is in the world, what has he to do with taking umbrage or offense at the actions of other people? He has no time to think of these things, and is degraded by dwelling upon them.

Let your primary aim be *to find out the good* that is in others around you, to put yourselves in to lines of sympathy with them, and to serve them by eliciting that good still further; for, until you do so you cannot know how rich and wonderful a thing this Human Nature of ours is, which in its

broken lineaments can mirror a Nature higher than itself, and in a finite way ever reflects the Infinite—*William Knijht, addressed to the students of St. Andrews University, printed by the Internation Journal of Ethics, Philadelphia, July.*

Never yet  
Share of truth was vainly set  
In the world's wide fallow ;

After hands shall sow the seed,  
After hands from hill and mead  
Reap the harvest yellow.—*Whittier.*

If there is anything that keeps the  
mind  
Open to angel-visits and repels  
The ministry of ill, 'tis human love!  
God has made nothing worthy of  
contempt.—*N. P. Willis.*

### NOTES FOR TEACHERS.

LIMITATIONS IN ART.—A work must produce a distinct emotion—that is, must agreeably disturb the senses, not merely surprise and please the intellect. And here the limitation of several of our greatest painters, living and dead, is perceived. The extremists of this school, were they consistent, would place the eye in a pillory. Having determined the central point of vision it becomes necessary to rigorously subdue the will so that the eye should see no more in painting the picture than the optic nerves would permit to be registered while the eye remained on the central spot. Pushed to its legitimate conclusion, the painter should only paint what he saw during the time he was able to keep his eye religiously pilloried, for closing and even blinking the eyes must result in a loss of one impression, and the gain of another. But the effort to keep the gaze at sentinel for a period sufficiently long to give time to paint the picture must inevitably result in the loss of the power of visual appreciation. In this is seen the absurdity of trying to push an abstraction to extremities. Impressionistic art is simply art; there is no art that is not impressionistic, in the larger meaning of the word. The decorators and

the romanticists are impressionists, and so even are the naturalists. But the naturalistic creed pushed to its extremity supplies fully as many absurdities as the foregoing. A naturalist in painting a certain out-of-door effect very properly confines his painting hours to the time which is co-extensive with that in which he conceived his *motif*. But if he were stupid about this he would be driven to the same *impasse* as the impressionist, compelled to paint his picture then and there. Considering that his method demands amplification of detail, the obvious absurdity of his position is apparent.

It comes to this, then, that in painting, creeds are nothing; the result is conclusive. Every method, every school demands of its adherents and members compromises and sacrifices. Thus amplification of detail entails some loss of spontaneity of effect. Absolute truth of impression cannot go hand in hand with the complete realization of the æsthetic possibilities of an object. But the picture need be none the less beautiful for that. As I have already hinted, the temperament of the painter—his limitations as much as his endowments—lead him to his choice of method. Therefore, it is the purest



arrogance for any school of painters, or closely banded clique of critics, to vapor about "soundness" in painting or in appreciation. Soundness lies in that kind of catholicity which can see the beauty of a fine work of art—an appreciation which is wholly outside the allegiance of its creator to any set of ideas or to any school. All the greatest painters have been supremely indifferent, so far as their own work went—though, of course, not in the matter of sympathy—to their forerunners and contemporaries, to their followers and copyists.

It seems that the first great quality for a picture to possess is that of design; it must be a fine pattern both as to form and as to color. It is a popular error to imagine that design and pattern are only possible in the case of pictures of an avowedly symbolic, decorative or legendary character. So keen a thinker and writer as Mr. Walter Crane has strangely enough been betrayed into this view. No doubt Mr. Crane would be right in excluding landscape art from this high dignity, if he judge that art by the works of ninety-nine to a hundred landscape painters. It is some

years now since I first ventured to claim for landscape that it was the highest form of the painter's art. Properly considered, it makes the greatest demand upon the imagination and the designing power of the artist. The highest landscape art is as decorative, in the true sense of the word, as the most elaborate and admirably balanced pattern. Indeed, it is a pattern, and one of the most excellent perfection, in that it is enriched by all those aids of suggestion, allegory and literary significance which are the groundwork of decorative art. A really fine landscape is as much the result of arrangement and adaptation, of the balancing of forms and the juxtaposing of colors, the accentuation or attenuation of objects which have a direct story to tell, of, in short, careful and conscientious selection and comparison, as any avowedly decorative, design or pattern.—*F. Staley Little, in the Artist.*

Let it be remembered that he who has money to spare has it always in his power to benefit others; and of such power a good man must always be desirous.—*Dr. Johnson.*

## PUBLIC OPINION.

OLIVER WENDELL HOLMES — America has lost her best-beloved writer. There have been greater writers than Dr. Oliver Wendell Holmes; there has been none who appealed so directly and effectively to the hearts of the American people. He had the qualities which are most engaging in an author—wit, humor, grace, fancy, common-sense, and, above all, geniality.

Dr. Holmes's supreme merit as an author is the admirable and unflin-

ing tact with which he observes the golden mean. He wrote less as a philosopher or poet or professional story-teller than as a man of the world, amusing himself with current foibles. He avoided extremes as he would a plague. He laughed gently at transcendentalists on one hand, and the prosaically practical on the other. He was equally successful in avoiding the commonplace and the eccentric. Shrewd, affable, and tolerant, he never made the mistake of pushing things too far. He was, in-

deed, the cheeriest of practical philosophers.—*The Publishers Circular.*

MR. BESANT ON THE LORDS.—The House of Lords, if all were to attend, would contain about 600, mostly elderly, gentlemen of blameless private record; very much interested in agricultural matters; containing a fair number of scholars, some men of science, a good many lawyers of the greatest eminence, and of divines the best that we can show. As a rule, about twenty peers assemble every day; their speeches are for the most part, admirable in tone and temper; they get through their business with despatch. There are certain young Lords, it is true, who “carry on”—how many are they? What proportion do they represent out of the whole? To begin with, very few Lords inherit their titles in early manhood. But some of the eldest sons—those who are heirs—lead the life deplorable. Perhaps, how many out of all? *The Critic* speaks about “incompetent millionaires,”

“their foolishness and their sensuality.” Here are a few names of peers recently deceased. It would be difficult to find men to beat them among the Commons. The Duke of Devonshire, who began with the best degree a man can take at Cambridge; Lord Shaftesbury; Lord Derby, both the last and the last but one; Lord Lytton; Lord Granville; Lord Russell; Lord Iddlesleigh; Lord Carnarvon; Lord Cairns; Lord Ossington; Lord Ampt-hill; Lord Brougham—why, there are dozens of dead peers who have done great service to the country in the last generation; while there are dozens of living peers who are actually doing good service in their own—this—generation. Against them we have to set the names of half a dozen young fellows of disreputable life. All this, of course, has nothing to do with the question of continuing or abolishing the House of Lords, which is certainly an arguable point. Only, if the House is to be attacked with any effect, it must be on grounds which are true and not to be denied.—*The Queen.*

## GEOGRAPHY.

THE METHOD BY WHICH A DEPTH OF FIVE MILES IS REACHED.—A ship regularly engaged in deep-sea sounding has the sounding machine mounted at the after-end, and when about to sound is brought to a standstill, with the stern to the sea. The stray line, with the sounding-rod and sinker attached, is passed over the guide pulley and carefully lowered to the water's edge, the register is set to zero, and the deep-sea thermometer is clamped to the sounding line; a seaman is stationed at the friction line, which controls the velocity with which the wire is unreeled, another at the brake, and a third on

the grating outside to handle the sinker and instruments, and to guide the wire as it passes overboard; a machinist is at the hoisting engine, and the recorder takes a position for reading the register. When the sinker is let go the vessel is manœuvred so as to keep the wire vertical, and the friction line is adjusted so as to allow it to descend from seventy to one hundred fathoms per minute.

The instant the sinker strikes the bottom, which is unmistakably indicated by the sudden release of the wire from strain, the reel is stopped by the friction line and brake; the record-

er notes the number of turns of the reel. In an hour this messenger of man's ingenuity makes its excursion through five miles of watery waste to the abysmal regions of perfect repose, and brings to the light of day the soil with which the rain of shells of minute infusorial organism from the upper waters has been for ages mantling the ocean's floor. Here and there a giant peak rising from these sunless depths lifts his head to see the sky, and the dredge and trawl tell us that along his rugged sides, and on the hills and plains below and even in the inky blackness and the freezing cold of the deepest valleys there is life.—*Detroit Free Press.*

THE SAULT STE. MARIE CANAL.—As triumphs of engineering skill, the lock and the canal are superior to anything of the kind in the world. But in addition to their substantial magnificence of construction, they give us an all-Canadian waterway to Lake Superior, and provide an avenue of traffic to the great North-West the value of which can be judged of only by those who are familiar with the shipping trade of the great lakes.

GOHMA LAKE.—High up in the Himalayas there is a gorge whose steep sides are 4,000 feet high, and through this gorge runs one of the tributaries of the Ganges. Last September one of the sides of the gorge slipped down and made a natural dam 900 feet high across the course of the stream. The result was that a lake was formed three miles long and 500 feet deep. Since that time the water has risen steadily at the rate of two feet a day, and finally carried away early in September 1894 the upper part of this dam. This enormous body of water swept through the upper Ganges, but the measures taken by the Eng-

lish Government to prevent a great loss of life exhibited in a striking manner the practical mercy of the British rule as compared with the carelessness of the natives themselves. The lake was watched day and night by engineers and a special line of telegraph wire laid from the lake to give instant warning to the towns on the upper Ganges, so that not one life was lost by the flood. The new lake thus formed is called Gohma lake.—*The Mail.*

MOUNT ST. ELIAS ON BRITISH SOIL.—THREE RIVAL PEAKS—The party that has been engaged in surveying the boundary line between Alaska and the British possessions has returned to Washington. The main body of the great region bought from Russia is definitely located on the 141st meridian. One of the most important results was to settle that Mount St. Elias was not on United States soil. Its height was found to be 18,023, or considerably higher than the estimate of several exploring parties. The most astonishing thing was the discovery of two, if not three, other mountains farther inland on British territory that are higher than the famous saint's mountain. Of these, Mount Logan is 19,534 feet high, and there are two other nameless peaks that overreach Mount St. Elias by several feet.—*Our Times.*

Build thee more stately mansions, O  
my soul,  
As the swift seasons roll,  
Leave thy low-vaulted past,  
Let each new temple, nobler than the  
last,  
Shut thee from heaven with a dome  
more vast,  
Till thou at length art free,  
Leaving thine outgrown shell by life's  
unresting sea.

OLIVER WENDELL HOLMES.

## EDITORIAL NOTES.

## THE SYSTEM OF EDUCATION.

"The system of education in force in the Dominion draws too largely upon the brain tissue of children and materially injures their mental and bodily health."

The above resolution, as stated in our last issue, was passed unanimously at the meeting of the Canadian Medical Association, in August last, at St. John, N. B. We have no doubt that the medical profession had good and sufficient reasons for passing such a resolution. The question arises, who is to blame? The doctors put the blame on the school system. But the school system of a country is only the more or less perfect expression of public opinion regarding the mode of educating the youth of that country. No doubt the man who leads his country well in this respect is worthy of high honour, perhaps the highest honour which a country can bestow upon a servant.

Upon whom, then, does the responsibility rest of unduly pressing the young people forward in their studies? After mature thought on the subject and considerable experience in school matters, we feel bound to place the burden upon the parents. No one who has not had experience, can imagine the pressure which is brought to bear upon teachers, "to push the children through school quickly," by those who have the care of children. The experienced educator may point out to those primarily responsible for the proper bringing up of children the danger of unduly pressing forward in school work immature and rapidly growing young people, but all in vain. All his reasoning will be met by such a statement, as that the son or daughter of some friend or neighbour accomplished the same

amount of work in such a time, and, of course, my son can do the same. Let the teacher suggest that there are differences of attainments, of bodily strength, of endowments, of power of will. And the friend of the child, appearing in the person of the schoolmaster, will receive his reward by being regarded as behind the present advanced age, or too slow and in special need of a long period of recreation. The conclusion of the interview is often the following. The teacher tries to wash his hands, as in the famous historic scene, of all responsibility by telling the parent, that since he has pointed out what may possibly be the result of attempting what he desires his child to do, the parent must bear the blame of any ill results which may arise. The ignorant, but only too eager pupil is subjected to the high pressure system concerning which our friends, the doctors, very properly speak. In many cases, the result is what may be seen every day, men and women not half grown, men and women old before half the "three score and ten."

In our country our men, in very many instances, have to retire from active life, when, if they were in Britain, they would only be coming to the fulness of their vigour, both physical and mental, and therefore fit to guide the nation in the ways of power and safety. We do not think that those who administer the system are free of blame. One error of which masters have complained frequently, is the constant change to which schools are subjected. Time is not given to the teachers to show what can be done under a changed condition. Apparently the aim of the administrators is, by adjustments and by frequent changes, to shorten

the time for acquiring sound scholarship. Vain delusion this is. To be a scholar, means hard work, long continued, and very few can become scholars. To know the a b c of scholarship, even in the High Schools, involves self-denial and steady work for three or four years at the least. Our educators and the administrators of our school system can do the country no better service than to impress on our people, parents and children, that such is the truth. Let all recognize that there is in man something higher than the trade or profession he is to follow.

Let the aim be a true education, and be not in such a burning hurry to hand our youth over to Mammon. Let teachers continually remember the prayer of former days: Noverim te, Domine: Noverim me.

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#### "BREAD" FOR MAN.

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The most prominent and promising movement in education within a few years, is the increased attention that is being given to "social" education—the recognition of the fact that men must live together in families, tribes or nations. Sometimes we have this fact set forth under the words "The Study of Civics," at another time under the heading, "Good Citizenship." Scarcely a Magazine can be taken up but you find a well-written article on this topic—educational magazines being most conspicuous in this most valuable and all important part of education. We welcome this increased activity for the well-being of Society with pleasure and hope; for in it lies the true freedom of man. We beg to state most plainly that the State is not a "Secular Institution," such as a piece of bird's eye maple, even though it should be most exquisitely polished.

There is something in man, which "bread" made from finest wheat cannot nourish. Let us be free men in the highest sense of the word.

We are glad to hear that the movement for a Woman's Residence in connection with University College, Toronto, is gaining ground. An Auxiliary to the Central Association has been formed at Ottawa, and at Galt, subscriptions are being secured, while at other places active steps are being taken in the same direction.

A GENTLEMAN.—In telling what he thought a gentleman should be, Cardinal Newman once wrote: "He has his eyes on all his company. He is tender toward the bashful, gentle toward the distant, and merciful toward the absurd. In his conversation the gentleman will remember to whom he is speaking, have thought for all the company, and avoid allusions that would give pain to any of them, steering away also from topics that irritate. When he does a favor to another—and he does many—the gentleman will somehow make it appear that he is receiving the benefit, instead of conferring it. He is never mean or little in his disputes. Moreover, he shows that he has an intellect far above the average in the fact that he never mistakes personalities and sharp sayings for arguments. Most of mankind do. When grief, illness, or losses come to him he submits to pain because it is inevitable. Bereavement he takes with heroic philosophy, because it is irreparable. He goes to death without a murmur, because it is destiny."

To him nothing is possible, who is always dreaming of his past possibilities.—*Carlyle.*

The shortest way to do many things is to do only one thing at once.—*Cecil.*

## SCIENCE DEPARTMENT.

In the present number we revive the Science column of the Monthly. Under the present management, an effort will be made to render this feature of our magazine interesting and profitable to any who are seeking to improve our present methods in connection with the education of the young. No pains will be spared to have such matter published in this column as will be of assistance to every teacher, whether engaged in kindergarten, public school or high school work.

When we consider the wealth of material that surrounds us on every side both in the animal and vegetable world it is surprising that we, as teachers, have not availed ourselves to a vastly greater extent of these resources than we have. What object, could be more suitable for object lessons than the fruit, flowers and leaves of the common plants around us and of which the pupils know so little? These living bodies possess an infinitely greater interest for the young mind than the numerous lifeless objects that are so often made use of for this purpose. Our present system of education, too, affords but few facilities for the training of observation in the child. The whole system as at present conducted seems well adapted to the cultivation of the memory to exclusion of every other faculty. A ready means of doing away with this one-sided system lies at our hands. Let us use these means to the fullest extent possible. Nothing is better suited to bring into operation the important faculty of observation than a study of the natural objects around, and, from the observations thus obtained, such opportunities for the exercise of the reason will arise as will fully stimulate this faculty. In addition to the fact that a good

healthy training of the mind is obtained, there is the pleasure that is derived by one who has that knowledge of nature which makes the plants of our fields and woods objects of delight and enjoyment to him, while to the man who is without this knowledge they are but weeds.

Our object, then, will be to create a healthy interest in the study of science as well as to suggest methods in the teaching of it, and in order to secure this object, we invite the co-operation of our fellow-teachers and on our part we shall try to present such articles as will be suited to all grades of work from the Kindergarten to the highest classes of our Collegiate Institutes.

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 THE DISTRIBUTION OF SEEDS.
 

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The study of the distribution of seeds is a peculiarly interesting one at this season of the year. The number and variety of fruits obtainable at the present time make the practical study of it accessible to every one.

The following notes may direct the beginner in botany where to look for the specimens which he requires to prosecute his study of this subject.

We shall first note a few plants whose seeds are transported from place to place by the agency of the winds. The thistle and dandelion fruits are attached to a tuft of down which serves to render them specifically lighter and consequently the more readily blown about by the wind. This tuft of down was the pappus of the flower and is therefore the remains of the limb of the calyx. A similar tuft of down is attached to the seed in the milkweeds and the great willow herbs. In these plants, however, the down is enclosed with the seeds in

the pod and is not the remains of the calyx, as in the thistle and dandelion. The fruit of the maples, the elms and the ash has a wing-like out-growth. This out-growth has different forms in the three classes of plants mentioned, but it serves the same purpose in them all. The resistance of the air on these wings is so great as to materially increase their time of falling and thus afford an opportunity for the wind to carry them a greater distance before they reach the ground. In the case of the maple the fruit, on account of the peculiar form of the wing-like attachments, falls with a whirling motion which carries it some distance from the parent tree, even in the entire absence of wind. The fruits of the elm, ash and maple differ, but the wings attached to the seed serve the same purpose in all. The fruit of the basswood is also provided with an appendage which offers a resistance to the wind. In this tree the fruit grows in cymose, clusters to the common peduncle, to which is attached a brace of considerable size. This is the appendage referred to above and there is little doubt but it serves to assist in distributing the seeds. The inflated pod of the American bladder nut with its enclosed seeds, is a good example of a fruit which is carried from place to place by the wind rolling it along the ground.

There is a second class of plants which depend on passing bodies for the transportation of their seeds. Of this class the first that demands our attention is the burdock. The involucre which surrounds and encloses the seeds, consists of a great number of scales each of which is provided at its extremity with a small hook which serves to fasten it to the covering of passing animals. The carpel in the bidens is provided with two sharp pointed awns covered with barbs directed towards the base

of the awn, so that when once the seeds have fastened themselves to any passing object the barbs prevent them readily falling out.

The legume of the desmodium is jointed, and covered with numerous fine bristles, which serve the same purpose as the hooks in the burdock or the barbs in the bidens. The pod easily breaks into sections, and each section adheres independently to passing objects. In the cynoglossum and the echinospermum the nutlets are either partially or wholly covered with bristles so that they readily adhere to the rough coats of passing animals.

The fruit of a number of the galiums is a small globular body thickly covered with hooked prickles. These prickles are not large but they are so numerous that the fruit appears to be covered with a fine down. Numerous other examples of plants of both classes will be readily found, but these are sufficient to indicate to the beginner what to look for in connection with his study of this subject.

The movements of bodies of water, also perform an important function in the distribution of seeds. So also do the highly-colored and edible fruits of plants serve an important purpose in the same connection.

The pod of *Impatiens*, or shapweed is interesting from the peculiar manner in which it expels its seeds. When the pod has reached maturity, if it be seized by the extremity and pulled off the peduncle the valves burst elastically and the seeds are thus thrown some considerable distance before reaching the ground. The hygroscopic elaters of the spores of the *equisetaceae* are also interesting on account of the part they take in scattering the spores.

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The poorest education that teaches self-control is better than the best that neglects it.—*Sterling*.

H. S. PRIMARY ARITHMETIC.

BY PROF. N. F. DUPUIS,  
Queen's College, Kingston.

1. (a) Find the square root of .2 to the fourth decimal place.

As we always begin from the decimal point to point off into periods of two for the extraction of the square root, this is the same as  $\sqrt{.20}$ , which again is the same as  $\frac{1}{5}$  the  $\sqrt{20}$  or .4472 . . .

(b) The quotient of 1 divided by  $(3.14159)^2$  to fourth decimal place.

This should be done by the methods of contracted multiplication and division for decimals. Unfortunately these methods are not taught in the schools to the extent that their importance demands. An expert knowledge of these processes will not only frequently save a large amount of work, but will, in many cases, save also, the employment of logarithms in trigonometric solutions. The writer would undertake to "solve" for the side or angle of a triangle by natural fractions and contracted processes in less time and with greater accuracy than any person can do it by means of logarithmic tables.

The work of the question will stand as follows:—

314159
951413
-----
942477
31416
12566
314
157
28
-----

$$9.86953 = (3.14159)^2$$

$$9.86953(10000.0.1013$$

9870
130
99
31
30

quotient to 4 decimals.

2. (b) A number of two digits is multiplied by 3, and the product is placed to the left of the original number; show that the number so formed is always exactly divisible by

7. To move any integer one place to the left, in a number, is to multiply that integer by 10; to move it through two places is to multiply by  $10^2$  or 100, etc.

Therefore, by multiplying our number by 3, and then moving the result two places to the left, is to multiply the original number by 300. And as this is placed to the left of the original number, the whole number is 301 times the original. But 301 is divisible by 7; and hence the whole number is divisible by 7.

3. TORONTO, Jan. 15th, 1894.

Ninety days after date, I promise to pay to A. Bee, or order, the sum of one thousand two hundred and thirty-four  $\frac{1}{100}$  dollars, at the Bank of Commerce here. Value received.

C. DEE.

This note was discounted on Feb. 10th, 1894, at 6% per annum. Find the proceeds.

The proceeds will be different according as we take true discount or bank discount, although the bank will, of course, take bank discount. We solve for both.

The note is made for 90 days and is discounted after having run for 26 days. Hence it is discounted for 64 days.

*For true discount.* The interest on \$100 for 64 days at 6% per an. is  $\frac{3}{5} \times 6$ , or  $\frac{18}{5}$  dollars, and the amount is  $\$100 + \frac{18}{5} = \$101\frac{3}{5}$ .

$\therefore$  Proceeds are \$100 taken as many times as  $\$1.234\frac{1}{2}$  contains  $\$101\frac{3}{5}$ , or  $\frac{1}{1} (1,234\frac{1}{2}) \div (101\frac{3}{5}) \times 100 = \$1,221\frac{1}{5}$  to the nearest cent.

*For bank discount.* Interest on  $\$1,234\frac{1}{2}$  for 64 days at 6% per an. is  $1234\frac{1}{2} \times \frac{1}{100} \times \frac{6}{100} = \$12.99$  to the



nearest cent., and the proceeds are \$1,234.50—\$12.99=\$1221.51.

4. What rate of interest is made by a bank which discounts a note of 90 days at 6% per annum.?

If the bank discounts at 6% per an. the length of time the note runs is immaterial.

The bank gives \$94 for \$100, and thus gains \$6 per an. upon an investment of \$94.

Therefore its rate of interest is  $\frac{1}{94} \times 6 = 6.383\%$ .

5. If a 5% stock sells at 105, how much must be invested in it to yield a yearly income of \$794, after paying an income tax of 15 mills on the dollar, \$400 of income being exempt.

15 mills on the dollar is  $1\frac{1}{2}\%$ .

$100 - 1\frac{1}{2}\%$  of  $100 = 98\frac{1}{2}$ , and for every  $98\frac{1}{2}$  in 394 he must receive \$100. This gives  $(394 \times 100) \div 98\frac{1}{2} = 400$ , and his total receipt from investment is \$800 per year.

But he receives \$5 for every \$105 invested. Therefore to receive \$800 he must invest  $(800 \div 5) \times 105 = \$168.00$ .

## QUESTIONS ON CÆSAR.

### BOOK IV. CHAPTERS 4-7.

BY H. J. STRANG, B.A.

I. Translate idiomatically chapter 6, *Posteaquam—administrarent*.

1. To whom and what do *sibi* and *id* refer respectively?

2. Parse *adempta quos reliquis*.

3. Write an explanatory note on the formation of *territare*, and on its grammatical use here.

4. Account for the mood of *vereretur*.

5. Decline in the singular *aliud jusjurandum*.

II. Translate chapter 7, *Qua re nuntiata—revertuntur*.

1. *Qua re*. What difference of idiom between Latin and English does this illustrate?

2. Account for the mood of *neglexisset* and the case of *civitatis*.

3. *Erat imperatum*. Why not *erant imperati*?

4. What peculiarity of *vim* and *capit* respectively?

5. *Circumsistunt*. What prepositions in composition make intransitive verbs transitive?

III. Translate idiomatically :

(a) *Magni interesse arbitrabatur ejus auctoritatem inter suos quam plurimum valere, cujus tam egregiam in se voluntatem perspexisset.*

(b) *quod dictum Ædui graviter ferebant.*

(c) *Prospiciendum statuebat ne quid sibi ac reipublicae nocere posset.*

(d) *debat operam ut in officio eum contineret.*

1. Account for the case of *magni* and the mood of *perspexisset*.

2. Parse *quid*.

IV. 1. Conjugate *exarsit, nactus, audebant, retrahi poscere*.

2. Mark the penult of *comparat, convocat, recusat, remanet, dolore, timeret, inimico, totius*.

3. What construction follows *insultus, spolio, noceo, cupidus, pro, parco, paratus, sine*.

4. Mention any grammatical peculiarity of *filius, cete is, singulos, secius, manus*.

5. Decline *domus*, giving the different forms in use.

6. What compounds of *sum* have a present participle?

7. Give 3rd sing. imperf. indic. and pres. subj. of *fio jussit perspexisset, do, possum*.

8. When is *quod* (because) followed by the indicative, and when by the subjunctive?

9. Exemplify an ablative of characteristic, and an accusative of time.

10. Inflect *qua re cognita* in the plural, and *hos principes* in the singular.

V. Render into idiomatic Latin:

1. We were afraid he might do this without their knowledge.

2. These states are of a very friendly disposition to the Roman people and will consult our interests.

3. We learned from him that the Gauls were unaccustomed to using large vessels.

4. These winds are wont to blow during a great part of the winter in this locality.

5. The soldiers who have embarked on this ship will not obey the lieutenant whom Cæsar has put in charge of them.

6. Having made all his preparations to set out for Britain, Cæsar felt annoyed that this had happened in his absence.

#### PASSAGES FOR ANALYSIS AND PARSING.

BY H. J. STRANG, B.A.

For Primary and Junior Leaving Classes.

- (a) Should God again,  
As once in Gibeon, interrupt the  
race  
Of the undeviating and punctual  
sun,  
How would the world admire!  
but speaks it less  
An agency divine to make him  
know  
His moment when to sink and  
when to rise  
Age after age than to arrest his  
course?

- (b) Man, 'tis true,  
Smit with the beauty of so fair  
a scene,  
Might well suppose the artificer  
divine  
Meant it eternal, had he not him-  
self  
Pronounced it transient, glori-  
ous as it is,  
And still designing a more  
glorious far,  
Doomed it as insufficient for his  
praise.

- (c) Thus to Time  
The task was left to whittle thee  
away  
With his sly scythe, whose ever-  
nibbling edge,  
Noiseless, an atom and an atom  
more  
Disjoining from the rest, has,  
unobserved,  
Achieved a labor which had far  
and wide,  
By man performed, made all the  
forest ring.

#### FOR JUNIOR CLASSES.

1. Analyze the following simple sentences:—

- (a) Before the blazing fire of wood  
*Erect* the rapt musician stood.
- (b) Around the fireside, at their  
ease,  
*There* sat a group of friends,  
*entranced*  
With the delicious melodies.
- (c) And in his upper room at home  
*Stood* many a rare and sumptuous  
tome  
In vellum *bound*, with gold be-  
dight.
- (d) *Meanwhile*, impatient to mount  
and ride,  
Booted and spurred, *with* a  
heavy stride  
On the opposite shore walked  
Paul Revere.

(e) One autumn *night*, in Sudbury town,  
 Across the meadows bare and brown,  
 The windows of the wayside inn  
 Gleamed red with firelight through the leaves  
 Of woodbine, *hanging* from the eves  
 Their crimson *curtains* rent and *thin*.

2. Parse the italicized words.

3. Explain the meaning of rapt, entranced, sumptuous, tome, vellum, bedight, rent.

4. Classify and give the relation of the preposition phrases in (e).

5. Form adjectives from fire, melody, autumn, night, red.

6. Divide the following passages into clauses, write out each in full separately, supplying any necessary words, and tell its kind, and where necessary its relation :—

(a) And he, although a bashful man,  
 And all his courage seemed to fail,

Finding excuse of no avail,  
 Yielded.

(b) And over this, no longer bright,  
 Though glimmering with a latent light

Was hung the sword his grand-  
 sire bore,

In the rebellious day of yore.

(c) Come read to me some poem,  
 Some simple and heart-felt lay,  
 That shall soothe this restless feeling,

And banish the thoughts of day.  
 Read from some humbler poet,  
 Whose songs gushed from his heart,

As showers from the clouds of summer,  
 Or tears from the eyelids start.

(d) Where yon shadowy woodlands  
 hide thee,

And thy waters disappear,  
 Friends I love have dwelt be-  
 side thee,  
 And have made thy margin  
 dear.

## EXAMINATION PAPERS IN LITERATURE.

BY MISS H. CHARLES, B.A.

COLLEGIATE INSTITUTE, GODERICH.

### Form II. "Horatius."

1. Describe the condition of things in Rome and the surrounding country while the Tuscan army was approaching.

2. (a) Who were the three men that defended the bridge?

(b) Who were the three men that fought with them?

3. Describe the destruction and fall of the bridge.

4. Quote Horatius' speech to the consul, or ten lines descriptive of the gradual approach of the Tuscan army to the city.

5. Write explanatory notes on :— Clusium, Tarquin, Massilia, Umbro Ostia, Thrasymene, Lucumo, Comitium, Volscian, Populonia; and quote a line containing each.

Form III. "Recollections of the Arabian Nights," "The Lady of Shalott," "The Lotos-Eaters."

1. Describe the Lady of Shalott and her surroundings.

(a) As they appeared to the country people.

(b) As they really were.

2. Describe the place where the mariners found the Lotos.

3. Quote, or give in your own words, the substance of passages from the Lotos-Eaters that present a contrast in thought or feeling to the following :—

(a) I cannot rest from travel: I  
will drink  
Life to the lees.

(b) How dull it is to pause, to make  
an end,  
To rust unburnished, not to  
shine in use!  
As tho' to breathe were life.

(c) You and I are old;  
Old age hath yet his honour and  
his toil;  
Death closes all; but something  
ere the end,  
Some work of noble note may  
yet be done,  
Not unbecoming men that,  
strove with gods.

(d) That which we are, we are;  
One equal temper of heroic  
hearts,  
Made weak by time and fate,  
but strong in will  
To strive, to seek, to find, and  
not to yield.

4. "A motion from the river won  
Ridged the smooth level, bearing  
on  
My shallow through the star-  
strown calm  
Until another night in night  
I entered, from the clearer light,  
Im bowered vaults of pillared  
palm,

Imprisoning sweets, which, as  
they climb

Heavenward, were stayed be-  
neath the dome

Of hollow boughs.—A goodly  
time,

For it was in the golden prime  
Of good Haroun Alraschid."

Explain fully the meaning of the  
italicized expressions.

5. Give in your own words the  
poet's description of "the great  
pavilion of the Caliphat."

### "SHARING."

By LEO. B. DAVIDSON, Principal  
P. S., Newcastle.

1. A certain distance, less than  $\frac{1}{2}$   
mile by 2 chains is divided into spaces  
of rods, yards and feet in proportion  
to the numbers 4, 3, 1, respectively.  
Find number of dividing points.

2. A farmer takes to market a load  
of grain weighing 1 ton 13 cwt.  
2 qrs. 10 lbs., made up of equal  
quantities of oats and corn, and of  
as many bushels of wheat as of oats  
and corn together. He sells the  
load at an average of 55 cts. per bus.  
Find proceeds.

3. A man earns \$1.50 per day of  
12 hrs. His son can earn 5 cts.  
per hr. They work together until  
their united wages amount to \$58.80.  
Find the son's share.

4. A person has \$7.65 in silver  
made up of 20 cent pieces, 25's and  
50's, the number of coins decreasing  
by 3 as the value increases Find  
the number of coins.

5. Divide \$72 among A B C and  
D, giving A \$2 less than B, but \$2  
more than C, and D \$2 more than B.

6. The weekly wages of a factory  
amount to \$63.50, the men receiving  
\$1.25, the women 75c., and the  
children 50c. per day. If there be 2  
fewer women than men, but 20 more  
children than men employed, find the  
number of hands in the factory.

### COMPOUND RULES.

1. A silversmith has 2 lbs. 8 oz.  
14 dwt., 12 grs. of silver which he  
uses in making spoons each, weighing  
2 dwts. 5 grs. less than  $\frac{1}{2}$  an ounce.  
He sells the spoons at \$3.50 per half-  
dozen. Find proceeds.

2. A train 375 yds. long crosses a  
bridge 46 yds. shorter than itself. If  
its rate be 25 mls. per hr., how much

less than a minute will it be in crossing the bridge?

3. After working 3 months of 26 days each, and 10 hrs. per day, a man received in payment 2 loads of wheat, each containing 13 bags of 2 bus. 30 lbs. each. If the man valued his time at 8cts. per hr., find value of wheat per bus.

4. At  $12\frac{1}{2}$  cts. per 100 lbs. for a certain distance, find freightage for this distance on :

4 hlf. bbls. pork.

3 hlf. bbls. beef.

1 bbl. each of oatmeal and cornmeal.

3 bbls. flour.

5. A pile of cordwood 30 ft. long and 7 ft. high, worth \$4.80 per cord is exchanged for apples at \$2.50 per bbl. How much money must also pass in the exchange?

6. How much, more or less than 300 miles, will a train run from 7 a.m. to 4.30 p.m., allowing for 12 stoppages averaging  $2\frac{1}{2}$  min. each, going 30 mls. 3 fur. 4 chains, 1 rd.  $3\frac{1}{2}$  yds?

—————  
HIGH SCHOOL ENTRANCE.  
—————

ENGLISH GRAMMAR.  
—————

Examiners: John Dearness,  
A. B. Davidson, B.A.

(12)

3. Write out

(a) the plurals of *who*, *piano*, *attorney*, *brother*; (4)

(b) the other degrees of comparison of *wooden*, *next*, *cruel*, *most*; (4)

(c) the perfect Potential in all the persons of *burst*, *drink*, *hang*. (6)

4. Write a sentence or sentences using :

1. When James was going *home yesterday* evening he lost the note

*which* his teacher had given *him* to take to his mother. He told her that he thought he knew *where* he had dropped it. She *sent* him back to *try* to find it.

(a) Write in full each dependent clause in the above, and give its kind and relation. (15)

(b) Parse the italicized words. (16)

2. Tell the kind and fully analyze each of the following sentences :

(a) Five times outlawed had he been

By England's King and Scotland's Queen.

(b) O'er our heads the weeping willow streamed its branches.

Arching like a fountain shower,

(a) *early* as an adjective in the comparative degree. (2)

(b) *late* as an adverb in the superlative degree. (4)

(c) *take* as a verb in the indicative, 1st plural, past tense, passive conjugation (voice). (4)

5. (a) Using examples, explain why the Passive Conjugation is necessarily confined to Transitive Verbs. (5)

(b) State the inflections in the following and explain the use of each inflection :

*Oxen*, *knew*, *whose*, *will go*. (12)

6. Correct, with reasons, the syntax of the following :

(a) Who did I meet you with yesterday? (0+3)

(b) Whom do you think should be chosen? (0+3)

(c) Each of his sisters are willing to take their turn in waiting upon him. (2+1)

(d) Will you give James half and we three the rest or will you divide

it equal between the four of us?  
(3 + 6)

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GEOGRAPHY.

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Examiners : J. J. Tilley, Cornelius Donovan, M.A.

1. Define peninsula, cape, oasis, plateau, frith, watershed, delta, glacier, longitude, trade winds, summer solstice. (11)

2. Where and what are the following :—Guiana, St. Louis, Magellan, Sable, Canso, Costa Rica, Anglesey, Elba, St. Helena, Madras, Crimea, Tiber? (12)

3. Give the position of the following places and tell for what each is famous :—Montreal, Chicago, New Orleans, Liverpool, Birmingham, Glasgow, Belfast, Lyons, Hamburg, Florence, Canton, Lucknow. (12)

4. Name and give the use of the circles marked on a map of the world. (12)

5. (a) What commerce is carried on by Canada with China and with Australia? (4 + 4)

(b) Over what routes does this commerce pass? (2)

(c) What advantage do we derive from the Canadian Pacific route in our trade with China? (2)

6. Show how the principal occupations of the people are related to the position and natural products of the following :

(a) The Maritime Provinces of Canada,

(b) Ontario and Quebec,

(c) Manitoba and the Northwest Territories,

(d) British Columbia. (16)

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HISTORY.

Examiners : A. B. Davidson, B.A., John Dearness.

NOTE.—Candidates will take any two questions in British History and any four in Canadian.

I.

BRITISH HISTORY.

1. Briefly describe the important changes brought into England by the Norman Conquest. (12)

2. Give a short history of any *three* of the following: (a) Simon de Montfort, (b) Cardinal Wolsey, (c) Mary Queen of Scots, (d) Oliver Cromwell, (e) Gladstone. (12)

3. Write a brief sketch of any *two* of the following :—

(a) The troubles of the British with Napoleon.

(b) The British Corn Laws and their Repeal.

(c) India in Victoria's reign.

(d) *Two* important events in Victoria's reign. (12)

II.

CANADIAN HISTORY.

4. Where were the Iroquois, Algonquin and Huron Indians located when the French and English settled in America, and to which of the white races did they join themselves respectively, and why? (13)

5. What was the condition of things which led to the passing of the Quebec Act, and what were its most important provisions? (13)

6. How are the legislative bodies of the Dominion and of Ontario respectively constituted, and what are the duties of each? (13)

7. State clearly the circumstances which led to the North-West Expeditions under Wolseley and Middleton. (13)

8. What are the nature and purpose of (a) The National Policy, (b) The Ballot, (c) Prohibition Plebiscite? (13)

## ARITHMETIC.

Examiners: Clarke Moses,

J. Dearness.

NOTE.—Candidates are to take the first question and any six others.

1. Make out in proper form and find the amount of the following bill:

June 1st, 1894. G. Murray & Co. sold to John Scott, Toronto, 4886 bus. 36 lbs. wheat, at 58c. a bus.; 4532 lbs. peas, at 52c. a bus.; 38 lbs. 3 pks. barley, at 54c. a bus.; 465 lbs. flour, at \$1.50 a cwt.; 4685 lbs. bran, at \$15 a ton. Write out a receipt in full for payment of account, 26th June. \$2917.95 $\frac{1}{6}$  (13+3)

2. The weight of a cubic foot of water is 62 $\frac{1}{2}$  lbs, and an imperial gallon contains 277.274 cubic inches, find the weight in ounces of a pint of water. 20 $\frac{3}{8}$  $\frac{3}{4}$  $\frac{1}{2}$  oz. (14)

3. The Manufacturers and Liberal Arts Building of the Columbian Fair was in the form of a rectangle and covered an area of 30 acres, 76 rods, 19 yds., 7 feet. The building was 787 feet wide. How many feet in length was it? 1687 ft. (14)

4. How many oranges must a boy buy and sell to make a profit of \$9.30, if he buys at the rate of 5 for 3 cents and sells at the rate of 4 for 3 cents? 6200. (14)

5. A sells goods to B at a gain of 12% and B sells the same goods to C at a gain of 7 $\frac{1}{2}$ %; C paid \$3762.50 for the goods. How much did A pay for them? \$3125. (14)

6. A gravel-bed whose surface has an area of 4 acres contains gravel to an average depth of 6 feet. How many miles of road 11 feet wide can be covered from the gravel in the bed,

if it be spread on to a uniform depth of 8 inches? 27 miles. (14)

7. On the 15th October, 1893, a young man deposited in the Savings Bank the sum of \$860 75. On the 20th May, 1894, he withdrew the principal and simple interest at 4% per annum. What amount did he withdraw? \$881.22. (14)

8. A man spent  $\frac{5}{8}$  of his money for a house,  $\frac{2}{3}$  of the remainder for cattle, and the rest for a farm. If the farm cost him \$357 less than the house and cattle together, what did he pay for all? \$2261. (14)

9 (a) Simplify

$$\frac{\frac{1}{14} - (\frac{2}{3} \text{ of } \frac{1}{2})}{\frac{1}{8} + (\frac{7}{2} \text{ of } \frac{3}{4}) - \frac{1}{3}} \div \frac{(\frac{1}{2} \text{ of } \frac{1}{2}) + (1\frac{1}{2} \text{ of } 5)}{9\frac{1}{2} - 1\frac{2}{3}}$$

(b) Multiply 350.4 by .0105 and divide the product by .0000219. 3.6792; 168000. (8+6)

Example of special constructions or idioms.

1. Infinitives with a subject and sometimes a predicate objective:

I believe him to be a good scholar. I feel it to be an honor. I know her to be the author of it. I supposed him to be a foreigner. I have known him to be an hour late. He wanted us to wait for him. It is time for us to start. There is no necessity for him to do that. He was anxious for her to see it. His idea was for us to go by boat. Whom do you imagine to be the writer of it?

2. Complex verb phrases:

The fort was at once taken possession of. This fact must not be lost sight of. Another method may be made use of. You will only be made fun of. It should not have been taken notice of. The difficulty has been got rid of. I was found fault with. It's a pity he could not have been got a hold of sooner. He was made a present of a gold watch. To

take hold of, to make mention of, to make a fool of.

3 Usage fluctuating between the adjective and the adverb form of adverbs :

(a) He speaks too loud. Speak louder.

He called loudly for help. He only protested the more loudly.

(b) That serves him right. He stood right in front of me.

He rightly judged that, etc. Rightly dividing the word of truth.

(c) My watch goes either too fast or too slow.

He walked slowly forward.

(d) Close by the gate, a close fitting door.

He followed the argument closely

4. Inconsistent use of pronouns—sense constructions :

One of us (you) has left his (her) books on the desk.

Some of us (you) have left our (your) books on the desks.

5 Omission of prepositions :

What age is he? What case is him? What day did you come? This knife is no use. This pen is no good. What time are you? Show me the way that you did it. Which direction did he go?

## CONTEMPORARY LITERATURE.

"A Child's Recollections of Rosetti," in the *Littell's Living Age* for Oct. 13, is a pleasing account of the poet's last days, by Miss Lily Hall Caine, whose brother tended Rossetti in his last illness.

Helen Campbell contributes a valuable paper on "Another View of Woman's Work" to the October *Table Talk*. The different departments are full and interesting, the Inquiry Department especially deserves well of every housekeeper.

There is a character sketch of that most interesting personage, Li Hung Chang, in the October *Review of Reviews*. It is written by John Russell Young, formerly Minister to China and a personal friend of the Viceroy. The frontispiece is a reproduction of a photograph of Bryant. William H. Thayne has also an article on the poet.

An amusing and clever article in the *MacMillan's*, for September, is

"The Complete Leader-Writer," by Himself. There is a strong, short story entitled "The Treasure of Sacramento Nick" and a quiet and pleasing study called "The Little Chorister." George. Saintsbury contributes the second part of the Historical novel.

*Education* for October will contain, "Conference Report on Mathematics," by Supt. J. M. Greenwood. Prof. Buchner, of Yale, will present "Fröbel from a Psychological Standpoint." Among other important articles may be mentioned one of the "Responsibilities of Preparatory Schools," by Mrs. H. E. Starrett, of Chicago.

Of more than ordinary attractiveness are the glimpses one gets of the great actor, Edwin Booth, in his letters, which are reproduced in the *October Century*, with an introduction by his daughter. Admirers of Poe will find the present instalment of his



correspondence especially interesting. But the most absorbing of all is the development of Mrs. Harrison's "Bachelor Maid." Edward Egglestone contributes an article on "Folk-Speech in America."

NOTE: We regret that the article on "Composition," by Katharine H. Shute, in our last issue, was not credited to *Education* (Boston) as it should have been.

*Nature Stories for Young Readers* (D. C. Heath & Co.) is the title of an attractive and interesting book on animal life, carefully adapted for little children.

Dr. Ernest S. Reynolds has prepared a *Primer of Hygiene*, dealing with matters concerning the health of the household, which contains a great deal of valuable information. (London: MacMillan & Co., through the Copp Clark Co., Toronto).

A book intended for supplementary reading is Miss Charlotte M. Yonge's, *The Lands of Lynwood*, which has just been issued with notes, etc., in a neat and pretty volume. (London and New York: MacMillan & Co., through the Copp Clark Co., Toronto.)

From Messrs. Ginn & Co., we have received two beautiful books for primary classes, *The Children's Second Reader*, by Miss Ellen M. Cyr, and *Fables and Rhymes for Beginners*. Both books have pretty illustrations and excellent type.

It is some years since we first drew the attention of our readers to the new *Vertical Writing*, which is largely used in England. Mr. E. O. Vaile, of Oak Park, Chicago, has now published a convenient series of *Vertical Writing Books*. We think vertical writing should be introduced in Canadian schools.

Messrs. MacMillan & Co. have published in three volumes *Object Lessons on Elementary Science*, by

Mr. Vincent T. Murche, the headmaster of one of the London Board schools. These books are by far the most complete and satisfactory that we have seen on this subject. (Toronto: The Copp Clark Co.)

Messrs D. C. Heath & Co., have also published a good text book on *Elementary Biology*, by Prof. Boyer, of Chicago University. It is exceedingly practical in every way and interesting. It is intended to be used as a Laboratory Manual and contains altogether twenty-two studies, from an amoeba and a sponge, to a pigeon, a cat, etc.

"It is the pride of the Prussians," remarks Mr. Barnard in his work on "Normal Schools," "that at the time of her greatest humiliation and disaster she never for a moment lost sight of the work she had begun in the improvement of her schools." At a time when, through the destruction of her whole military force, she was annihilated by the wars of Napoleon, and the Prussian ladies nobly gave gold ornaments in exchange for iron ones to replenish the public treasury, the education funds of the country were never for a moment treasured upon. And it was the education of the masses, thus conserved by her enlightened rulers, that ultimately led to the unity of the German people. Contrast with this the craven action of those who have already laid sacrilegious hands on our education funds, and of those who are seeking to enter Parliament with the avowed intention of still further diminishing the good influence of the Education Department for the mere sake of staving off a demand for slight additional taxation. With Mr. Tisdall's remark at the meeting of the executive of the Union we certainly agree: "The day will assuredly come when their names will be execrated by every Australian patriot."—*Australasian Schoolmaster*