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THE ONTARIO TEACHER:

A MONTHLY EDUCATIONAL JOURNAL.

Vol. 3.

FEBRUARY, 1875.

No. 2.

THE GOOD TEACHER.

In our last issue, we called the attention of our readers to the character of Judge Story as a Teacher. In the present article we purpose "holding the mirror up to nature," with more minuteness and detail.

The elements of a good teacher may be classified under the following heads:—literary attainments, administrative ability, and energy of purpose.

We have already on many different occasions, afforded our readers an opportunity of judging what our opinions are in regard to the literary attainments which we consider requisite to a Public School Teacher, and, although we do not wish to repeat what we have already said, we wish to impress upon the profession the importance of *general information*, over and above what is required in order to pass the Board of Examiners. He who is satisfied with such *meagre* attainments as are prescribed by the Council of Public Instruction for either 2nd or 3rd Class Certificates, (although considered by some high enough), ought to be once and forever read out of the profession. For such a teacher there is no hope. Having

attained the summit, how can he rise any higher? Elevated on the pigmy molehill of his gratified ambition, there are no higher heights to scale, no greater attainments to reach. We leave him where he is to air his vanity, and to enjoy all that a mind of such limited capacity as he possesses can hold of enthusiasm, for a profession on which he reflects but little credit, and from which he deserves less sympathy. To the true teacher, however, to the man who is anxious to enlarge his range of thought, and to treasure up in the garner house of memory the spoils of extensive reading and study, we would say "go on." "You are on the right path." "The world will know of your existence, and society will reflect the quickened impulses imparted by your attainments."

There is nothing surer, to the candidate for honor and usefulness in the profession, than rewards of well directed industry in the acquisition of knowledge. "Out of the abundance of the heart the mouth speaketh," and out of the fullness of a well trained mind, issue forth information and illustration without which the teacher's work is but

a superficial sham. Let any teacher but refer to his experience, and he will find that any subject in regard to which his information was limited, was not only dry and uninteresting both to himself and class, but was presented in such a misty, confused manner as to make little or no impression upon his pupils. It is only when the mind is full of a subject, when it is thoroughly mastered in all its details, when all the difficulties attending it are overcome with the grasp of perfect confidence, that it can be presented with clearness and force. He who struggles through a solution (?) feeling his way cautiously at every step, cannot make the same impression upon his class as the man who sees the end from the beginning. And while this clearness of perception may require daily preparation for the class, it also requires that the teacher's mind should be stimulated by contact with other minds, that his mental armour should be always burnished, and elasticity of thought always preserved.

In the discharge of his professional duties the *administrative* abilities of the teacher are very heavily taxed. He has many difficulties to contend with, which can be overcome only by the utmost tact and skill. The trustees with whom he has officially to deal may be men who take but little interest in education, or they may be very much disposed to find fault and interfere unnecessarily with his management of the school. In either case the judicious teacher would apply a remedy—what that remedy should be, we leave it for himself to determine. If the trustees are apathetic and indifferent, it is quite evident their interest should be excited. The comfort of the teacher and the prosperity of the school, require that this should be done. How useless then for the teacher to settle down into a gloomy disappointed mood, because this difficulty is to be encountered. How much better would it be to set himself to work and change what was an obstacle to his progress, into a means towards his success.

Or should the trustees attempt to encroach upon his rights and overstep the prescribed limits of their jurisdiction even there the judicious teacher, while not yielding the authority which belongs to him by law, could "head off" unnecessary interference. Putting on professional dignity and meeting defiance, with counter defiance, may sometimes achieve a purpose, but ordinarily there is a "more excellent way," and the judicious teacher is sure to choose that "more excellent way." Men's opinions of their authority cannot be transformed at once. Trustees are not always so liberal-minded either by education or by contact with society, as fully to respect the rights of others, and the teacher who consults his own comfort and success, will endeavor to mould the purposes and inclinations of such men so as to subserve the higher interests of the profession.

It is in the discipline of the school, however, that the teacher's administrative powers are more particularly exercised. And in order to succeed in this department several elements of character are indispensable.

(1) *Judgment*. By judgment we mean that which is ordinarily described as *common sense*. This is the great balance wheel of all discipline—the final court of appeal in all matters of difficulty. All regulations for the government of the school—rewards and punishments—exceptions to the ordinary rules of the school, or duties to be performed by the pupils should be characterized by common sense. While a teacher should be decided in his discipline, there should be no Medo-Persian legislation. Exceptional circumstances, and these frequently occur in every school, require exceptional treatment.

(2) *Tact*. This is a striking element in every man possessing real administrative ability. It is required in the management of the temper of the pupils—in avoiding that which excites their hostility and arouses their baser propensities. It is also required in securing their application to study. What

will excite one mind may not move another. What may stimulate to-day might not avail to-morrow. The teacher possessing *tact* is equal to every emergency. All whims and humors and peculiarities are toned down, subdued, or corrected, and out of infinite variety, order and unanimity are obtained. A teacher possessing *tact* seldom comes into collision with his pupils. He is sure to display sufficient firmness to overcome rebellion, and sufficient moderation and calmness, not to excite it. He never requires to exercise brute force for he never excites these propensities in his pupils. Discerning a tempest in the distance, he skilfully prepares himself to meet it, and is never overtaken with such ebullitions of opposition, as he cannot govern with the slightest effort. We have seen many collisions between teachers and pupils, and feel no hesitation in saying that a little tact and judgment would have obviated them all, and have spared both parties much pain and discomfort. A rash teacher may delight in crushing down the stubbornness of a pupil, but a *judicious* teacher will never unnecessarily excite any such disposition.

There are other minor elements of administrative abilities, which are requisite to the good government of a school, but these are so frequently on the tongue of every teacher that they might be slightly passed over; we do not mean, however, by referring to them so briefly that they are unimportant in themselves. They are essential to the success of the school, and the neglect of any of them will prove fatal to the teacher. They are, *order, system, promptness, agreeableness, calmness*, and such like. The value of all these elements of character must be apparent, and no teacher can justify himself in the neglect of any of them.

The last element—*force of purpose*—we will consider very briefly. This element might be considered as a part of administrative ability, as no administration can be successful without the controlling influences of some powerful mind to urge it on to its destined end. Force of purpose involves also, *industry* and *perseverance*. In the latter quality many teachers are very deficient. Plans are laid down—a course of study blocked out and a new line of duty entered upon with the utmost enthusiasm, but the wavering teacher has gone but a short distance on the new route to success, when his energies flag, and ruin and disaster overtake all his plans.

Force of purpose is also requisite in order to impress upon the pupil the importance of the motto "*nil desperandum.*" It should be a cardinal part of all education to cultivate an indomitable purpose in the pupil. In the pursuit of knowledge or, indeed in the pursuit of anything, there should be no such word as "fail." Without force of purpose on the part of the teacher, the energies of the pupil are apt to droop and falter, and by disappointments and defeats his courage is weakened, his ardor dampened, and hesitation and distrust take the place of resolution and confidence. Such a disaster in the training of a pupil the good teacher is sure to avoid, by that force of purpose which always carries the earnest student on to victory.

We trust it will be the earnest desire of every member of the profession to exhibit in the discharge of his daily duties as many of the elements of the good teacher as possible, and to labor with a noble enthusiasm for the success which is sure to be the reward of an intelligent purpose, faithfully and honestly carried out.

THOUGHTS ON TEACHING.

BY R. MCCLELLAND ESQ., ST. CATHARINES.

(Continued.)

In a previous paper, I dwelt chiefly on physical education; the next branch of education, and that which is usually considered as the teacher's peculiar department, is intellectual culture, which consists in drawing out, and disciplining the intellectual faculties, in storing the mind with useful knowledge, and in suitably arranging this knowledge for practical purposes; and which implies, also, the formation of good mental habits.

A gradual succession in the unfolding of the mental powers implies a corresponding order of study, to which the teacher should ever conform. Young children are materialists, and cannot form a clear idea without the aid of visible objects. Their perceptive faculties only, are unfolded, and their knowledge must come from the external world through the medium of their senses. They can see, hear, and know, and retain their knowledge. By the aid of pictures and graphic descriptions, they may gradually become acquainted with distant objects, geography, and the rudiments of natural history. Language, too, and arithmetic, can be pursued with advantage, if properly explained and illustrated. Instruction given during the early period of the child's development should ever be plain, simple, and interesting; and should always be illustrated by maps, diagrams, pictorial representations, or actual observations; while the teacher should be very careful not to crowd and overtask the juvenile mind, so as to induce satiety and weariness, and thus create a disgust for school and books, which the pupil may never be able wholly to overcome, so powerful are early prejudice and association.

As the reflective faculties gradually unfold, the mind, without a conscious effort, begins to compare, reason, and reflect, and may easily be trained to habits of patient analysis and consecutive thought. Now the pupil not only collects facts, but readily generalizes them, and from known verities almost unconsciously deduces new principles of truth, and thus lays a good foundation for the successful study of the more abstruse branches of knowledge. He is now fully aware of a world within, of a mind that can reflect and investigate, and, from the galleries of its enshrined imagery and paintings, he begins to form his own mental creations, and clothe them with the beautiful drapery of appropriate expression.

He can now comprehend abstract ideas, and the principles of language and mathematics, while he aspires to know the laws of the animal and vegetable kingdoms, the nature and structure of his own mind, and civil and religious polity. Consequently there comes a natural call for physiology, metaphysics, and moral science; and, that his full soul may find a true exponent in elegant diction, he seeks the aid of logic, rhetoric, and belles-lettres.

Never should a pupil be promoted from one study to another, until he has reached an intellectual plane, where he will comprehend it fully, and prosecute it with enthusiasm. If he learn understandingly, he will be likely to learn with zeal, while in vainly striving to master a study, which he has not the maturity of mind to comprehend, he loses his interest, and becomes dull and discouraged.

Much of the instruction given to young children should be oral, because such in-

struction is more agreeable to them, being more social, and more in accordance with simple, genial nature, than the dull formality of text-books. The well-modulated voice and kindling eye of the earnest teacher have a strange power to wake up and inspire mind, while his appropriate gestures and tones secure the pupil's close attention, and, associated with the instruction, leave an impression that will be indelible.

Deep thought and strong feeling communicated orally are usually eloquent, and find a ready way directly to the heart, while the very soul of the devoted teacher seems so to emanate with his instructions, and blend itself with that of the pupils, that his principles and sentiments, become easily inwrought into their moral being and life. It is thus that he most successfully transcribes his own character upon the souls of his pupils. Oral instruction is Nature's own eloquent mode, and has ever been a favorite method with the best teachers. Thus taught Moses and Solomon; thus taught Socrates and Plato, and hosts of others whom we might mention; and thus taught a greater than Socrates or Plato, a Teacher sent from God, whose doctrine "dropped as the rain, and distilled as the dew."

The teacher's vocation includes also a cultivation of the higher intellectual senses, which occupy a rank between the physical and moral, such as a sense of beauty, grace, and sublimity, order, harmony, and propriety; and implies an improvement of the taste and imagination, by the cultivation of the fine arts, graceful manners, and elegant accomplishments. These are usually classed under the head of Esthetics. But this ornamental culture, however desirable in connection with the solid branches, without them is of little value, having a tendency to form character too fastidious for the common prose and monotonous routine of every-day life.

Important as are physical, intellectual, and esthetic education, yet they do not con-

stitute the whole of the teacher's mission. Uncombined with moral culture, they are not only useless, but worse than useless, giving selfish man the elements of immense power, without the salutary limitations of moral principle. Such an education may furnish the world with Alexanders and Napoleons, but can develop no higher spiritual life, unaccompanied by an education of the heart.

We come now to the consideration of the teacher's highest sphere, moral education, the most essential branch of all education: vastly important, not only on account of its intrinsic value, but because it embraces, in an unspeakable degree, the value of all the others. Moral education consists in a right direction of the natural sympathies and affections; it includes a cultivation of the moral senses, such as those of honor, shame, right and wrong; and implies the formation of good habits and principles.

This education sanctifies and directs physical and intellectual attainment, and empowers conscience to subordinate and employ the lower faculties, in subserving to our future well-being, the happiness of others, and the glory of God; and thus enables us to fulfil the highest aim of human life. Such an education brings out to view the great lights of the world, and benefactors of mankind, developing men like Howard and Wilberforce, and women like Hannah Moore, Florence Nightingale, and Elizabeth Fry. This moral culture, gives to man the highest power attainable on earth, a power more subtle than magnetism, more enduring than time, more imperative than the fiat of kings and emperors, more invincible than marshalled hosts. This is MORAL POWER, eminently illustrated in the lives of such men as Paul and Luther.

The teacher's true mission is, not only to store the mind with knowledge, and strengthen and discipline the intellectual faculties, but to inspire the soul with love for the beautiful, good, and true, and lead

its affections away from self, to sympathize with universal humanity, and aspire after God : to aid the pupil in the attainment of true magnanimity, moral power, and spiritual happiness.

Educational reformers have exposed the absurdity of old systems of teaching, and they have fallen into disuse—become obsolete. They maintain the necessity of physical culture, and of a strict adherence to the laws of health ; and their efforts have brought about a physiological reform. Is there not room for further progress? Are there no more fields for the Educator to explore? Philanthropists, in their eagerness to arouse the world to the necessity of physical and intellectual culture, seem often to have lost sight of man's highest glory, his moral endowments.

Since the moral faculties of children are as susceptible of culture as the mental, why should not the plastic period of childhood be regarded as the most appropriate season to develop moral character, and cultivate the principles of truth, virtue, and justice? Why should perception and memory be so sedulously trained, while conscience is scarcely recognized, and humility and self-control are seldom mentioned?

Why bestow all the educational labor upon the head, and neglect the heart, or leave it to the mis-education of chance and circumstances? Since the heart is the seat of all true life, the fountain of the affections, the mainspring of thought and action, its culture *must be of vital necessity*, and should constitute an important part of the teacher's work. (To be Continued.)

EUROPE'S CAPITALIST.

BY MRS. WM. LUNDIE.

The man in the well-known fable who on his death bed gave his sons a bundle of arrows, and asked them to break them, which they could not do unless they separated them, and brake the arrows singly, is no fantastic picture. This man lived ; his name was Mayer Anselm, and the sign of his shop in the Jews' Street at Frankfort, was a red (roth) shield (Schild), Rothschild. When Mayer Anselm Rothschild was dying, he made his sons promise never to separate, never to divide the inheritance which he left them, but to increase the whole fortune by means of that union, which is strength. This has happened, and the youngest of these five sons, James Von Rothsechild who died several years ago in Paris, endeavored with all his energies to keep inviolate the promise which he had made to his father. The Rothschild property has never been divided. No storm has been able to

shake it ; on the contrary, it has increased during the storms of the age.

James Von Rothschild, born on the 15th of May 1792, was the most thoughtful and intelligent head of the Rothschild dynasty ; while on the one hand he raised the brilliancy and the extent of his house by means which were only at the command of the most speculative financier of the day, he showed on the other, that generosity which reminds one of the merchant princes of the middle ages. He has more than once been known to throw a bond for a large sum into the flames. He was scarcely twenty years of age when he became chief of the Paris house. Thrones tottered around him, and he often seemed as if he had built on a volcano. Furious storms raged between the banners of the Lilies and the Bees, but his golden throne remained unshaken. His name alone sufficed to carry

numerous and often venturesome undertakings. The order of his day's work, was regulated; from six in the morning to half-past seven, he had the newspapers read to him in bed; then he dressed himself, breakfast, received the Secretaries, discharged his business correspondence, then proceeded to his private letter writing, and after half-past nine received dealers in art and curiosities; at eleven he went to his office to prepare his exchange agents; lunched at one with his sons; at three took a drive in his carriage; and then finished his private correspondence and signed the business letters of the firm. At five a whist party at the Jockey Club, always awaited him; and at seven he was back again to dinner. In the evening he generally went to the theatre, and was seldom in bed before midnight. Begging letters, which followed wherever he went, which worried him not a little, and were often piled up in large heaps in his study, contributed not a little to darken his otherwise friendly and benevolent countenance, and he often had to hear how he, the Cræsus, had given like a miser; this annoyed and soured him, and towards both high and low he was often sarly and rough. Thus it once happened, that a gentleman with a high sounding name, was shown into his study while he was writing. "Will you be kind enough to take a chair?" said Rothschild, without looking up from his writing. The gentleman felt himself slighted and repeated his name. "Well then take two chairs," replied Rothschild, and went on with his writing.

In the memoirs of Sir Thomas Fowell Buxton, there is a curious letter to his daughter, describing his meeting Nathan Meyer Rothschild.

"Devonshire Street, Feb. 14, 1834.

We yesterday dined at Ham House to meet the Rothschilds, and very amusing it was. He (Rothschild) told us his life and adventures. He was the third son of the banker at Frankfort. "There was not," he

said, "room enough for us all in that city, I dealt in English goods. One great trader came there who had the market to himself; he was quite the great man, and did us a favor if he sold us goods. Somehow I offended him, and he refused to show me patterns. I will go to England, I said. I could speak nothing but German. On the Thursday I started; the nearer I got to England the cheaper goods were. As soon as I got to Manchester, I laid out all my money, things were so cheap; and I made good profit. I soon found that there were three profits—the raw material, the dying, and the manufactured goods. So I got three profits instead of one, and I could sell goods cheaper than anybody. In a short time I made my twenty thousand pounds into sixty thousand pounds. My success all turned on one maxim. I said, I can do what another man can, and so I am a match for the man with the patterns and for all the rest of them. Another advantage I had. I was an off-handed man, I made a bargain at once. When I settled in London, the East India Company had eight hundred thousand pounds worth of gold to sell; I went to the sale, and bought it all. I knew the Duke of Wellington must have it. I had bought a great many of his bills at a discount. The Government sent for me, and said they must have it. When they had got it, they did not know how to get it to Portugal. I undertook all that, and sent it through France; and it was the best business I ever did."

Another maxim on which he seemed to place great reliance, was never to have anything to do with an unlucky place or an unlucky man. "I have seen," said he, "many clever men who had not shoes to their feet; I never act with them. Their advice sounds very well, but fate is against them; they cannot get on themselves, and if they cannot do good to themselves, how can they do good to me. By aid of these maxims, he has acquired three million

sterling. I hope said—, 'that your children are not too fond of money and business to the exclusion of more important things. I am sure you would not wish that.'—Rothschild. "I am sure I should wish that. I wish them to give mind and soul, and heart, and body, and everything to business; that is the way to be happy. It requires a great deal of boldness and a great deal of caution to make a great fortune; and when you have got it, it requires ten times as much wit to keep it. If I were to listen to all the projects proposed to me, I should ruin myself very soon. Stick to your business young man," said he to Edward; "stick to your brewery, and you may be the great brewer of London. Be a brewer and a banker, and a merchant, and a manufacturer, and you will soon be in the Gazette." * * * One of my neighbors is a very ill-tempered man; he tries to vex me, and has built a great place for swine, close to my walk. So, when I go out, I hear first grunt, grunt, squeak, squeak, but this does me no harm. I am always in good humour. Sometimes, to

amuse myself, I give a beggar a guinea. He thinks it a mistake, and for fear I should find it out, off he runs as hard as he can. I advise you to give a beggar a guinea sometimes; it is very amusing." The daughters are very pleasing. The second son is a mighty hunter; and his father lets him buy any horses he likes. He lately applied to the Emperor of Morocco for a first-rate Arab horse. The Emperor sent him a magnificent one, but he died as he landed in England. The poor youth said very feelingly, that was the greatest misfortune he ever had suffered, and I felt strong sympathy with him. I forgot to say that [soon after Mr. Rothschild came to England, Bonaparte invaded Germany. The Prince of Hesse Cassel, said Rothschild, gave my father his money; there was no time to be lost; he sent it to me. I had 600,000 pounds arrive unexpectedly by the post; and I put it to such good use that the prince made me a present of all his wine and his linen."

THE ADVANTAGES OF TEACHING COMPOSITION PROPERLY IN COUNTRY SCHOOLS.

[The following essay was read by Miss Christina Mustard, of School Section No. 5, Hay, before the Exeter district Teachers' Institute, at a meeting held Nov. 7th, in Exeter.]

Before we can treat of any given subject we must have a clear conception, in our own minds, of what that subject is, else how can we tell what benefits will arise from the studying of it. In treating of composition, I will first try and describe what it is. Second, what it does. And lastly, why it should be taught in country schools, or rather what benefits country children will derive from studying it? What is composition? Were I to answer in my own words I would say, composition is the study which

by proper culture enables us to invent ideas and clothe those ideas in appropriate and elegant language. But, if we ask quite a large proportion of our school children, we will get a very different answer. Their definition will be somewhat after this style: Composition is the driest, hardest, most hateful old thing we have to study in school. These two definitions you will admit are very different; yet they come from two classes of persons who ought to agree. We will find the reason of this difference, is in composition not being properly taught. Some seem to think that it is a subject that cannot be studied in school until the scholars are pretty well advanced and understand the rules of grammar. Now, as I re-

gard it, and intend trying to treat it, this is rank nonsense; for is not the art of conversation also the art of composition. Must we not in talking try to clothe our ideas in appropriate language, or else how will we be understood by those whom we are talking to; so that in a manner a child commences composition long ere he comes to school. After he enters the school-room almost, if not altogether, the first lesson he receives, is a lesson in composition. To be sure the teacher does not say "Come now my little dears, and have a lesson in composition;" nor would they understand him if he did. Still, if he teaches properly, he does teach composition. The first lesson on our table, is about "an ox." The first thing we do is to ask the children what an ox is? what it looks like? what it is used for? &c. In answering the question, is not the child composing? We ask them to tell us what the lessons said, and they in their own words give us an account of it. Are they not having a lesson in transposition? Thus from the very first day a child enters the school-room we encourage him to give us his own ideas about persons and things in general, and help him to clothe those ideas in proper language. We then teach him composition, and what is inseparable from it, language lessons, and in such a manner as makes them pleasant to him. Thus at every stage in his progress in school he is trained up in habits of thought, without which it is impossible to excel in composition, nor are his lessons confined to those he gets in school. I have now in my mind's eye a teacher who taught his pupils as much, if not more, of their composition, on the way to and from school, and at intermissions in rough weather, than in lessons in the school. He always encouraged them to come with him and talk to him; he encouraged them to debate with him and also among themselves, with him as umpire. He showed them how to arrange what they wished to say, in the best manner, and thus

helped to form the desire to be able to do it better. Every teacher may not have the chance that he had, still we all have plenty of opportunities if we only rightly improve them. But I have taken up more than enough of your time on this point which some may think partly foreign to my text.

In the second place: What does composition do? A late eminent writer has said, "composition gives us that power that puts us in possession of the future—transports us to all distances—makes us conceive objects invisible to the sense—introduces us to what is merely possible—sustains our strength by hope—extends the narrow sphere of our existence beyond the present, and thus by deepening the sources of our sensibility, fertilizes the field of our virtues." What is there that can do more than this? What greater end could we want to accomplish than to deepen the sources of our sensibility and fertilize the field of our virtues? Or, I might ask, what nobler aim could we have than cultivating our virtues or the virtues of our pupils? But you may ask does composition properly taught accomplish these ends? Does it put us in possession of the future? We know that to be in reality in possession of the future is impossible; still the one who composes and studies deeply to be able to excel, can, by comparing the past with the present, look forward to the future with far more certainty than he who does not so search and compare events. Does it transport us to all distances? What is it transports us wherever we fancy to go? Is it not imagination? Of course we must except hard cash, which has the magic power to take us anywhere if we only have enough of it. If we have to stay at home till our hard cash takes us abroad, I fear it will be a long time before we travel far. To illustrate better I will relate a school-day experience. We were studying composition, and the master proposed to another girl and me to write a letter as if we were travelling. On the road going home

I said "where are you going to travel?" "Oh, in Italy." "Well, I am going through Spain, and am to make a stay in Gibraltar." We wrote, and I can look back on these letters with almost as much delight as if I had seen the scenes described. Who will say that our mind's eye did not travel to all distances. We had read accounts of foreign lands but they did not seem to make the impression that those letters did. What aid do we get from compositions, in conceiving objects invisible to the sense?

Again, it is from our imagination that we derive the power of conceiving invisible objects, and what is better qualified to exercise that imagination and to deepen the impressions made than sitting down to think on some given subject and putting our thoughts on paper; it introduces us to what is merely possible, and sustains our strength by hope. It will not be necessary to dwell on those, as they are also partly the effect of imagination and the looking to the examples of those who have gone before us and conquered the difficulties which surrounded them. I think that you will own that one who delights in composing will also delight in looking to those who have had difficulties to contend against. How easy is it to imagine that we can do what others have done, and by getting the idea that we can, we really succeed. We know that we strengthen any part of our mind or body by exercising it, so if we exercise our sensibilities we will deepen it, and how better can we exercise it than by composing and reading good compositions on the finer feelings and fertilize our virtues by using our pen in the cause of virtue. We generally find that those who compose have their finer feelings more fully developed than those who do not; as their leisure time is so fully occupied with what is refined they exclude the grosser elements. But composition does even more than this. It enables us to entertain our friends and acquaintances. To be able to converse well, it is

necessary first to have a good general knowledge, and second that we have self-possession. In regard to the first we know that it is most likely that those who are deeply read and note events for future reference, will be able to converse on past and present events. But as self-possession is even more important, we will give a longer notice. We know that to have self-possession we must have the knowledge. Of this we have daily illustrations in our schools. Which of the scholars come to recitation with self-possession and confidence? Not those who have only half learned their lessons. No, but those who have given time and attention to their studies and know that they understand the matter in hand. Just so is it in common conversation; before we can talk with confidence we must feel sure we understand what we are talking about. But there is even more than this required. We must feel that we have words at command to clothe our ideas. Words are to ideas what dress is to the person, and I grieve to confess that quite a proportion of the world is apt to judge the person after the same standard, by the grandness of the exterior. You may ask how does composition give us that possession? Why the person who has long been accustomed to putting his ideas on paper cannot help knowing that he is able to clothe his ideas with fluent speech, and that certainty gives him command over himself. He feels he can speak because he knows what to say and how to say it. Composition also fits us for giving pleasure to our friends when we are absent. There is one whom duty or pleasure has taken from his native land. His friends have neither the will nor the means to go with him; yet they know that he will see many things that would interest them. How can they share in his pleasures and see those beautiful sights he sees and enjoys? By his being able to compose he can take notes as he passes along; rapidly it may be, still he has time to note what in-

terests him most, and when he has arrived at his destination and settled in his new home, what will afford him more pleasure than filling out those notes and sending them to his friends at home. In reading them they share his joy and see the sights he saw, and yet they have never left their home, or neglected their business. Will not his friends as they read his glowing description of foreign places and things be glad that he studied composition, and think of the dry account that would have been sent had he not been able to compose. It also enables us to give future generations the benefit of our experience and researches. In looking back we can see how much we are indebted to the great and good of the past. They by their command of language have handed down to us the fruit of their long years of toil and research after truth. In this they have left us a noble example, which says, "Go thou and do likewise." Is not ours a very scientific age, and is not science making gigantic strides, and are we not in duty bound to give future generations the benefit of that progress. There are discoveries made, investigations carried out, and truths elicited at the present time which the good of the future generations require us to transmit to them; and who is to hand them down? Simply those who are qualified to clothe them in the best language and arrange them in the best order, and we know that it is by the aid of composition alone that we can so clothe and arrange them. What better amusement or enjoyment for our spare time can we want than that of putting on paper what we may have heard that has interested us; or writing out our own thoughts; and it will also amuse us to read it in the years to come.

In the last place we will deal with the benefit country children will derive from studying composition. There is one thing that has always puzzled me; that is, why even educated and intelligent people think that country children do not require as

much or as thorough an education as town or city children. We hear the expression "town schools" and "country schools," or "town children" and "country children." In my mind there can be but one of two explanations for these terms. Either they regard the country children as being intellectually inferior to town children, or else they regard the country teachers as belonging to a lower grade. Now, neither of these conclusions is very flattering. We often hear it said of a boy who has a good education, "It is a pity he stays on the farm; his education will be wasted." It is one point I never could see why education is wasted on a farm. Has not the farmer as much need of a good general education as any one else? If he has not I wish some one would tell me why. But it is not with education in general, but with composition in particular that I have to do. What special need have our boys and girls of it? If our country girl has not as many friends to write to as your city belle, is that any reason why she should not be able to write them as correctly? She sees sights which are more worthy of being written about than your last ball or theatre, and shall we deny her that instruction necessary to qualify her to describe them. Are not our boys as likely to have to draw out promissory notes, drafts, bills, and orders as your city ones? His business transactions may not be so numerous as those of the merchant or broker, but is that any reason why they should not be as correctly done both as regards form and expression? You will all answer, no. The farmer is always making experiments and if he, by years of experience and study, has gained knowledge which would be of use to the younger ones, let him write to his agricultural papers and there give others the benefit of his toils. You all know that whatever is written on teaching, and more especially by teachers, is interesting to us. Just so with farmers; and and if practical farmers wrote more, their papers would be

more interesting to farmers. To be able to do this, it is necessary to have learned composition; and we know that if they have not studied it in school they are not so likely to take up the pen in after years or if they do, not likely to excel. Again, will not country children find the benefits of studying composition when they come to be men and go to their agricultural societies and are called upon to speak? Yet if we wish to hear them speak fluently, we should teach them composition while at school. We are proud to see the farmers' sons stand up and advocate temperance, yet to be able to plead for temperance, they must have studied composition either in school or in after life; and as it is easier to study in youth than in after life, our country children have a right to ask for the teaching of composition, so as to save them from the toil which will be required to study it alone in after years. Again, where do our councillors come from? Our country schools; and judging by the speeches of a great many of them, we would say that when they went to school composition was not taught, or if it were, it was in that dry, distasteful manner that makes it the horror of the young. Let us look around and see where our leading statesmen come from? Again we answer our country schools. It was there they learned to compose, and we know not the weary hours that some of them have spent in making up for that training they should have received in school. We all want and we all work to raise up a generation of men and women who shall be able to take the place of those who must soon pass away, and if we would see them fill their positions with credit and honor we must educate them for those positions. I ask what subject is more calculated to develop the whole mind than composition? To be able to compose

well we must read so that we may become acquainted with the best authors and their styles, so that we may have all the information possible on the subject in hand. We must think deeply and concentrate all our thoughts on the subject, so that we may give it full justice; and lastly, to compose, we must understand the rules of grammar and by thus learning them practically we will be more likely to apply them to our daily talk, and understand them than if we, to use a common expression, "had gone through all the text books in Christendom." I say it with all true deference to our grammarians who have written those books.

I have tried to show the advantages arising from the proper teaching of composition, and if we are to strengthen the intellect, deepen the sensibilities, make us more virtuous, provide a resource for leisure, and a never failing source of amusement, why not give country children the benefit. It is through our country schools that we can reach the great mass of our people; country people are called the bone and sinew of the country. Then let us by all means give them that education that will raise them to the position they were designed to occupy. Let us teach them composition that we may implant the love of reading good books, and the love of advocating good causes, in fact the love of all that is noble, and hatred of all that is base; and this I think we can do if we teach them to love composition and thus to fill up that spare time which is so apt to be spent loafing around taverns. This I think we may accomplish in the time children are sent to school, at least we can implant the love of composition, and we will have accomplished our aim, as they will find the time and means to perfect themselves in it.

HOW TO TEACH READING TO A SENIOR CLASS.

CONDENSED NOTES OF AN ADDRESS DELIVERED BEFORE THE STRATHROY TEACHERS' ASSOCIATION—1874.—BY J. T. WOOD, LOBO.

Good reading is an accomplishment of inestimable worth ; no subject of study in the whole curriculum of our Public Schools can outweigh it in importance. It is an accomplishment which crowns its fortunate possessor with daily enjoyment, enriches him with constant acquisition of knowledge, makes his society a delight to those around him, and enables him, even in solitude, to enrich his mind, by holding social converse with those who have "gone before;" whose names have been indelibly inscribed on the roll of literary fame, because of the beautiful thoughts they have embodied in our noble English tongue—that language which, to-day, conveys to the multitude of earth's inhabitants, the loftiest inspirations of genius, and the most abstruse truths of philosophy—"which goes with Freedom, Thought and Truth, to rouse and rule the world."

We may justly feel proud of the tongue we speak, and we should be ambitious to read and speak it well. Its music and cadences sound along the surf-worn shores of Albion, its adopted mother land; or float among Jura's crags or Mona's hills ; go where we will—there, we shall find our own good Saxon tongue, to cheer and bless mankind. The poet has embodied a great deal in those two words—"cheer" and "bless;" and the Teacher who, (in connection with reading), would cheer and bless mankind in general, and his pupils in particular, must faithfully improve those vocal powers and capacities—that wonderful physiological mechanism of voice, which his Creator has given him to this end ; for, to insure success in teaching reading, the teacher himself must be what he would have

his pupils become ; he must be as far as possible—an elocutionist.

There is a vast difference between having pupils read a lesson, and teaching them how to read it—between telling them of their errors, and showing them by *example*, how to avoid those errors.

The first great requisite, then, in teaching reading is that the Teacher should thoroughly prepare himself for his work and bring all his "ingenuity and ability, his earnestness and energy," to bear for the attainment of success.

The subject of Elocution is very properly divided into two branches, Physiological and Intellectual ; the former, comprehending the culture and management of the voice, and the latter comprehending the Study of the Author's thought and language, together with the application of principles, leading to expressive and effective delivery.

In teaching reading, the successful teacher will not fail to give due attention to the first named department—in which, Articulation, Accent, Emphasis, Inflection, Pitch, Force, Tone, Time, &c., will be separately and severally taught and practised. There will be thus a great diversity of exercises—which we may call "vocal gymnastics," the purpose of which will be "to bring the vocal organs under control, to increase their power, and to improve the tone and purity of the voice. Music will lend its aid, to a considerable degree in this department. For valuable exercises and information in both the Physiological and intellectual branches of Elocution, the reader is referred to the "Dominion Elocutionist," by R. Lewis, though the judicious and painstaking teacher will frame such exercises for himself,

and employ various expedients, to develop the vocal organs of his pupils; thus furnishing them with lessons, as interesting and entertaining, as they are beneficial and necessary.

In the intellectual part of Elocution, the teacher ought to give a full explanation of the composition to be read; he will here employ the pupils' knowledge of grammar, requiring them to give the analysis of sentences, thus ascertaining the important and

emphatic words and the Rhetorical Pauses, as well as the particular Pitch and Tone required to render the piece effectively.

The Explanation of the Composition may comprise fact and instruction, in various branches, *e. g.* Historical, Geographical, word-analysis and definitions, figures, of speech, proper names, &c.; also directions, where to apply the principles learned and practised in Physiological Elocution.

HINTS ON SPELLING.

BY J. S. C.

For many years, spelling has not secured the attention it deserves in many schools, that in other respects have attained a high standing. How to remedy the defect has frequently been discussed, and in some measure the solution is dawning on the minds of those most anxious in this direction. Avoiding any further preface, let us ascertain how we learn to spell, and why. We can learn to spell by sound, for instance, a word is spelled aloud, those listening can repeat the sounds and thus learn it. We can also learn by sight which is considered the better way. Each word has, generally speaking, a different form, consequently the various combinations that may be made out of the letters form different pictures; these the memory of the eye, if I may use the expression retain, and as a result progress is made in spelling. The principle involved is precisely identical with that called into requisition in distinguishing the animals and things by which we are surrounded; each forms a picture, the memory retains this and recognizes it again.

The question now to determine is, which is the better way, and before proceeding to the reply, it may be as well to state, we learn to spell to be able to write correctly.

Any other use of this department of orthography is altogether unworthy of notice in a short paper like the present. If it is true that we study this subject for the sake of being able to write correctly, and the statement can scarcely be successfully contradicted, then writing should be the medium by which it is taught. It is a fact, apparent to every teacher who has taken the trouble to observe that words correctly spelled orally, are missed when attempted on paper. The deduction then is plain, that learning to spell by sound is very defective, inasmuch as it defeats the end for which it was designed. It is hard to imagine a person being sure of the oral spelling of a word, and writing it incorrectly, yet such is the case, explain the peculiarity as we may. If this proves anything, it must be that oral spelling is defective.

Looking closely into the matter, we notice that in both cases the words are pronounced correctly by the teacher. Then, why errors in one method and none in the other? It must be admitted that early training is keenly felt here, and, in fact, is the leading cause of bringing about this undesirable state of inefficiency.

Let us for the sake of illustration take a class from its entrance into

school and observe the manner in which it might be treated with the expectation of procuring fair spellers. At present, it is generally conceded that reading should be taught before spelling is attempted in any form. The argument that proves this the best method, need not be repeated. To proceed, the reading of the lesson is fully mastered, the eye has dwelt for some time on each word, and the pupils can readily recognize all the words under consideration. The time has now come to ask some printing to be done; for this purpose each has a slate and pencil. The lesson is printed one or more times; be it carefully remembered no attempt at oral spelling is made. In this manner the lessons of the first book are taken up, carefully read and carefully printed. It must not be forgotten the latter sounds are taught incidentally as the lessons are read. This is teaching spelling through the medium of writing, although it is only in embryo. Now, it may be fearlessly asserted that a class passed through the first book in this manner—will spell the words correctly either orally or from dictation.

To many it may seem strange, nevertheless, it has been thoroughly tested and found to succeed most admirably. Of course as the class advances the printing ceases and writing commences; at a further stage regular dictation lessons begin.

We must not forget that the form, sound and meaning of most words should meet the attention of teacher and class. The form is recognized by the eye, the sound by the ear, the meaning given should be that which the word has in the passage under consideration. It is by no means admissible in good teaching to have pupils consult a dictionary; let the teacher give the

meaning, words have so many shades of that meaning; consulting a dictionary frequently gives an erroneous rendering to a sentence.

Our next inquiry is how to test the preparation of an assigned lesson. The general test seems to be the giving of sentences, asking certain words to be spelled orally. Now, this by no means searches the class, for, suppose there was forty members in it, by the time each would have spelled a word the allotted time would have expired and almost nothing done. Some ask the words to be written on slates; this has the advantage of all writing every word given by the teacher, but the pupil is left to himself to say whether he spelled the words correctly or not, hence dishonesty is superinduced, consequently this plan should not be adopted. The only alternative then, is to write the lesson in a book for the purpose; let the teacher examine all the books and mark the errors, get them corrected at home and frequently give them at the next lesson. But some will say, if we spell every day, it will take a great deal of time to mark the books; well, be it so, the teacher's full time and energy should be devoted to the welfare of his school; he who thinks his labor is limited to the time between nine and four, has very much mistaken his calling. It is by no means objectionable to spell orally occasionally; likewise, spelling matches once a week do good, but certainly the method enunciated is the true and only test of the preparation of assigned lessons. Teachers should continually bear in mind that life is short, that time lost by children cannot be recalled, and that no valid excuse can be given for trifling with the interests of those placed under our tuition.

SOLUTIONS TO QUESTIONS.

BY J. C. GLASHAN, ESQ.

NORMAL SCHOOL FOR ONTARIO—EXAMINATION FOR FIRST CLASS CERTIFICATES—DECEMBER, 1874.

Arithmetic.

1. A merchant begins business with a certain capital; he gained 20 per cent. the first year, which he added to his capital, and $37\frac{1}{2}$ per cent. the second year, which he added to his capital; in the third year he lost 40 per cent., and found that he was \$200 worse off than when he began business. Find the amount of capital with which he started.

2. A tradesman deducts from his prices at six months, 6 per cent. for cash, and 4 per cent. for three months credit. At his six months' price he gains 30 per cent. What advance on the cost price does he receive, when he sells at three months' credit, an article that for cash would bring \$4.70?

3. A crew can row up a stream a certain distance in 64' and back again in 60'; determine the distance, the rate of the stream being half-a-mile an hour.

4. A farm is let for £96, and the value of a certain number of quarters of wheat. When wheat is 38 shillings a quarter, the whole rent is 15 per cent. lower than when it is 56 shillings a quarter. Find the number of quarters of wheat which are paid as part of the rent.

5. There are two sets of workmen; 7 of the first and 4 of the second can do a certain work in 6 days, while five of the first and 6 of the second can do it in 5 days—it is required to complete the work in 4 days, and six of the first set are employed. Find the least number of the second set that must be added to complete the work in the specified time.

6. A municipality borrows \$20,000 payable in ten years. Obtain an expression for the tax annually to be raised and deposited as a sinking fund, so that at the end of the time the debt, principal and interest shall be liquidated—money to bear interest at 6 per cent.

7. Apply the *contracted* methods to find the product of 24.63 and .2347 correct to

six places; and the quotient of 8.1244 by 4.4208 correct to three places of decimals.

8. If 14 oxen eat 2 acres of grass in 3 weeks, and 16 oxen eat 6 acres in 9 weeks, how many oxen will eat 24 acres in 6 weeks, the grass on each acre being equal at first, and growing uniformly?

9. Two men form a partnership for 7 years; A is to have $37\frac{1}{2}$ per cent. of the net annual profits for the first half of the time, and 50 per cent. for the remaining half: after $4\frac{1}{2}$ years the annual profits increased in the ratio of 7 to 6 owing to a reduction of duties, and at the same time an income tax of $24\frac{1}{4}$ per cent. was imposed; at the close of the partnership A's share of the total net profits is \$17,180. Find the annual profit of the business during the first $4\frac{1}{2}$ years.

10. (1) The sides of a triangle are 9 chains 62 links, 6 chains 38 links, and 7 chains 20 links. Find the area.

(2) Find Area of Ellipse, axes 33 feet 5 inches and 20 feet 3 inches.

(3) Find contents of frustrum of a cone, diameter of larger end being $2\frac{1}{2}$ inches, of smaller, one inch, and depth 5 inches.

SOLUTIONS.

(1) Each \$1 he invested at the beginning of the first year became \$1.20 at the end of it. He reinvested this during the second year, and gaining on it at the rate of $37\frac{1}{2}$ per cent., it became \$1.65. He reinvested this during the third year and losing on it at the rate of 40 per cent., it fell to 99 cents. Thus at the end of three years, each \$1 originally invested had become 99 cents, hence for every cent in his loss, he must have invested \$1. But 1 cent is contained 20,000 times in \$200, therefore, he must have started with 20,000 times \$1, i.e. \$20,000.

(2). For each \$100 of cost price the tradesman charges \$130 at six months credit.

For cash he throws off 6 per cent. of the

\$130 or \$7.80; thus for each \$100 of cost price he charges \$124.80 at three months credit, or an advance of \$24.80 on the cost price.

Hence for every \$122.20 cash value, he would make an advance of \$24.80 selling at three months credit. Such a part as \$4.70 is of \$122.20, such part will the advance required be of \$24.80. Solving,—\$4.70 is the $\frac{47}{1222}$ of \$122.20 \therefore the required advance will be the $\frac{47}{1222}$ or $\frac{1}{26}$ of \$24.80 = $95\frac{1}{3}$ cents.

(3). The crew rowed for 124' during which time the stream carried them down $\frac{3}{4}$ of a mile. Had there been no current they would have had to make this $\frac{3}{4}$ of a mile by rowing, and would evidently have been 4' longer in getting back, hence they would row $\frac{3}{4}$ of a mile in 4', or $15\frac{1}{2}$ miles an hour, where there was no current. Going down stream they would make 16 miles an hour, and as they made the distance in that time it must have been 16 miles.

(Graphically.) The stream will carry them down $\frac{2}{5}$ of a mile in 64'. Draw a line AB making A (down stream) the starting point and B (up stream) the turning point. If there had been no current against them, the crew starting from A would in 64' have rowed $\frac{2}{5}$ of a mile beyond B, say to C. Again starting from B, had there been no current with them, the crew would in 60' be still half a mile short of A, say at D. Thus in still water the crew could row from A to C in 64' or from B to D in 60 minutes, hence in 4' minutes they could row the length of both AD and BC = $(\frac{1}{2} + \frac{2}{5})$ of a mile. In 60' they could row 15 times as far or $7\frac{1}{2} + 8 = 15\frac{1}{2}$ miles. Hence from B to D is $15\frac{1}{2}$, and therefore from A to B is 16 miles.

4. Fifteen per cent, off would leave a rent of £81.6 and wheat 47.6s. the quarter. Hence £81.6 in money and wheat at 47.6s. the quarter is as good as £96 in money and the wheat at 38s. the quarter, or £14.4 more money makes up for a reduction of 96s. on each quarter of wheat. But it requires $30 \times 9.6s.$ to make £14.4, hence there must have been 30 quarters of wheat. (See Teachers' Desk, Prob. 83, December 1874.)

$$5. I. \begin{array}{l} 7, 4, \frac{1}{8} \\ 5, 6, \frac{1}{6} \\ 6, \pi, \frac{1}{4} \end{array} = 0 \quad \therefore n = 7\frac{1}{7}.$$

Hence there must be at least 8 of the second set employed.

II. Let the workmen of the first set be called B's and those of the second set M's.

7 B's and 4 M's can do the work in 6 days, hence 42 B's and 24 M's can do it in 1 day,

5 B's and 6 M's can do the work in 5 days, hence 25 B's and 30 M's can do it in 1 day.

\therefore 42 B's and 24 M's can do as much work as 25 B's and 30 M's; thus by adding 6 M's to the first gang we may dismiss 17 B's leaving the second gang.

\therefore 6 M's can do as much work as 17 B's
 \therefore 1 M working $\frac{6}{17}$ of the time, can do as much work as 1 B working full time;

But 25 B's and 30 M's can finish the work in a day

\therefore 24 B's and 30 M's, with 1 M for $\frac{6}{17}$ of a day can finish the work in a day.

4 M's working each $\frac{1}{4}$ of a day can do as much as 2 M's working each a full day, and a third M working $\frac{2}{3}$ of a day;

\therefore 24 B's and 28 M's with 4 M's each for $\frac{1}{4}$ of a day, can finish the work in a day;

\therefore 6 B's and 7 M's with 1 M for $\frac{1}{7}$ of each day can just finish the work in 4 days,

Hence 7 M's with the 6 B's would not finish the work in 4 days, while 8 M's with the 6 B's would finish it a little within the time.

III. Mark off the work as if it were in a field. Divide the field into six equal parts. A gang of 7 B's and 4 M's can finish each part in a day, hence 6 such gangs could finish the whole 6 parts in a day. 6 such gangs would contain 42 B's and 24 M's.

Taking another equal sized field, divide it into 5 equal parts. A gang of 5 B's and 6 M's can finish each part in a day, hence 5 such gangs could finish the whole 5 parts in a day. 5 such gangs would contain 25 B's and 30 M's.

Hence 42 B's and 24 M's can do as much work as 25 B's and 30 M's. Now there are 17 B's more in the first gang than there are in the second, but there are 6 M's more in the second gang than there are in the first. Thus instead of hiring 42 B's and 24 M's we may hire 6 more M's, and drop off 17 B's the 6 M's doing the work of the 17 B's.

Take 17 fields, and put in each a gang of 25 B's and 30 M's. Every field will be

finished in a day. Dismiss a B from each gang, making 17 B's dismissed in all, and in their place hire 6 M's.

There will now be in each field a gang of 24 B's and 30 M's and there will be 6 M's extra, to distribute their labor among the 17 fields; and every field will be finished in one day.

Take 2 M's from every gang and add these 34 M's to the extras, making in all 40 M's extra.

There will now be 17 gangs of 24 B's and 28 M's, and with the 40 M's extra, distributing their labor amongst them they can finish the 17 fields in a day.

A quarter of each gang, with the help of a quarter of the extras, would finish a quarter of each field in a day, and consequently if they alone worked, it would take 4 days to finish the 4 quarters. Hence 17 gangs of 6 B's and 7 M's together with 10 M's extra could finish the 17 fields in 4 days. Had there been no extras, each gang would not have quite finished its field in the 4 days, while had there been 17 M's extra, the work would have been finished *within* the 4 days. But 17 M's extra would allow an extra to each field and would consequently raise each gang to 6 B's and 8 M's.

Thus we find that had there been 6 B's and 7 M's in each field, it would not have been quite finished in 4 days, while with 6 B's and 8 M's in each field, it would be finished in somewhat less than 4 days.

See Note.

6. Let the interest be drawn annually and added to the new deposit; this gives interest compounded annually. Each \$1 of the deposit at the end of the first year will have become \$(1.06) at the end of the tenth year. Similarly each \$1 of the second year's deposit will have become \$(1.06)⁹; and thus on for the other years. Thus \$1 raised and deposited annually will at the end of ten years have become

$$(1.06)^9 + (1.06)^8 + \dots + (1.06)^2 + 1.06 + 1 \text{ dollars or } \frac{(1.06)^{10} - 1}{1.06 - 1} \text{ dollars.}$$

Thus as often as this is contained in \$20,000, so often must \$1 be raised and deposited. The result is

$$\frac{\$1200}{(1.06)^{10} - 1}$$

Besides this sum to be deposited, there must be raised to meet the interest coupons 6 per cent, of \$20,000 or \$1200. To find the sum to be raised this \$1200 must be added to the former sum giving

$$\frac{(1.06)^{10}}{(1.06)^{10} - 1} \times \$1200.$$

(Since the rate on the debentures is the same as that on the deposit the formula is easily obtained by annuities being No. VII in Sangster's National Arithmetic, p.361.)

7. The common contracted method is too tedious to be applied in the multiplications; better even to multiply by $\frac{1}{3}$, 6, and four times the 6 line. Since $24.63 = 25 - \frac{1}{3} = 24\frac{2}{3} - \frac{1}{3}$, multiplying by 11, by means of addition from the left, and dividing by 3 as we go on,

$$\begin{array}{r} .2347 \\ 24.63 \\ \hline 5.8675 \\ \quad 86056 \\ \hline 5.781443 \end{array}$$

(8.) Mark off 3 two acre fields with 14 oxen in each. Throw down the dividing fences and there remains a six-acre field, with 42 oxen in it. Of these 42 oxen a certain number will just keep down the growth on the 6 acres, and might remain in the field any number of weeks without any change in the amount of grass in it. These we shall call *growth eaters*. The rest of the 42 oxen, which we shall call *grass eaters*, would eat off the original grass in 3 weeks. Had, however, $\frac{2}{3}$ of these been driven out the remaining $\frac{1}{3}$ of them would have eaten but $\frac{1}{3}$ of the original amount of grass per three weeks, and would be 9 weeks in finishing such a field, the *growth eaters* meanwhile keeping down the growth. But for the field to last them 9 weeks there must be but 16 left, hence there must have been 26 of the 42 oxen left out. Thus $\frac{2}{3}$ of the *grass eaters* must have been 26 and consequently the whole three-thirds were 39. The remaining three oxen were *growth eaters*.

24 acres would contain 4 six-acre fields requiring 3 *growth eaters* to each, or 12 in all. 39 *grass eaters* would clear off one field in three weeks, and a second field the next 3 weeks, or two of the fields in 6

weeks. 39 other *grass eaters* would clear off the other two fields in 6 weeks, so that 78 *grass eaters* along with the 12 *growth eaters* would clear off the 4 fields or 24 acres in 6 weeks. But $(78+12)$ oxen = 90 oxen.

(9.) We deeply regret finding such a problem in a paper otherwise so excellent. It reminds one of the preposterous questions formerly so common in certain kinds of arithmetics, and which brought *Commercial Arithmetic* into such disrepute during the latter part of the last century. Compared with the rest of the paper it looks like the picture of a mermaid or of a centaur in a zoological museum.

The following is one out of the dozen or more solutions depending on the *assumed data*.

Assume that the partnership was commenced between April and November (on the 1st July 1867 say) that assessment is made in April on the *preceding year's income and in full*, and that the tax is collected in November.

On every \$144 annual profit, A received from the 1st July 1867 to the 1st January 1871, ($3\frac{1}{2}$ years), at the rate of \$54 *per annum* or \$189 in all. During 1871 he received \$72. In 1872 the annual profits so increased that each \$144 became \$168; but an income-tax struck on the the \$144 of the preceding year, and amounting to \$4.20 had to be deducted, leaving a net profit of \$163.80, of which A received \$81.90. In 1873 the annual profits remained the same as in 1872, but the income-tax (struck on the gross income of the preceding year), amounted to \$4.90, leaving a net profit of \$163.10 of which A received \$81.55. In 1874 the partnership was closed on the 30th June, up to which time it had returned a gross profit of \$84 per the \$144 of the first year. But the income-tax, assessed in April, must be met in November and is a liability. This will be as before \$4.90 per original \$144, leaving a net profit of \$79.10, of which A receives \$39.55. Thus for every \$144 profits during the first year of the partnership, A's total net profits on closing the business will be $\$(189+72+81.90+81.55+39.55) = \464 . Take \$144 as many times as \$464 is contained in \$17180; result $5533\frac{1}{2}$.

(10.) Mere mechanical calculations.

NOTE.—The above solutions have been

given rather fully that it may be seen how very elementary even a nominally difficult paper may be made. Three solutions have been given to No. 5, I by the symbolic method, II in the common arithmetical style, III, a graphic solution. The problem well brings out the special excellence of each method. The symbolic style, neglecting the subject matter of the special problem set (e.g. reasoning about the work of a fraction of a man) leaps direct to the solution through the mathematical forms, expressing the physical relations involved in the problem. The graphic method assuming nothing, but the simplest axioms, and *immediate* inferences from experience, (but not experiential generalizations), is tedious, but easily *followed* as a proof. The symbolic method excels for *solution*, the graphic method for *proof*. The common arithmetical method combines somewhat of the excellence, and shares largely in the defects of both the other methods. It needs both arithmetical knowledge and generalized experience of quantitative physical relations. It lacks the compactness and power of the symbolic method, and at the same time it affords not the mental crutch found in the figures of the graphic method. Borrowing an illustration from Geometry, the symbolic method is as if in solving a problem, one should demand the right of reference to the whole of modern higher geometry, the common method would ask power to refer but to the Elements of Euclid, while the graphic method would deduce the whole solution direct from the definitions and axioms. It is evident the graphic method should be sparingly used by any one who thoroughly understands a solution, without reference to the figures supposed to be drawn. (Unless the figures are drawn the method is *worse than useless*.) Such an one should use reduced methods of which the solution of (4) is an example, for it is simply the graphic solution without the picture references and their methods of division (really separation.)

I have called that method which needs least abstract reasoning beyond the simplest axioms, *the graphic method*, but in reality any solution can be made a graphic one, just as a really clever and well-trained boy could work any problem in arithmetic from simple addition to the calculation of a logarithm *with a jack-knife and a piece of stick*.

SELECTIONS.

JOHNNY BEGINS TO STUDY BOTANY.

BY ADAM STWIN.

Johnny is an imitative little fellow.—Whenever he sees any one doing anything, he is very apt to want to do it too. He came the other day to my summer study room—in the hay barn on the hill, where the air is always fresh and cool—and found me busy with a lot of plants that I had gathered in the woods that morning. He looked on curiously for a little while, then asked what I was doing that for.

“Doing what?”

“Why, picking all those weeds to pieces and putting them away in those big books.”

“I’m afraid you haven’t been looking sharp,” I replied. “I don’t put away those I pick to pieces.”

Johnny was still again for two or three minutes, then he broke out with, “What do you pick them to pieces for?”

I told him they were plants that were new to me, and I was studying them to learn what they were like and what their relations were.

“Relations! Do plants have relations?”

“Certainly,” I replied.

“That’s queer! And is that the way you learn so much about them?” Johnny asked.

“Chiefly.”

“I wish I could do that,” he said after another period of silent watching.

“So you can.”

“When?”

“Any time; now, if you want to.”

“Will you show me how?”

“With pleasure.”

“Right away?”

“Right away.”

“Well,” said Johnny, after waiting awhile, “I am ready.”

“So am I.”

“But I don’t know what to do,” said Johnny.

“You must get your plants first,” said I.

“Where?”

“Anywhere—out in the garden, if you like.”

Johnny ran to the garden, and was soon back again with his hands full of leaves and stems.

“Will these do?” he asked.

“Suppose you wanted to study animals, and I should give you the ear of a dog, the tail of a cat, the foot of a hen, a cow’s horn, and a piece of sheep skin to begin with, do you suppose they would help you much?”

Johnny laughed at the idea of such a funny mess, and said he thought a whole dog would be better.

“A good deal better,” said I; “and a whole plant would be better than all these pieces.”

“Can’t you tell me what their names are from the pieces?”

“I could,” I replied, “but names are not what you are to study. You are to study plants.”

“Of course,” said Johnny, not knowing what else to say.

“I will go with you,” I said, “and show you how to get something to study.”

When we reached the garden, I stooped to dig up a weed that few boys in the country do not know something about—purslain, or, as it is commonly called, *pursley*.

“What is the use of taking that?” inquired Johnny. “Everybody knows what that is.”

“We’ll take it, for all that,” I said; “perhaps we may learn something about it that you never noticed before.”

“That’s catnip,” said Johnny, as I began to dig up a plant that stood near the first.

“You aren’t going to take that, are you?”

"Why not?"

"Cause," said Johnny, "I've known catnip ever since I can remember."

"Shut your eyes," said I. "Now tell me what kind of a stalk catnip has."

"Why," said Johnny, hesitating,—"it's just like—any other stalk."

"Like pusley?"

"No; pusley hasn't any stalk; it sprawls on the ground."

"Like mullen-stalk?"

"No," said Johnny, "not like that."

"Like corn-stalk or thistle?"

"Not like them either," said Johnny. "It's like—I guess I don't remember exactly what it is like."

"So you don't know catnip as well as you thought," said I.

"These two will be enough to begin with," I continued. "Study them carefully, and when I have finished with my plants I will come to see how you get on."

Johnny soon tired of studying by himself, or maybe he did not find very much to learn; at any rate it was but a little while before he stood at my table, plants in hand.

"Well," I said, as I put away my work, "what have you discovered?"

"Catnip-stalk is square," said the young botanist.

"Good," said I; "anything more?"

"It smells," said Johnny.

"What like?"

"Like—like catnip tea," said Johnny.

"Very like, indeed," said I. "What else have you learned?" Johnny hesitated.

"Is the pusley-stem anything like catnip?" I asked.

"Do you call those stems, when they don't stand up?" was Johnny's reply.

"Yes, those are stems."

"They're round," said Johnny, "and smooth. Catnip is fuzzy a little, and the stems are straight."

"Anything more?"

"The leaves are bigger than pusley leaves, and thinner and softer," said Johnny, comparing them."

"We haven't finished with the stalk yet," I said. "Can you tell me anything more about it?"

"That's all I know," said Johnny.

"How about the color?"

"It's green."

"Is the pusley-stem green?"

"Some of it, and some of it's almost white, and some is almost red; queer, isn't

it?" he went on, spreading the plant out as it grew in the garden. "The under side of the stems is pale, and the upper side is red—tanned, I guess in the sun."

"It looks like it," I said; "what is the color inside?"

"Shall I break it?"

"Certainly."

Johnny bent the pusley-stem with both hands, and to his great surprise it snapped short off.

"Oh!" he cried, "how brittle it is; I didn't think it would break so sudden."

"Try the catnip-stem."

"It won't break," said Johnny.

"Cut it with my knife."

"It's tough," said Johnny, "and woody and hollow. The stalk is square but the hole is round."

I took the knife, cut the stem across at a joint, and said: "I don't see any hole here."

Johnny was puzzled. "See," I said, splitting the stalk lengthwise, "the hollow is closed up at the joints where the branches begin."

"I shouldn't have thought of that," said Johnny. "What lots of things there are to learn about one stem."

"We've scarcely made a beginning yet," I said. "But before we go further let us recall what we have already found out:—

"The catnip-stalk is square; stands up straight; has a strong odor; is slightly fuzzy; is green; is rough and woody; will not break easily; is hollow, except at the joints; and —"

"That's all I can think of," said Johnny.

"And the pusley-stem is round; lies flat on the ground; is smooth; brittle; pale green below and red on top: solid—Are you sure of that?"

Johnny split a pusley-stem its whole length, and said there was no sign of a hole in it, adding meditatively, a moment after: "It takes a great deal of study to find out all about a plant, don't it? if it is a weed."

"A very great deal," I said.

"I think I know all about these now," said he.

"Oh no!" said I, "not nearly. You haven't learned anything about the roots yet, nor the branches, nor how they grow, nor about the flowers, nor the seeds, nor when they come up in the spring, nor when they die in the fall, nor what things eat them, nor

what they are good for, nor what their relation are, nor—”

“I'll never be able to learn all that!” cried Johnny, fairly frightened by the magnitude of the task he had undertaken. “And there are such a lot of plants!”

“It would be a terrible task, indeed,” I replied, “if you had to learn it all at once. But you haven't. Just keep your eyes open,

and take notice of the different plants you see, and you will get better and better acquainted with them every year. The older you grow the faster you will learn, and the more you will enjoy it. In a few years it will be better than play to you.”

“I hope so,” said Johnny, resolutely; “for I've got to learn them all. I'll try, anyhow.”—*Christian Union*.

THE SEVEN LAWS OF TEACHING.—IV.

REV. J. M. GREGORY, LL. D.

“The act of teaching is the act of arousing and guiding the self-activities of another mind so as to develop in it a given thought or feeling.”

Stated as a precept, this law may read thus: Excite the self-activities of the pupil, and leave him to discover the truth for himself; or, in other words, “tell him nothing which he can find out for himself.” The validity and value of this precept have been too often and too eminently stated to demand further proof. No great writer on education has failed to notice and enunciate it under some form or other, and if we were seeking for the educational maxim the most widely received among good teachers, and the most extensive in its applications and results, we should inevitably fix upon this. We can not, then, too earnestly inquire into its deeper meaning and philosophy.

By *self-activities* are meant the activities which the mind puts forth voluntarily, from its own impulses, and not from some external influence or control. The difference between the self-acting pupil and the pupil who only acts when he is acted upon is too obvious to need description. The one acts as a living and free agent; the other resembles a machine. The former needs only a hint to set him to work. Afterwards, prompted by his own inborn interest, he works on till he meets some overcoming difficulty or diversion, or reaches the end of his subject. The latter moves only as he is moved upon. He sees what is shown him, hears what is told, advances when the teacher leads, and stops just when and where he stops. The one moves by self-activities, the other by borrowed. The former resembles the mountain stream fed by

living springs, and drawn onward by the eternal gravitations of nature itself; the latter a canal dug by the side of some stream, or a ditch leading from a pump, which is filled only with borrowed waters.

He is evidently the true teacher who can awaken in his pupils these self-impelled activities; and that is true teaching, not which gives knowledge, but which stimulates pupils to gain it. Hence it may be said that he teaches best who teaches least.

The principles upon which this law depends have already been partly explained under the second and fourth laws of our series. They appear here, however, under new relations, and reveal new importance.

Let it be kept in mind that the great coordinate aims of education are to acquire knowledge and to develop power. Our present law derives its significance from both of these.

I. The pupil must evidently exercise his own cognitive faculties; must know for himself, or his knowledge is knowledge only in form. Knowledge is not substance, but an action; and the very effort required in this act of knowing is an essential condition to the vividness and completeness of the knowledge. Toil gives both appetite and digestive power, and he who is taught without study, like him who is fed without labor, will lose both strength and appetite. His knowledge will neither delight nor nourish him.

II. The effort of the mind in gaining its knowledge, in perceiving, comparing, arranging, and demonstrating its ideas, is the very means necessary to acquire the strength and skill in using knowledge. The self-activities can only grow strong and skillful by exercise.

III. But the argument goes deeper. Faith or confidence in our own powers is an essential condition of their successful exercise. This confidence can be gained only by the independent self-prompted use of these powers. We gain confidence to walk by walking; by seeing others walk. So the faith we need to feel in our own intellect must come from the self-controlled and successful use of that intellect.

IV. Every mind has its own peculiar characteristics and acquirements which can be known fully only to itself. It is therefore only when it works at its own pace and in its own ways that it will work easily and well. Better to David were his own simple sling and the five smooth stones he had himself-gathered from the brook than all the stout, splendid armor of Saul. Every thoughtful and observant teacher has had occasion to note the various and original ways in which different pupils will reach a result when left to themselves.

And especially marked are these differences of mental processes and ideas between children and adults. The knowledge of childhood is made up of simple facts and groups of facts, connected by the most obvious relations. The knowledge of adult age consists largely of general truths and principles. The child's thinking is a sort of mental seeing. It pictures, rather than thinks. It asks examples. The adult thinks by a series of judgments, applying general laws to explain particular cases. How irrational and absurd, then, for the teacher to attempt to transport his thoughts into the mind of the child, instead of inciting the child's mind to think its own thoughts in its own measure and way.

The second part of the law, as given in the precept, is but a corollary and necessary limitation of the first. For if the pupil is to learn by the exercise of his self-activities, it follows that he must be left to learn whatever he can for himself. The teacher's aid is to be given only when the pupil meets some insurmountable difficulties; and even then, the help should be confined to the mere hint which may stimulate and guide the pupils to more successful efforts.

It may be thought there is a discrepancy between this fifth law and the first and third; since those laws so strongly insist that the teacher shall be thoroughly prepared to communicate, and shall use clear and familiar language in making such communication,

while this law forbids him to tell anything which the pupil can learn without his telling. But it must be remembered that knowledge is the sole stimulant to the love of knowledge. The attractive glimpses of truth which the skillful teacher exhibits from his own stores powerfully excite his pupil's desire to know more.

Secondly, the full and familiar knowledge which the teacher possesses enables him to understand and skillfully remove the difficulties met by the pupil. Finally, only through his own thorough knowledge can the teacher determine when the pupil knows the lesson, and follow the work with thorough drills and reviews. As well insist that a general need know nothing of a battle field because he does not do the actual fighting. And yet it must be confessed that the ability to inspire pupils with a love of study may sometimes be lacking, even where great knowledge is possessed; and this lack is fatal to all successful teaching. Better a teacher with a poor and limited knowledge with this power to stimulate his pupils, than a very Agassiz without. The cooped hen may, by her encouraging cluck, send forth the chickens to the fields she can not herself explore; but sad the fate of the brood if they remain in the coop while the hen goes abroad to feed.

RULES.—As this law is central in position and importance, its practical applications are of the greatest value:

1. Lessons should be adapted to the ages and natural tastes of children. Young pupils will be interested in whatever appeals to the senses—truths in the concrete; older ones may be interested in that which exercises the judgment and imagination. Only the oldest will heartily enter into the truths of reflection. The first class will love the pictures in the Gospel narrative; the lessons must be word-painting. The second will delight in the actions and character described, and only the third will dwell with interest on the great doctrines involved.

2. Select lessons which relate to the present conditions and wants of the pupils. Pupils will be easily interested in things which personally concern them, or which throw light on the present experiences of life. The story of Lazarus will easily engage the thoughts of one who has just been to the funeral of a friend.

3. In giving out a new lesson, seek to interest the pupils in it beforehand. Hint

that something worth knowing is to be found out, and if possible, state some question of interest, and refer them to the lesson to find the answer.

4. Often start questions on the lesson during the recitation, and leave these questions for the pupils to investigate and discover the answer. It is often useful to seem to take a position beside the pupils, as a fellow-student, and to engage with them in the search of some fact or truth, or the meaning of some passage.

5. Take especial pains to draw from the pupil whatever he has thought or learned in regard to the lesson; and listen with a manifested interest and respect to any contribution, however small, which he offers to the common stock. If you accept at their full value his first products of thought, he will be eager to bring more to the same market.

6. Repress the impatience which can not wait for the pupil to explain himself, and takes the words out of his mouth. If you accept at their full value his first products of thought, he will be eager to bring more to the same market.

7. Repress, also, the desire to tell your pupils all you know or think on the lesson. If your thoughts are common-place, the pupils will say, "We know these things ourselves." If the thoughts are brilliant and original they may inspire admiration, but they will forbid imitation; the pupils will conclude their own thoughts worthless and cease to think.

8. Every explanation given in answer to the inquiries of a pupil should, if practicable, leave something for the pupil to inquire about. The expectation may help him over the obstacle, but should not carry him to the end of his journey; otherwise it will repress, rather than stimulate, the self-activities.

9. The recitations should never exhaust a subject, but rather break off in the middle, leaving work on hand for the next session of the class. The pupils will come again to see the end of it.

10. And especially the recitation should never exhaust the pupil's strength, fagging

his mind till it refuses to think. If the hour outlasts the pupil's strength, vary the subject, and introduce something new.

Such are some of the practical rules growing out of this law. Their great value will be recognized at once by every experienced instructor. They touch the highest part of the teacher's art. Their violations are among the most fatal errors of the classroom. Many a teacher, neglecting these plain rules, kills all interest in his class, and wonders how he did it. Perhaps he prepares his lesson well, and then tells with eager interest all he knows, preaching instead of teaching. Perhaps he fails to prepare at all, and is unready either to draw out the pupil's thought, or to answer rightly the questions which may arise. Sometimes he dogmatically silences the questioning he can not reply to, and resents as infidel impertinence all attempts at independent thinking.

In dull and freezing monotony he hears the recitation of the assigned lesson, and, without note or comment, gives out the next task. All free thought is repressed; all love of learning is frost-bitten in the bud, and all desire for knowledge or improvement is rooted out of the mind.

How different is the result where this great law of teaching is obeyed. The stimulated activities of childhood make the scene radiant with flashing light. The school-room is transformed under their power. It becomes a busy laboratory of thought and emotion. It grapples with great truths. It supplies, explains, illustrates these truths as vital questions of life and duty. It plants them as seed thoughts in rich, deep soil; it shapes them into opinions, and moulds them with the affections in great sentiments to control the heart and inspire the whole future life.

The pupils become thinkers, and move with an independent step over the fields of truth. The teacher does not head the march. Their reconnoissance becomes a conquest. Skill and power increase with the exercise, and the scholar of a year becomes the student for life.

EDUCATIONAL INTELLIGENCE.

CANADA.

—Mr. John Dearness who has succeeded Mr. Groat as Inspector for East Middlesex, laid before the County Council at its recent session an interesting and able report. The total expenditure for the past year in the Division is \$53,200.38. The highest salary paid a male teacher was \$600; highest paid female teacher \$500; lowest paid to male and female \$200. There are altogether 95 teachers, and they are, as a body, zealous in their profession. The total number of pupils is 9,218; average 3,777. Mr. Dearness makes a number of valuable suggestions in his report.

The *Journal of Education* for November gives the following summary of the provisions of the new School Law, showing the duty of the Trustees of every Public School in regard to the "compulsory" requirements of the School Act. First. They are required to employ a suitable person to take a school census of the sections, division, or municipality, once a year. Second.—The person who takes the censuses must distinguish in the census roll the names of the children who have not been sent to school or otherwise instructed for at least four months of the year, then next preceeding. Third.—The Trustees must either: (1.) Summons before a magistrate the parent or guardian of the children who have not been sent to school or who have not been otherwise educated during those four months, to answer for such neglect, or they they must: (2.) Impose and collect a rate bill of not more than a dollar per child, for every month of neglect. Should the Trustees refuse or neglect to give effect to the compulsory provisions of the Act, they will render themselves personally liable, at the suit of any ratepayer, for the amount of money lost to the school section or division, either from the non-attendance at the school of the absent children, or from the failure of the Trustees to impose and collect the prescribed rate bill for such non-attendance.

UNITED STATES.

—Advice from New Orleans tells us that the board of school-directors call on the

city for a half million dollars for the public schools this year.

—In the public schools of Tennessee the total number of white male pupils is 163,140, females 155,398; colored males 53,004, females 54,852. The total scholastic population reported last year was 418,185, the population this year 420,384. In one county (Fayette) the negro pupils outnumber the whites.

—A correspondent, writing from Camden, Ala., says, "All educational matters are at a low ebb in this state, except in a few cities and towns. Public schools are struggling between life and death, with a preponderance just now on the side of death. The penny-wise and pound-foolish system prevails."

—Ezra Cornell, the founder of Cornell University, died on the 9th of Dec., 1874. His health has been impaired by the pressure of public cares and duties. His donations to Cornell amount to over \$600,000. Rev. Dr. E. O. Haven has been inaugurated as Chancellor of the Syracuse University. This is, we believe, the third time that Dr. Haven has had the opportunity of delivering an inaugural address on a similar occasion. His Syracuse address contains many important truths.

—The Supreme Court of Indiana has decided that colored children have not the right to attend the public schools with white children, and we learn that colored children are being excluded from the public schools in many localities. In most instances no separate school is provided for them, and their exclusion is a denial of all advantages afforded by the public-school system. This is gross injustice. Colored youth are as much entitled to the advantages of public education as white youth, and either separate schools should be provided for them, or they should be admitted to the public schools attended by white youth.

BRITISH AND FOREIGN.

—In Sweden gardening forms a part of the educational system. Upwards of three thousand schools have gardens attached to them.

—Sir John Lubbock, M. P., recently said that the great fault of the present British system of education was the neglect of science.

—Professor Ruskin has begun his lectures at Oxford, and caused some surprise in his first lecture by an attack upon the ladies for coming in such numbers and taking all the seats to the exclusion of the undergraduates.

—A late cable dispatch announces that thirty-three members of the Council General of the Seine have passed a resolution recommending the establishment of gratuitous primary secular schools in Paris, attendance upon which shall be obligatory.

—The Russian Government has resolved to introduce the system of compulsory elementary education. A trial is to be made at St. Petersburg of the Berlin system, and the new schools will soon be opened.

—The total income of the University of Oxford, England, including its colleges and halls, for the year 1872, was 413,842 pounds sterling. The income of Cambridge was 340,562 pounds. Of these totals, less than one fifth was received for room-rents, dues, and fees of members, over 81 per cent. being revenue from property. Oxford has a landed estate of 192,467 acres, and Cambridge, 127,271 acres. At Cambridge, in the Michaelmas Term, 1874, there were 2,454 resident students.

CHOICE MISCELLANY.

Two things a man should never be angry at—what he *can* and what he *can not* help.

The right is the supreme good and includes all other good. In seeking and adhering to it we secure our true and only happiness.

The study of literature nourishes youth, entertains old age, adorns prosperity, solaces adversity, is delightful at home and unobtrusive abroad.

Teaching lays under contribution all science and all art in working out the grandest end that human conception ever realized—the perfection of the race.

A Lady of Worcester, Mass., ran against her husband for School Commissioner and beat him two to one. He can base an application for divorce on cruelty.

"Have you Goldsmith's Greece?" was asked of the clerk in a store in which books and various miscellaneous articles were sold. "No," said the clerk, reflectively, "we haven't Goldsmith's Greece, but we have some splendid hair oil."

A drawing-master who was given to scolding his pupils, once asked one of them "If you were to draw me, tell me what part you would draw first?" The pupil looked up in the master's face and quietly said, "Your neck, sir."

A young lady at home from boarding school, for the holidays, was asked if she

would have roast beef, when she replied, "No, I thank you: gastronomical satiety admonishes me that I have arrived at the ultimate stage of deglutition consistent with dietic integrity!" The young lady was never asked again if she would have anything.

"Your handwriting is very bad indeed," said a gentleman to a friend more addicted to boating than to study: "you really ought to learn to write better." "Ay, ay," replied the young man, "it is all very well for you to tell me that; but if I were to write better, people would find out how I spell."

—The Bishop of Manchester distinguished the other day between a perfectly instructed and a perfectly educated person. He said: "When a man goes out into the world knowing when he knows a thing, and knowing how knowledge is to be acquired, I call him a perfectly educated man."

—The Danbury News says: "We have seen a stick of wood weighing scarcely four ounces fall from a boy's arms, and striking on his toes render him incapable of further action for hours afterward, while the same boy has slipped with a pair of skates, and, striking on the back of his head with sufficient force to split that article open, has not only reached his feet unaided, but has given the boy who laughed at him one of the most astonishing whalings he ever received."

—Next in importance to having knowledge is the power to apply it in the right direction; takt teaches this. Takt is wisdom at work.—*Fosh Billings*

—Mark Twain thus prescribes for an aspirant for literary fame: "Young Author—Yes, Agassiz does recommend authors to eat fish, because the phosphorus in it does make brains. So far you are correct. But I can not help you to a decision about the amount you need to eat—at least, not with certainty. If the specimen you send is about your fair usual average, I should judge that perhaps a couple of whales would be about all you would want for the present. Not the largest kind, but simply good middling whales."

—There must be many who hear me who can not remember when they could not read. I am sure I can not. We ought to strive to come as near that as may be in the Primary schools, and then should give the scholars the best of all they can understand. I would choose first the classics of childhood: Robinson Crusoe, Grimm's Fairy Tales, the Arabian Nights, and along with them the stories of gods and heroes, the Mythology, the legends and traditions of History, ancient and modern, and I would take care to put within their reach, as the privilege for spare hours, Pilgrim's Progress, Don Quixote, and Shakspeare. I would even have the Iliad and Odyssey (illustrated) in every primary schoolroom.—Mrs. A. C. MARTIN.

RUBBERS.—A very interesting article appeared in the November number of the *Teacher*, on Blackboards, by Miss Morton. I use the blackboard in teaching everything. Mine occupies all the space between windows and doors around the room. If it did not, I would have it there if I had to paint it myself. I think Miss Morton would like the plastering painted with liquid slating, better than a painted board. The slating is more expensive, but it lasts enough longer to pay. I commenced teaching in the country, and suppose I'm not "genteel," for I use nails, tacks, hammer, etc., almost daily. But blackboard rubbers have been a "source of sorrow unto me." Those bought of manufacturers, or covered with sheepskin, would wear out in a term or two, and were forever falling from the blackboard shelf to the floor. I claim that every pupil should have a rubber, and then be held responsible for the neatness of his work. So

I thought and thought, and then experimented, and the experiment has proved a success. Tear flannel or any kind of woolen cloth (old as well as new) into strips an inch to an inch and a half in width. Commence in the center, roll like a ball of carpet binding, and sew with strong thread or fine wrapping twine. Continue to roll and sew firmly until the size of the top of a coffee-cup. They can be made "fancy" by putting in fancy colors. They will make no noise if a pupil drops one, or if they fall from the shelf to the floor. When I came here, rubbers were the cry two terms; then I ventured to show a sample of mine to the principal. He liked them so well he said to my pupils he would pay ten cents apiece for all well made rubbers brought to him during a week. They have been used throughout the building (ten departments) ever since.—*Mich. Teacher.*

JAPANESE EDUCATION. — Children are trained to be very obedient to their parents; they are sent to school very young, and boys and girls are taught together to read, write, and learn the history of their own country. The almanac is studied with particular care, for it would be thought disgraceful for any well-bred child to begin a journey or a piece of work on an unlucky day. Girls are taught to sew and embroider, and are usually skillful in all kinds of fancy work; besides this they learn to cook, to perform various domestic duties, so that they may in time become wise and useful mistresses of households. The boys are taught arithmetic and the mystery of the fearful *hara-kari*. The literal meaning of this word is "the happy dispatch." But I must explain it to you more clearly.

The *hara-kari* is a suicide committed in the most cruel way by making an incision in the stomach with a dirk, which is drawn lengthwise and again across until the victim is disembowelled. The code of honor among the Japanese renders it imperative in a well-born man not to out-live an insult received or a crime committed, and in either case the *hara-kari* is the only resource. Little boys are taught when they are very young how to perform the operation upon themselves skillfully by constantly exercising in making accurate passes with the sword; they are likewise instructed to understand the circumstances which oblige a gentleman to submit to this honorable death, or "hap-

by dispatch," as they call it. A Japanese always wears two swords; one to defend himself against an enemy, and the dirk, or short sword for *hari-kari*, should occasion demand. You know I told you that when a little boy is four years old he is invested with two sham swords, one long, the other the short and terrible prophetic dirk; so that from their infancy they are accustomed to the thoughts of this death which may one day be theirs, and doubtless this familiarity robs it of many of the terrors with which we regard it. One would suppose that such tuition would cast a shadow over a boy's life, and that he could not be light-hearted and gay as our school-boys. But this is far from true. (*From January "Home and School," Louisville, Ky.*)

FOR INDEPENDENT WORK.—*In Practical Syntax*.—Have your class indicate the errors in the following, correct them, give the rule in each case: I do not mean that I think any one to blame for taking care of their health.—*Addison*. How happy is it that neither of us were ill in the Hebrides.—*Dr. Johnson*. Both minister and magistrate is compelled to choose between his duty and his reputation.—*Juvius*. The richness of her arms and apparel were conspicuous in the foremost ranks.—*Gibbon*. The poetry and eloquence of the Augustan age was assiduously studied.—*Macaulay*. It is not fit for such as us to sit with the ruler of the land.—*Scott*. Neither law nor custom unites.—*Mrs. Stowe*. It was remarked by Dr. Noah Webster that he had never ventured to coin but one word—demoralize.—*Haven's Rhetoric*. This is the most unkindest cut of all.—*Shakspeare*. Our Father which art in heaven.—*Bible*.

"The nations not so blessed as thee
Must, in their turn, to tyrants fall."—*Thompson*.

"My sister and my sister's child,
Myself and children three,
Will fill the chaise; so you must ride
On horseback after we."—*Cowper*.

"And the widows of Atshur are loud in their wail,
And the idols are broke in the temple of Baal,
And the might of the Gentile, unsmote by the sword,
Hath melted like snow in the glance of the Lord."—*Brown*.

SOME THOUGHTS.

1. If you would have no drones in your school, talk at each recitation to the dullest in your class, and use all your ingenuity in

endeavoring to make him comprehend. The others, then, will be sure to understand.

2. Make each exercise as attractive as possible. Think out your methods beforehand, and illustrate freely.

3. Cultivate self-control; never be led into confusion, and above all be in earnest.

4. Be cheerful and smile often. A teacher with a long face casts a gloom over everything, and eventually chills young minds and closes young hearts.

5. Use simple language when you explain lessons. Long words are thrown away in the school-room.

6. Thoroughly test each pupil on the lesson, and do not be afraid of repetition. Review every day, or much time will be lost.

7. Do not try to teach too much; better teach a little and teach it well.

8. Endeavor to make your pupils understand the meaning of what they study. Probe the matter to the bottom, and get at the real knowledge of your scholars.

9. Cultivate the understanding, and do not appeal directly to the memory.

10. Lay the foundation of knowledge firmly and well.

11. Impart right principles and lead your pupils to a higher level, to a nobler range of thought. Endeavor to accomplish all that skill, intelligence, and love can suggest.

What now you do, you know not,

But shall hereafter know,

When the seed which you are sowing

To a whitened field shall grow.

'Tis a rich young soil you're tilling,

Then scatter the good seed well;

Of the wealth of the golden harvest

Eternity will tell.

12. Teach your pupils to fight manfully in the warfare of good against evil, truth against error, and above all, let the eternal principles of right and wrong govern your own life, and form a part of your own character. If you do this, you will "sow beside all waters, and eventually bring home your sheaves rejoicing."—*Maine Educational Journal*.

BOOK REVIEWS.

A PRACTICAL AND CRITICAL GRAMMAR OF
THE ENGLISH LANGUAGE—BY NOBLE
BUTLER, LOUISVILLE, KY.

JOHN P. MORTON & CO., 1874, (pp. 312.)

This is a grammar of the Morell-Bullion class, but a careful examination of the work shows many improvements and advances over its predecessors. In fact, for him who prefers this style of grammar to that of Abbott, Morris, Earle and Skeat, we know of no better work, if for no other reason than that as he will find many of his old notions receiving rough treatment, he will be set thinking.

Perhaps one of the first things new to him will be the placing of pronouns under nouns and treating them as such. "Pronouns are treated as being what they are, simple nouns; and they are introduced before the subject of case is mentioned." (Preface, page 4). The next thing that will strike him, may be the statement, "There are four moods;" namely: the indicative, the imperative, the infinitive, and the participle, or participial mood. This, however, will not be altogether new to such of our readers as have met with Miller's Bullion. But it is not on such points as these which, claiming novelty are good for the teacher, but which, unless they are real improvements are an injury to the scholar, that Mr. Butler's work claims support. Nor would we recommend the work on account of the text. As a work for schools, we do not think the definitions are always happily worded, granting what is very doubtful, that they are always correct. True we find no such wretched specimens as "A Noun is a name, *as* of a person, place or thing. (Authorized Grammar).

The real value of the book is contained in the "Remarks." They exhibit a wide knowledge of the class of grammars to which this one belongs, an extensive acquaintance with modern English literature, and what makes all else valuable, an acuteness of observation and induction, and an independence of thought seldom found out of the ranks of the masters of science. Lit

tle things mark finish,—many can hit the target, few the bull's-eye. The following the first we open at, will do as a specimen of these "Remarks."

"The positive degree implies comparison, though the comparison is not formally expressed. 'Mr. Smith is a *tall* man,' implies a comparison with other men; for he would not be called a tall man if he did not exceed the generality of men in stature."

"The office of the comparative and superlative degrees is not to express a higher degree of the quality than that which is expressed by the positive. The degrees, though related in form, have no logical relation to each other. When we say, 'Mr. Smith is a *tall* man,' we compare Mr. Smith with men in general; when we say, 'Mr. Smith is *taller* than Mr. Jones,' we compare two men and assert the former has more of the quality than the latter, without referring to the absolute *tall*; when we say, 'Mr. Smith is the *tallest* of the three men,' we compare Mr. Smith with two other men in a similar way. (See Note H.)"

"The comparative is used when the objects compared belong to different classes; the superlative when the objects belong to the same class. But the comparative is used more frequently than the superlative when *two* objects belonging to the same class are compared; as, 'The *wiser* of the two.'"

"It seems strange that any one who has taken the trouble of thinking about the matter a single moment should not see the true nature of the comparative and superlative degrees. And yet we find in popular grammars such language as this: 'The comparative denotes a higher state of the same quality than the positive; 'The superlative denotes a higher or lower state of the same quality than that expressed by the comparative; 'The comparative degree denotes an increase or diminution of the quality of the positive; 'The superlative degree denotes an increase or diminution of the quality of the positive to the highest or lowest degree.'

These extracts are given as samples. The same error, variously expressed, is found in most of the grammars in common use. Even a child may be convinced in a moment that such definitions are entirely wrong. Take a duodecimo book in the right hand and a smaller one in the left, and ask the child, 'Is not this book in my right hand *larger*

than this in my left?' 'Yes.' 'Is either of them a large book?' 'No.' 'Does the word *larger*, then, denote more than *large*?' 'No.'

'Of ways for becoming happier (not happy) I could never inquire out more than three.'—*Richter*, translated by *Carlyle*. Does the comparative *happier* here denote a higher state of the quality than the positive *happy*? 'Thou canst the *wisest wiser* make.' Does the superlative *wisest* denote a higher state than the comparative *wiser*?

Another error in one of the definitions quoted above arises from taking the adverbs *less* and *least* as parts of the adjective. Granting the general definition to be correct, the comparative and superlative never denote a *diminution*. The adverbs *less* and *least* or by the adjectives *smaller* and *smallest*. There is no more propriety in making *less* a part of the adjective than there is in making *rather* or any other adverb a part of it."

Turning to syntax of the adjective, we find on the same subject, Note H ;

"The comparative degree presents the objects compared as being in *different* classes or divisions and is followed by *than* ; as, 'The whale is larger than the elephant.' The whale is not an elephant.

The superlative degree presents the objects compared as being in the *same* class or division and is followed by *of* ; as, 'The whale is the largest of animals,' the whale is an animal.

'It would not be correct to say, 'Solomon was wiser than any of the Hebrew kings, because Solomon was one of the Hebrew kings. Nor would it be correct to say, 'Solomon was one of the wisest of the Roman kings,' because Solomon was not one of the Roman kings. It would not be correct to say that Eve was the fairest of her daughters, because that would represent her as one of her own daughters. Nor would it be correct to say that Eve was fairer than any woman, because that would be equivalent to say that she was not a woman.'

But we may say, 'Eve was fairer than any of her daughters,' because Eve and her daughters are thus placed in two different divisions. We may say, 'Eve was the fairest of women,' because Eve is thus placed in the class of women. Or we may say, 'Eve was fairer than any *other* woman,' the word *other* serving to create two divisions. Eve was not one of the *other* women.

'Montesquieu enjoys, perhaps, a wider celebrity than any political writer of modern Europe' *Macaulay*. Montesquieu being one of the political writers of modern Europe, the adjective *other* should have been employed--'than any *other* political writer of modern Europe.'

'The appearance of Mr. Crumple was more

striking than that of any member of his party'—*Dickens*. Was Mr. Crumple a member of the party? If so, *other* should have followed *any*. 'A fondness for show is of all *other* follies the most vain.' Here *other* is incorrectly used.

Sometimes the separation may be indicated by other words 'This work commanded much more attention, as a pronouncing dictionary, than any other of the kind that preceded it' *Worcester*. 'This work' could not be one of 'those that preceded it,' and *other* is incorrectly used.

When two objects of the class or division are compared the comparative is used like the superlative, being followed by *of* ; as, 'He is the taller of the two brothers.'

This being a violation of the principle that the comparative presents the objects compared in *different* classes or divisions, the superlative is often, when two objects of the same class are compared, used in the same way in which it is used when more than two objects are compared, as, 'The *strangest* of the two.'—*Hawthorne*. 'The *most* agreeable of the two.'—*Cowper*. 'The *least* qualified candidate of the two.'—*Dickens*. 'Which of these two causes was *most* active.'—*G. P. Marsh*. 'The *most* lifelike of the two.'—*Mervale*. 'Of the two elements of a compound sentence which is the *most* important?'—*Latham*. 'She asked him whether his queen or she had the *finest* hair ; she even inquired which of them he esteemed the *finest* person.'—*Hume*. 'The *most* fatigued of the two.'—*Hood*. 'The *least* serious of the two.'—*Wilkie Collins*. 'The *least* serious of the two evils.'—*Southey*. 'Whether his cabinet or that of Myneer Slone at London was the *most* valuable.'—*Smollett*. 'Of these two forms we should adopt that which will render the sentence the *most* perspicuous and agreeable.'—*Goold Brown*. 'The services of the lawyer are the *most* expensive and the *least* useful of the two.'—*Scott*. 'We say to ride a horse and to ride on a horse. The first is we believe, the *most* usual construction.'—*Mulligan*. 'The *eldest* of his two sons.'—*Thackeray*. 'The auditory of Mr. Travers was the *most* numerous [compared with that of Hooker].'—*Fuller*. 'Of two usances the *merriest* was put down.'—*Shakespeare*.

"Wherever God erects a house of prayer,
The devil always builds a chapel there ;
And 't will be found, upon examination,
The latter has the largest congregation."—*Defoe*

We would willingly give other examples did space permit, but let anyone having an opportunity read the "Remarks" under Rules VIII, IX, XI, XII, XIV, of the Syntax:

Turning to the Appendix from which we

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have taken Note H, above, we find discussions purposed we presume for the advanced scholar and for the teacher. Some of these tempt us to digress, but no; we are not to discuss grammar, but this grammar.

Note B is on Pronouns adding to the "Remarks" defence of their classification with nouns. By the way, we hope Mr. Butler will not claim this as "entirely new" and *his*, as he does "the idea advanced in Butler's Practical Grammar that the grammatical predicate is always the verb alone." In Sanskrit the Pronoun is called the everything name, and by Indian grammarians is always treated as a noun. Regarding Mr. Butler's claim to be the discoverer or inventor of the idea that the grammatical predicate is always the verb alone, we imagined the matter was as old as the days of Aristotle, and during the times of the schoolmen it was often a matter of bitter dispute. To be sure "the idea" was discussed somewhat thus: In the sentence *John is good*, what is predicated of John, goodness or existence conditions by goodness.

It is a bad sign for grammar that Mr. Butler found it necessary to write Notes C and D, C on] the Relative What, and D on the Compound Relatives. Happily for our Canadian youth our teachers are rapidly giving up the absurdity 'what is a compound relative including both the relative and the antecedent.'

Note E is on 'Common Gender.' This note might appropriately be headed Mr. Butler *versus* language; Plaintiff's address. Similarly Note K on the Subjunctive and Potential Moods might be marked 'Mr. Butler *versus* English Language.'

These two notes bring out what we had noticed while reading the body of the work to be the author's weak point, his apparent lack of *thorough* knowledge of Historical English Grammar, and of the best results of comparative Philology. Lack of the latter also appears in Note F Possessive Case of Pronouns. Mr. Butler is certainly right, but why now-a-days fight with an old Brown-Bess. Of the Historical method Mr. Roby in his Latin Grammar says what appears hopelessly intricate and irrational when judged from a scientific point of view which is not that of the historical development, becomes intelligible, and almost simple, when we look along the line of growth.

Note 6 (the last) is devoted to "is being

built," Mr. Butler taking the the adverse side. 'Tis a pity grammarians cannot understand that a grammarian can no more stop the growth of a living language than a German Emperor could change a dead one. Whether this form is found in the best writers or not one thing is certain, it has become rooted in English speech, meeting what was felt to be a want.* It would be far better then for writers to examine the laws of its formation than to take a prejudiced stand on either side.

There is a law governing the use of auxiliaries and that law will allow of this form but not of many of the forms quoted on page 102 from Mason's English Grammar. If this should meet the eye of Mr. Butler let him examine for the rule,—we have never seen it given in any grammar, yet he, Mr. Butler, has in one case called a violation of it "a vulgarism."

It is with some regret that we now lay aside this work. We have spent several pleasant hours in its examination, all the more pleasant because unexpected, for we have become so accustomed to finding in grammars of this class little but a hash of Bullion seasoned with unrefreshing ignorance that we at first felt little inclined to open this one. It is also with shame that we glance up and see before us the "Canadian Authorized Edition," and think what a contrast the two books present. We would fain be proud of all things Canadian and stubbornly boast "There is no land like Canada," but no; we cannot close our eyes tight enough. Lord Dufferin has declared the school system of Ontario to be superior to that of the United States, but what matters that if our text books are worthless. Valueless is discipline with leaden swords as sole weapons. If we cannot have steel give us back at least our wooden ones. With them we could strike a blow however ineffectual,—*they were not too heavy for our hands.*

* "Is being taught" is used by the Rev. E. A. Abbott the author of "A Shakesperian Grammar" and other almost unrivalled works on English. That a distinct form for the progressive passive is needed, will be recognized by any one who pays attention to the speech of uneducated persons and of children. How common is the substitute use of the middle in "getting." This morning I heard a little four-year old say "while I was getting washed."

TEACHERS' DESK.

J. C. GLASHAN, ESQ., EDITOR.

Recent Publications.

(Continued from January No.)

On subjects not noticed in January, the year 1874 gave *Italy and Germany of Freeman's Historical Course for Schools*, and Cox's *Crusades* belonging to the *Epoch Histories*. Both these series are excellent and will be most valuable to teachers. Hughes' *Geography of British History* supplies a long felt want. Young's *Physical Geography* in Collins' *Advanced Science Series*, takes rank above any other elementary work we have seen on the subject. Its fault, if it be one, is exceeding brevity on many subjects. Cook's *Principles of Chemical Philosophy* and Oliver's *Illustrations of the Principal Orders of the Vegetable Kingdom* need no recommendation other than their authors' names. *Qualitative Chemical Analysis and Laboratory Practice* by Thorpe and Muir (pp. 238) is an admirable little manual, simple in plan and clear in treatment. *Hygiene of Schools* by Dr. Budgett should be read by every teacher. By the way he states that "300 cubic feet of space should be allowed to every pupil," (pp. 30.) We hope Dr. Budgett's little manual is but a sign of an awakening to the extreme importance of this subject,—*the sound body*.

By some strange oversight Chaucer's *Trioresser Tale*, &c., edited by the Rev. W. W. Skeat, was omitted from our English list last month. The long promised translation of Mætzner's English Grammar has at last been published, 3 vols.

Many other excellent works, especially in the Physical Sciences, were published during the year, but we find ourselves unable to express any opinion on their individual or comparative merits, and to give a mere 'Bookseller's List,' is not our object.

ANSWERS TO CORRESPONDENTS.

CON. O'GORMAN, *White Lake*.—Consult Sangster's National Arithmetic on Simple Interest. *True Discount* as it is called in some works on Arithmetic, not being what is meant by *Discount* in commercial circles or in fact the *Discount* of the

English language, had better be called *Inverse Interest*. This it really is, the other it is not. We have long purposed writing to you and hope soon to find time.

ALEX. MCINTOSH, *Pinkerton*.—We shall endeavor to furnish solutions hereafter. Mr. Fraser is right. "The passage of artillery," is a phrase that any well educated military man would say has nothing to do with the discharge of the pieces. Have you ever heard at a little distance the sound of an empty lumber waggon, driven at a sharp trot over a dry stone road? The morning is the best time to listen.

PROBLEMS.

84. What is the meaning of *merry* in the phrase "Merry England." (Will the proposer be so kind as to send *authorities*, as the Editor finds a different meaning?)

H. T. SCUDAMORE.

85. A commission merchant sold a consignment of goods on 3 per cent. commission, and was instructed to invest (on 2 per cent. commission) in other goods, the commission for both transactions to be deducted in advance. His entire commission was \$265. Find the value of the goods he purchased.

ALEX. MCINTOSH, *Pinkerton*.

86. If a board 12 feet long and 1 foot wide be cut diagonally from corner to corner, at what point between the ends of one of the triangular pieces must it be cut across parallel with the wide end so as to be divided into parts of equal area?

HENRY GRAY, *Sombra*.

87. A ladder, whose weight may be regarded as a force acting at a point one-third the length from the foot, rests with one end against a peg in a smooth horizontal plane, the other end on a wall, the point of contact with the wall dividing the ladder into segments, whose lengths are as 1 to 4. Given that the ladder weighs 120 lbs. and makes an angle of 45° with the horizontal plane, find the pressure on the peg, and the reaction of the wall.

R. SHEPHERD, *Strathroy*.

EDITOR'S DRAWER.

STRAY NUMBERS.—We take great care in mailing the "TEACHER," but nevertheless some copies do go astray. In all such cases we remain it when notified promptly.

CONTRIBUTE!—We ask teachers, Inspectors, and other friends of education to send us short practical articles, and items of educational intelligence.

CHANGING POST-OFFICE.—Teachers changing their Post Office should always state the Post-

Office from which, as well as the one to which they wish to change. Neglect in this respect gives us a great deal of unnecessary trouble.

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