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* Editorial Notes. *

THE Japanese seem to recognize fully the importance of thorough moral training in the schools, but have long been perplexed in their search for a basis of morality. It has now been decided, it is said, that Confucius is to be the sheet-anchor, and text-books of morality are to be compiled for schools with his precepts as a basis.

THE notion that a collegiate education is detrimental rather than helpful to a man in business pursuits, is somewhat prevalent. Mr. Andrew Carnegie, a well known American millionaire, has recently expressed that opinion. His statement led the *New York Tribune* to collect the opinions of a number of prominent business men on the subject, and their judgment is, on the whole, opposed to that of Mr. Carnegie. They say, just what a reasonable view of the matter would lead us to expect, that the youth who makes good use of his four years at college and then enters into business, will, as a rule, soon overtake the youth with untrained mind who has spent that four years in an office or warehouse.

IN reply to a number of questions touching the subject of Elementary Education, Mr. Gladstone recently gave expression to some excellent views. He was in favor of giving some measure of classical instruction in all secondary schools, but would not thrust it down the throat of everybody, irrespective of capacity and circumstances. Technical and scientific teaching was, he considered, of the highest importance, but the main object of education was to make the human mind a supple, effective, strong, available instrument for whatever purposes it might be required to be applied to. Mr. Gladstone spoke unreservedly also in favor of giving a higher

education to girls in connection with the intermediate system, and expressed the hope that they would be allowed to share in whatever exhibitions and scholarships might be established. He resented, he said, extremely, the arrangements under which girls and young women who go to Oxford or Cambridge are precluded from touching one farthing of the vast wealth of the universities and colleges.

IT is stated that the number of students in attendance at the twenty-one universities of the German Empire last winter was not far from 28,500, and that of these one half were about equally divided between theology and law, and the other half between medicine and general education, in the proportion, nearly, of three to four. These figures are very significant. The state of things they represent is, we have no doubt, pretty nearly paralleled in Canada. We shall continue to fall very far below the true ideal in education, so long as the universities are used almost exclusively by those who are preparing for one or other of the learned professions. It is, in fact, very hard to justify the existence of State universities, so long as their advantages are enjoyed almost exclusively by those preparing for special professional pursuits. It is evidently desirable that some means should be adopted to make higher education better appreciated by the many for its own sake, and sought by all classes, irrespective of future pursuits. Failing that, the money from the public chest should be given chiefly in aid of art and technical schools, available and directly useful to the many, rather than to the few.

TOUCHING the effect of college training in fitting or unfitting a young man for business pursuits, referred to in another paragraph, several things are to be borne in mind. For instance, the studiously inclined young men, those whose inclinations urge them most strongly in the direction of the university, are often unfitted by nature for business success. Such young men, whether they go to college or not, will never put sufficient enthusiasm into their business to insure success. Then, again, it would be a poor collegiate education that would unfit any young man who has a soul in him, for the practice of the methods which are counted by many the successful business methods. Nor can one who has learned to think and who enjoys the higher and broader outlook which a true mental cultivation gives, consent willingly to give the best energies of his life to mere money-making. But the common-sense rule is, and we venture to say that true experience will sanction it, that the more the brain-power is developed by education, the

better fitted is the man or the woman for any business pursuit. There is no sphere of honest work, we care not how humble, in which brains will not tell in favor of their possessor.

AN organization of a somewhat novel but very necessary character has recently been formed in London, England. It is nothing less than a National Parents' Educational Union. The first public meeting in connect on with the movement took place at the residence of the Bishop of London a few weeks since. The object of the Union is to assist parents of all classes to understand the best principles and methods of education in all its aspects, and especially in those which concern the formation of habits and character. It seeks also to create a better public opinion on the subject of training of children, by collecting and making known the best information on the subject; to secure greater unity and continuity of education by harmonizing home and school-training, and to give parents opportunities for co-operation and consultation, so that the wisdom and experience of each may be profitable to all. Lectures, addresses, discussions and other means will be employed for this purpose, and a religious basis of work will be maintained. The conception is certainly an excellent one, and the field for the operations of such a society is very large, and much of it in great need of cultivation.

THE remarkable success of Miss Fawcett and Miss Alford, in taking the highest honors at the late June Examinations in Cambridge University, affords additional proof, though proof was no longer needed, of the ability of women to compete side by side with men in the severest lines of university work, as well as in those which are thought to make less stern demands upon the highest order of intellectual faculties. This fact, greatly as it seems to astonish some of those who have been accustomed to accept conventional and traditional notions with regard to the place of woman in the social scale, can hardly have been surprising to many teachers who have had to do with both sexes in the Public schools. It is a burning shame that those women who have, from time to time, fairly won the highest rewards such ancient institutions as Cambridge have to offer, should be deprived of them by regulations which are the outcome of old customs and prejudices. But the end of all such invidious distinctions is near. "This is no longer a man's world," exclaimed the editor of an American journal on reading the announcement with regard to the success of the two ladies above named. The remark is as true as suggestive. Too long has this been a man's world. Henceforth it is to be a man and woman's world.

Primary Department.

HOLIDAY WORK.

RHODA LEE

ALTHOUGH we speak our farewells to the children, and although we take our last look at the rows of empty seats, and enjoy the long-looked-for rest, we do not expect school and our loved school-work to vanish entirely from our minds.

In the holidays we have time to think and plan truer, better work; we have time to look about and study human nature a little more, and devise ways and means of making our work in the coming term more beneficial and enjoyable.

Plans for busy work may be thought out, as we can never have too many of these. Some of these plans take considerable preparation.

During a holiday time one of our teachers prepared a collection of business cards for a double purpose. She selected the cards carefully for the purpose of having stories written about them. These were passed around among the children, each scholar having a different one, and they were asked to write stories about the pictures they held. This exercise was a very useful and enjoyable one. The backs of the cards being blank, Miss H— wrote on that side short stories for sight reading.

This was a better plan than the ordinary soft paper, as they were more easily preserved, and those scholars who succeeded in reading the stories correctly and quickly were rewarded by being allowed to draw or write stories from the other side.

Short stories cut from Sunday school and other papers might be collected in the holidays, new songs discovered and old ones adapted to school work.

Thoughts will come and plans will evolve if we are only on the alert. Let us not pass our holidays in the sleepy idleness so often mistaken for rest.

SUNSHINE ON A DARK DAY.

RHODA LEE.

ONE of June's early days. Just enough sunshine to make joy and happiness everywhere, and just enough of a soft breeze that brought the scent of chestnut and lilac bloom into our class-room, to make a sweet, calm, good day at school. Easy enough to teach on days of that description, you say. Teaching is never easy. Teaching is too earnest a work to be easy, but let us never say it is toil.

Yet we have days (for even June weather is not always what we desire,) when the leaden gray of the sky and the ceaseless beating of the rain seems to reflect as much as possible of its gloom on the hearts and temperaments of our children. Clouds without, clouds within. We cannot change the weather, but we *can* change its effect upon our school.

Just now I think of a day we had not long ago, when all the bad effects of a dark, rainy day were too plainly noticeable.

We left school weary and discouraged. No fires, and the wind too cold and damp to permit of open windows; air consequently bad and the children tired and listless. Every sound intensified and warranted to bring out all one's nervousness and impatience.

Talking it over on our way home, we one and all decided to do away with this depression next time by making some stronger efforts to obtain that sunshine that had failed to find its way into our class-rooms. Now let me tell you how we get round behind the cloud and live in the *sunshine* on the "days that are dark and dreary."

Knowing perfectly well the effect a day of this kind has on my own spirits, I try to get into more perfect sympathy with my children. I need some special stimulus to arouse me, and this effort of rousing the scholars is just what is required.

Knowing how difficult it is for them to feel the proper life and spirit in a lesson on a day such as this, I leave to a certain degree the rut of ordinary work and plan new attractions and fresh employment for the day.

I pay special attention to the ventilation and indulge in calisthenics and marching more frequently than usual.

The sunshine has to be manufactured at first, but it soon becomes genuine.

We choose the most interesting reading lessons and perhaps use the prettiest supplementary reading books. We learn the words and meaning of a bright new song.

At recess, if the rain is still falling, we have a "guessing game" or a "question talk," in which every one in turn is at liberty to ask any question or narrate any story interesting to the class.

Perhaps I may read or tell a story of more than ordinary interest, or allow the children to write a story on their slates.

A spelling or geography match in some of the higher rooms would be interesting. Of course I do not advise the employment of all these means on the same day.

One or two plans will transform the day wonderfully, if along with them you wear your rosier glasses and attribute some of the little disorders that you may witness, to dust on your spectacles. In other words, endeavor to be more patient and forbearing on these days than on any other. Start out in the morning knowing that the day will be a trying one, but at the same time determine to invigorate yourself with extra strength, courage, patience and peace, which all combined will produce the most veritable sunshine in your classroom.

CONCENTRATION OF ENERGY.

ARNOLD ALCOTT.

"CONCENTRATION of energy." What a unity of effort, what an intensity of specific, clearly-defined work is focussed in the above phrase. There is, it seems to me, a rich store of practical philosophy in this idea of gathering the energies, and concentrating their forces in one particular direction. The human mind is so constituted that it can attend definitely and impressively to but one thing at a time.

Once a class becomes inspired with an ambition to do its best, and a determination to excel in some one subject, or along some special line of work, that class is on the path leading to success, to victory. They must work who would win.

Now, there is no better plan of which we know for securing co-operative order, in a new class, than for the tactful teacher, who knows what she can teach especially well, to awaken the ambitious spirit in her pupils, to excel in this particular branch. The impetus which such a purpose will give to the work of the class-room is not easily over-estimated. We can not do well in one direction without its having a reflex influence for good on all our other efforts. The resolve to do one's best is the fruitful purpose we are endeavoring to implant.

For instance, a teacher taking charge of a new class discovers, on the first day, that the music in that class is deficient. Happy is she, if she loves music and the teaching of it so well that she can inspire her pupils with the ambition to be the best class in the district, or in the town, or in the city, in this direction. If the idea be presented skilfully and pleasantly we are sure that the boys and the girls will catch the inspiration.

But, says some one who has forgotten to subscribe for educational journals, or who has neglected to read works on education, or who has not pursued the interesting and profitable study of human nature, "Are you not neglecting other studies in your attempts to excel in music, or in calisthenics, or in, etc.?" Perhaps our pupils may at first fall off a little in other branches, though we do not think that this is a necessary result. But when the "trying hard to excel" has been practised for a time it becomes a habit, which is not circumscribed by music, or by calisthenics, but which extends to all that the pupils have to do.

For nine months we have tried devoting special attention to music, and we know the pupils are fonder of it than ever. Through music, harmony and sympathy have been established between teacher and pupils, and energy has been developed for other pursuits.

Again, there are times which are more suitable than others for devoting ourselves intensely to certain subjects. For instance, what time more suitable than the budding spring and the opening summer for learning about the flowers and the woods? Do take a picnic with your pupils. There is plenty of fun and development in it for teachers as well as for pupils.

Again, in the warm months of May and June the children like writing in their copy books; so we are specially interested just now in writing. And

"When chill November
Blows his surly blast,"

we may be very attentive to our calisthenics.

Do have a specialty. It will afford great pleasure as well as profit, morally as well as mentally and physically, to all. Earnestness and enthusiasm are two of the qualities which we like most to see in those with whom we have to do.

Let us try to build up in our scholars that sturdiness of character which we note in a true German or Scotchman.

Onward and upward is our motto. The powers, which the Creator has given to us, put to their best use. Nothing less will satisfy. Who can say that we may not reach such results?

Special Papers.

BE GUARDED IN SPEECH.*

BY CARRIE NEWHALL LATHROP.

"Thy speech bewrayeth thee" is as true to-day as in the time when first uttered, and it may properly be said that the "shibboleth" of respectable and cultivated society is a graceful and becoming use of our mother tongue. Though there are apparently startling examples to the contrary, and though one may cite instances of persons who hold honorable positions in society yet are destitute of this ability, still this honor may be paid to something else in their possession, either deservedly or undeservedly. Whatever consideration these persons may receive, they can never, for one instant, be considered cultivated. We, as teachers, should certainly aim to be so considered. Therefore it is that I would call your attention to some acts of commission or omission which will entitle us to the place we desire.

In the matter of pronunciation, what may we teachers do? We must certainly inform ourselves as to the proper pronunciation of words, and then use that pronunciation. It is a fact to be deplored that there are many of our capable men in different professions who are far from models in this regard, and we cannot turn to them as exemplars. It is true that the matter of pronunciation has been sadly neglected, and we hear flagrant errors committed by those of whom we have a right to expect much. But this is no excuse, for teachers themselves should strive to be models in this particular, and we have in the dictionaries a friend and guide. Pronunciation has not changed so greatly of recent years as is often asserted. It is not that pronunciation has changed, but that people are investigating authorities and the principles of pronunciation, are comparing them, and are endeavoring, more than formerly, to conform to these principles and authorities. While searching for the pronunciation of a word, the meaning or meanings and its derivation should be found. Next, the word must be used properly in conversation. Then, and not till then, may we truly say that the word actually belongs to us.

Another point that teachers should guard is the use of slang. The reply may be that teachers do not use slang. As a class they do not, but are the members of the profession entirely free from it? Is it not obtruding itself everywhere—among all classes of people? It is so pernicious a habit, a habit that so rapidly strengthens from its earliest growth, that too much cannot be said in condemnation of it. One word of slang, once used, soon obtrudes itself again, and when least desired. Teachers do not always refrain from slang themselves, nor do they sufficiently condemn it in others. If not, perhaps, indulging in the worst forms, there are many expressions that might be considered less coarse, in common use among teachers. Where is our wealth of beautiful expressive words, words that can convey every shade of meaning possible to be conceived of—that one should descend even once to expressions that should belong only to the vernacular of criminals?

A fact may be cited to prove that the language used is not too strong. In a little book of private devotions, prepared by an eminent divine, these questions occur in one paragraph, under questions

* Read before the City Teachers' Institute, Cincinnati, O.

for self-examination on one's duty towards God: "Have you ever cursed or sworn? Have you used slang words? Have you quoted the Bible in jest?" We all know how we esteem the first and last questions, and there stands the one between, "Have you used slang words?" It is not a matter of surprise that it should be so placed. For what can be more harmful to a clean, pure heart than the use of the language employed, not merely by the uneducated and ignorant, but by those whose every thought is vice, and whose language must correspond to their thoughts. Let teachers abstain from even a breath or a whisper that might be possibly considered slang.

Another point that should be guarded—it is nearly allied to the preceding—is the use of exclamations. Teachers should remember that they have close imitators in this respect, as well as in others. The "My Goodness!" "Mercy!" "Good Gracious!" caught from teacher or parent, on the lips of a little child, whose heart is inflamed with anger, soon acquire a terrible force; and while not actual profanity, they shock the sensibility of the hearer and harm the little one speaking. Impatience is never consistent with a teacher's dignity, and if great surprise is felt, some other evidence may be given than these hasty and oft-times inelegant exclamations. If children never hear them, they never use them; and let children be safe from them in the school room.

What is the difference between the language of a cultivated person and that of one who is uncultivated? Much there is in the correct pronunciation of words and the proper construction of sentences; but what is the nameless something aside from these, that betrays the person, even in the use of the simplest language—that something which you may detect, though you should hear the conversation of a stranger when completely concealed from view? The voice itself has much to do with it. Let it be soft and low, or quick and energetic, ringing in tone, whatever the particular style, the refinement or the lack of it is easily detected. Let the intonations be unnatural, imparting a common sound to the general manner of speech, then such an one could not and should not be a teacher. But let the voice be pleasant and well modulated, as it sometimes is, yet if there be a slurring of syllables, a loss of some sounds and the obtrusion of others, withal a style that is not clear, a slovenly or untidy manner of speech, how quickly we mentally assign the speaker to his place. Such an one could not be a teacher.

This then is the part of a teacher, to make herself, as nearly as possible, a model for others in choice of language, pronunciation and intonations—in fact, in all of those points which, summed up, render one an elegant, cultivated conversationalist and speaker. Aside from the example she gives her pupils a teacher appears in society as a representative of a class of persons, and she owes it to herself and to them to make herself a worthy representative. This may be done without obtrusiveness and without pedantry, simply by being an easy cultivated woman and the rest will take care of itself.

Of what avail to her pupils is it, that a teacher should possess this ready resource of expression? Just as a teacher would impress and attract a room of adults by her dignified language and bearing, so may she impress and attract her pupils, even the youngest. Children are as responsive to these influences as are their elders; and be it remembered that children are always pleased to be treated with that respect which the use of choice language would ever imply.

Another point to be considered is, that not only will our children in the school-room understand for themselves, but in time they will use these same words in their proper way. It is impossible for the teacher to do too much in this direction; for children are such ready imitators that they will copy and catch her words, her intonations, yes, even her gestures.

To us, to whom during the first few years of school life the children are intrusted, will belong the privilege of beginning these good habits. If good language, as Professor March says, is "caught rather than taught," see to it that the choicest language only is "caught" in your school-room. Where the parent's hand is not placed, let the teacher's rest, and give to the child what he may not have had by the hearthstone, pleasing happy words and graceful expressions. Give him none other.

The teacher's duty is plain. Her duty to herself, to her pupils, to society, to her profession—anywhere and everywhere—demands that she shall, by every means in her power, make her speech, her command of her mother tongue, as nearly perfect as it lies in the power of a human being to do. Our beautiful English tongue is a gift for which we should be thankful every day that we live. We have no right to despoil it; but as it stands in its purity, an ornament in itself, we may gather its brightest jewels to adorn and grace our simplest thoughts.

"Greek's a harp we love to hear;
Latin is a trumpet clear;
Spanish like an organ swells;
Italian rings its silver bells;
France, with many a frolic mien,
Tunes her sprightly violin;
Loud the German rolls his drum
When Russia's clashing cymbals come;
But Briton's sons may well rejoice,
For English is the human voice."

—Ohio Ed. Monthly.

TEACHERS' UNION.*

BY ROBERT COWLING.

A GOOD deal has been said about teachers' salaries, teachers' unions, the noble profession, etc., but little has been done towards bettering the condition of the profession, so far as giving them a reasonable compensation for their labor is concerned, except in city schools. There the teachers receive a yearly increase till a maximum salary is reached, and they are not looked upon as birds of passage, as the old Negro song says, "Here to-morrow and gone to-day," but are retained from year to year, and promoted according to merit and length of service. I believe that the average country teacher does more and better work than the city teacher, then why is the remuneration of the former often only half that of the latter? Let the teacher of a rural or village school ask for an annual increase, and the trustees will tell him he may as well resign as ask for more, as they can get others for less.

In other professions the members have the controlling of their fees, but in ours we take what we can get, and little it is considering the time and money spent in fitting ourselves for the work.

The Division Court clerk makes about \$100 per month, the County Registrar receives from \$2,000 to \$3,000 per annum, while our M. P. P.'s or M. P.'s receive \$600 or \$1,000 for one session of two and a half to three months. Why is there such a discrepancy in the salaries? Does it require more time and money to fit a person to hold any of the positions mentioned than that of teaching? We may notice here that the farther we get away from the one-man influence the more liberal we grow. Some are in favor of township Boards to remedy this evil.

Often a good teacher is compelled to leave a section because one of the trustees has taken a personal dislike to him; or because some other teacher, a particular friend, wants the situation. So the teacher leaves, though nine out of ten of the ratepayers may be opposed to the change.

In rural sections men who have no children attending school and have no particular interest in educational matters are elected trustees, their only recommendation being their love 'or the mighty dollar, and they can be depended on every time to make a tight bargain. Will such trustees always make the best selection of teachers for their schools? Imagine them looking over a number of applications in answer to an advertisement inserted by them in some newspaper, and judge for yourself.

The majority of people believe that that which costs the most money or labor is of the most value. If this is the case with the teachers' services in this county, what are we to think of the reports made by our Inspectors to the County Council in 1888?

In South York there were 113 teachers employed, and the reduction made in their salaries in one year was on an average over \$20 per head, while in North York the average cost of education per pupil was fifty cents less than for the whole Province.

It rests with the teachers' themselves to propose some means by which their condition may be made better.

Teachers give the public a wrong impression

* Abstract of a paper read before the South York Teachers Association.

about their numbers, by their applications for each school in which a vacancy occurs, since often one person may apply for fifteen or twenty schools. Then some trustees come to the conclusion that there are plenty of teachers in the market, so they cut the salary and the lowest tender is accepted.

If teachers' knew some of the surroundings of the schools they see advertised they would, in many cases, leave their names off the long list of applicants.

To give the teacher a chance of knowing a good deal about the situation for which he is applying, I would form a Teachers' Bureau of Information in each Inspectorate in the Province, and issue circulars to each member of the profession asking for information respecting some of the most important matters relating to the welfare of the teacher. These reports would be collected and published in book or pamphlet form, for use of the profession only.

By means of something like this we should be drawn closer together professionally, and learn to have more confidence in each other, so there would be less underbidding and belittling each other in the eyes of the public, when seeking a new situation.

The questions would be about the following: location, kind and size of school, how heated and ventilated, cleaning and whitewashing, caretaker, rural or village, postal accommodation, distance from railway station, roads, boarding place or teacher's residence, churches, number of pupils and attendance, number of teachers, salaries paid, certificates held, length of time a teacher stays, kind of trustees generally elected, interest people take in school matters, etc.

ON WAKING UP MIND.

WHAT David Page called "waking up mind" is the chief end of teaching. The phrase implies that there are potentialities or sleeping powers in the young mind that can be awakened to activity.

The waking up of mind results from the feeling of wonder or curiosity. Mr. Bain defines curiosity as "the consciousness of an intellectual difficulty and the desire to master it."

The old Greek writers used to say that wonder was the mother of wisdom. The prime secret of teaching is to excite the feeling of wonder or curiosity.

To wake up mind is to set it to thinking. All thinking must be directed toward some end to entitle it to the name of thinking. It is hard work to think. People in general, therefore, both young and old, would rather busy themselves with the easy problems than "bother their heads" with the hard ones. So, in regard to all the more difficult questions of life, they are satisfied to take the opinion of some one else who, they think, knows more than they do. How many people are there who read the daily papers, that make up their opinions upon any subject of state policy from the information acquired from the news columns and by the use of their accumulated knowledge? Instead of this they turn to see what the editor thinks about it, and his opinion, in nine cases out of ten, becomes their opinion. This distaste for thinking is the legacy we have inherited from the race. It will only be after generations of training that children will inherit a taste for thinking. This fact is what makes the school a necessity to a nation like ours. It also furnishes the teacher with his chief problem, viz., how to create a taste for thinking.

Now the child comes into the world full of wonder. Nature has provided that it shall be stimulated to learn as rapidly as possible what it is essential for it to know in order to preserve its existence in the struggle before it. And since it must learn so many things, its period of helplessness is a much longer one than that of other animals. But nature has not supplied the same degree of curiosity and irrepressible wonder to drive it on to learn what it needs to know in the world of man,—the civilization which man has created. Nature provides largely that stimulus that will push the child on to prepare himself to avoid the perils of nature, but it is left for man to supply the stimulus that will urge the child on to prepare himself for our institutional life.

This is done by "waking up the mind" to the study of those things that nature does not give any strong promptings to master. Hence, the present curriculum of study.—*The Public School Journal.*

Elocutionary Department

PRINCIPLES AND
RULES OF INFLECTIONS AND PITCH.

BY R. LEWIS.

Inflections.—These actions of the speaking and, therefore, of the reading voice occur incessantly when speech is exercised, and even a monotone is not strictly one tone which slides neither up nor down in the act of speaking; a perfect monotone is only produced in singing.

The rising and falling inflections express different forms of thought which can be generally classified; and from that classification rules, with their exceptions, are deduced, which are of the first importance in learning and teaching to read with just expression.

These rules are natural and simple and should commence with the first exercises in reading.

I. The rising inflection marks the incompleteness of a phrase or clause, or, in other words, its dependence upon and reference to a phrase or thought that follows; as, "If thou fall'st,"

O Cromwell thou fall'st a blessed martyr,
Merrily swinging/ on brier and weed,
Near to the nest/ of his little dame;
Over the mountain-side or mead,
Robert of Lincoln is telling his name."

II. The rising inflection marks a negation when contrasted with an affirmation, expressed or implied; as,

"I come not friends to steal away your hearts."
"I said good, not bad."
"So please you," said Douglas to the king,
"My heart will not suffer me to stand idle and see Randolph perish—I must go to his assistance."

III. The rising inflection marks a question that can be answered by "yes" or "no," when the questioner is doubtful which answer will be given: questions under this rule generally begin with a verb.

IV. The rising inflection marks appeals, and exclamations bearing the character of appeals; as,

"O Heaven that there were but a mote in yours,"
O spare mine eyes;
Brightest and best of the sons of the morning,
Dawn on our darkness and lend us thine aid."

In the application of this rule, the reader will see that the appeal has a dependent character which justifies the use of the rising inflection, by its incompleteness.

V. The falling inflection asserts, marks strong emphasis, commands, and marks the completion of a sentence.

"There is a river in the ocean,"—or *river*, if not emphasized.

"Thou shalt not steal."
"Say, grandmamma," says the pretty elf, "tell me a story, about yourself."

"An educated man/ stands, as it were, in the midst of a boundless arsenal and magazine, filled with all the weapons and engines which man's skill/ has been able to devise, from the earliest time."

This last quotation presents an example of completeness in the middle of the passage. The sense is finished on "magazine," and the remainder is not so much explanatory as it is complementary, strengthening the force of the figure. The emphasis comes on "arsenal" and "magazine" and the remainder is almost parenthetical in use and character. Hence, a rising inflection on "magazine," would weaken the force of the figure. It also presents an example of multitudes of expressions in speech and literature, where varied shades of thought and feeling are incessantly following each other, whose inflections, when naturally produced, are in no wise contradictory to general principles and thoughts, but which take their forms from the special conception of the speaker or reader. The violation of a rule would be heard in giving a falling inflection to *man*, as that would distinguish, unnecessarily, the sex.

VI. Questions which cannot be answered by "yes" or "no," take the falling inflection, this is the simplest form of the rule and does not require any grammatical knowledge from the pupil. The rule is sometimes given in this form:—

Questions asked with an interrogative pronoun

or adverb, as *who, which, what, when and where*, etc., take the falling inflection; as,

"Who is that man?"

"When do you depart?" etc.

Exceptions.—Varieties of inflections which do not violate principles nor weaken or destroy the connection of the thoughts of a passage are practised by the best rest readers; and, as a general rule, when strong emphasis is demanded, the emphatic word always takes the falling inflection.

The following stanzas from the poem, "Grandmamma," in the Second Reader, illustrate most of these rules.

"Say, grandmamma," says the pretty elf,
Tell me a story, about yourself.
When you were little, what did you play?
Were you good or naughty the whole long day?
Was it hundreds and hundreds of years ago?
And what makes your soft hair as white as snow?

Did you have a mamma/ to hug and kiss,
And a dolly, like this, and this, and this?
Did you have a pussy, like my little Kate?
Did you go to bed/ when the clock struck eight?
Did you have—long curls, and beads like mine?
And a new silk apron, with ribbons fine?

Grandmamma smiled/ at the little maid,
And laying aside her knitting—she said
"Go to my desk,—a red box/ you'll see,
Carefully lift it/ and bring it to me."
So May put her dollies away, and ran,
Saying, "I'll be as careful as ever I can."

The inflections only and emphasis are indicated in this selection. In verses 7, 8, 9, a similar series of questions is put, and although the expression must be in full harmony with the delighted feeling of the child, the "rules" must be observed.

It is not recommended that all or any of these rules should be committed to memory. The great end to be aimed at is to train the youngest pupils to natural habits of reading, of inflections and tones of voice and emphasis. By suggesting other forms of speaking, questioning and answering similar to those presented in the printed lesson, the habit of reading with just expression will follow as certain as the right pronunciation of a word. The teacher cannot be too strongly impressed with the fact that however correct the pronunciation of words may be, if the various modulations are neglected, the learner will never with just expression.

The *Pitch* of the reading voice has also its methods, and, therefore, its rules; and, as its action from low to high and the reverse, demands methods of practice and has the same ends in view, the culture of ear and voice, so indispensable to just expression, that culture should accompany the exercises and studies for inflection. The divisions of pitch in their simplest forms are fully within the capacity of childhood. Three degrees of pitch, low, middle and high, are within the compass of the youngest pupils, and as easy for practice as singing. The practice, however, in this department, should be varied, and extend over the compass of an entire octave. This vocal practice refers entirely to the speaking voice and must not in any sense partake of the singing voice. "If there is any doubt as to when it is best to begin the training of the singing there can be none, I imagine, as to commencing the education of the speaking voice. It can hardly be begun too soon; in this way faults of production and articulation can be presented, or, as it were, strangled in the cradle, which in after life can only be got rid of with infinite trouble and vexation of spirit."* The variations of pitch are as frequent and as necessary to the expression of thought and feeling in speaking and reading as are the variations of inflection. Yet, it may safely be stated that the variations of the former receive no more attention in school reading than of the latter. The only rule the writer has ever seen or heard enforced has been the order to "read louder." Hence the universal "monotone" which marks the public delivery of the platform and the pulpit.

Every lesson, even in the First Reader, presents practice for this culture. In the earlier lessons the learners cannot be expected to apply principles and rules. Imitation will then be the best guide. But as was suggested in the former article on this subject, young pupils can be practised to read in concert and singly with sentences in the different pitches of an octave. As they advance, these acquired powers of ear and voice can be applied to appropriate passages. Thus the poem of "The

*"The Hygiene of the Vocal Organ," by Sir Morell MacKenzie, M.D.

Baby" in the Second Reader, would have for its pitch notes varying from Re to Fa or Sol. The "Mill" in the same Reader may be read on a higher pitch and with fuller force; while the poem of "Grandmamma" would, according to the character of the speaker, descend to a lower pitch and more effusive force, when Grandmamma speaks, and ascend to a higher pitch and fuller expulsive force, especially in the seventh verse, when little May sees the beautiful child with throat like snow." Again this variety of pitch and force is especially demanded in reading *Hubert* and *Arthur*, to illustrate the stern tones of Hubert, and the child-like tones of Arthur. The terror of Arthur, uttered in the words, "Oh! save me Hubert, save me," rises to a pitch far higher than the middle tones, yet does not pass into a scream. Is it probable that the mere knowledge of the meaning of that heart-rendering appeal for sight and life could be conceived and expressed by a school pupil without imitation? Of course rules would be of little advantage in such examples of emotion. The utterance of such passages demands the best study of the teacher, to be presented for imitation to the class. But the expression of powerful emotions cannot, under any circumstances, be expected from classes of a Public or a High school without imitation.

But the steps towards the mastering of such expressions are methodical, are guided and governed by rules, and cannot fail to be attended with success, when applied with the attention and perseverance with which the rules of Mathematics or Language or any science or art, are now applied.

Further examples in this direction will appear in the next article on this subject. In the meantime, the writer adds to his high appreciation of rules that knowledge which is now common in the higher classes of the Public schools, the knowledge of the grammatical structure and the analysis of sentences. The pupil who is familiar with the parts of speech and the various members and classes of sentences is in the best condition to analyse the thoughts and emotions of a passage and to give just expression to their delivery.

* Question Drawer. *

FOURTH Reader, p. 71.

(a) Expand the metaphor in "Slumber's Chain."

(b) Page 92. Show to what the expression "a' that" refers wherever it occurs in this poem.

(c) The *pith* o' sense, and *pride* o' worth." Express so as to bring out the full meaning of pith and pride.

(d) Justify the singular uses of the verb in the following:—Page 170. "There was racing and chasing on Cannobie Lee." Page 241. "Ah! then and there was hurrying to and fro."

(e) "I feel like one who treads..." Parse "like."

(f) Page 242. Please analyse, "But with the breath... years."

(g) Of what is bird-lime composed?

(h) Where can I get a text-book describing the process of manufacturing electric light?

(i) Who are the publishers of Col. Sir William Napier's History of the Peninsular War?

[a] Expanding metaphors is not much in our line, as we have not great faith in the process as a literary exercise. "Slumber's chain" is a poetical expression likening the effect of sleep in repressing the activities of the mind, or at least of its sense organs, to the effect of fetters in preventing the action of the bodily powers. (b) We haven't space to go through the poem in that way. The reference is usually to the preceding clause or clauses, and suggests other things of the same kind or class. (c) The manly energy that comes from strong common sense, and the honest pride that is based on worth. (d) When the verb precedes a number of nouns to which it belongs it often and correctly enough agrees with the one which is nearest it. It may be regarded as a species of grammatical attraction. (e) A conjunctive adverb modifying "feel," and connecting it with "feels," understood. "I feel like one... feels." (f) The sentence is somewhat obscure, but if, as we think,

fill (so *fill* the, etc.) is intransitive, the analysis would be: *Sub.*, mountaineers; *Pred.*, fill (*i.e.*, become filled); *Modifiers of Pred.*, with the breath (time), or, possibly, means, (through the influence of); so (manner); with the fierce, etc. (material); *Which*, of course, introduces a subordinate sentence modifying *daring*, but it presents no difficulty. (g) The inner bark of the holly tree, and other substances, such as oil or grease. (h) Any good modern treatise on electricity will give the information. (i) Perhaps some reader can answer.]

PLEASE give a rule for the use of the "dash." (—), or explain its use in Fourth Reader, page 248, bottom stanzas, "In all time... throne of the Invisible," or page 269, bottom of page, "The swimmer... demon of the water."—W. A.

[The dash is a much-abused mark of punctuation. It properly denotes a break or change in the construction, or a sudden and unexpected transition or turn in the sentiment, but seems to be often used where the writer does not know just what other mark to use. In the second of the two passages to which you refer, and perhaps in the first, the semicolon would have been sufficient and apparently more proper. The transitions of thought may, perhaps, justify it in the first case.]

[THE following answer to question (h) in X, Y, Z's, series of questions in the English Department of last issue was accidentally omitted. The question was concerning the meaning of Addison's phrase, "jargon of enthusiasm," in Essay 458. Addison uses "enthusiasm" in a bad sense, as nearly equivalent to fanaticism. That which he stigmatizes as "jargon of enthusiasm" was the Puritan habit of using Scripture language and introducing religious phrases on every occasion.]

I. OUR Temperance text-book tells us that the drinking of alcoholic liquors (by causing a rush of blood to the surface of the body) produces a *sensation* of heat without the *application* of heat. Are the following parallel examples? If not, why?

(a) Slapping the hand quickly with a rubber strap till it feels warm. (b) Throwing the arms rapidly around the body, as teamsters do to "warm up."

II. H. S. Book-keeping, page 76 Please journalize:

(a) Bought of H. H. Bunting on my acceptance at ten days' goods amounting to \$200. (Dec. 3rd.)
 (b) Renewed my acceptance due this day favor of H. H. Bunting; gave a new note at 2 mos. to cover face of acceptance and int. on same at 8%.—R. N. S.

[I. The examples (a), (b), (c) are not instances of the kind intended by the text-book. A parallel case is this:—Close the eyelids in a dark room and insert the end of the finger between the bridge of the nose and the eyeball. A slight pressure of the finger produces the *sensation* of light in the form of a luminous ring. In a similar way alcohol produces the illusive sensation of heat, while in reality it lowers the temperature of the body. Brandy does not prevent death by freezing, but really hastens death; while the drinker seems to feel warmer. It is a case of deceptive sensation. The cases mentioned really increase the temperature, but alcohol does not.]

II. (a) Mdse. Dr 200.00
 To Bills Pay. 200.00
 (b) Sundries Dr. to Bills Pay.
 Bills Pay.
 Interest (on \$200 for 2 mos. @ 8%)

INFORMATION has been asked about the Home Knowledge Association two or three times in the JOURNAL, but no person seemed able or willing to answer. I have been a member for ten months, and would advise my fellow-teachers to leave it alone. I can buy my books and supplies just as cheap elsewhere and keep my \$12.50 in my pocket. The name "Home Knowledge" is very appropriate.—R. C.

(1) IN the sentence, "James came home last night," should the word *night* be parsed as a noun or an adverb? If as a noun, after what preposition?

(2) Fourth Reader, page 113. "A noisy crowd had rolled together *like* a summer cloud." Parse *like*. In what sense can *like* be used as an adverb?

(3) Why is the sun nearer to us in the winter than in the summer?—W. E. L.

[(1) *Night* is a noun, in the objective case, denoting a portion of time within which the event occurred. (Adverbial objective. See P. S. Grammar, pp. 168-9.) (2) There is some ambiguity in the clause. Does it mean the crowd rolled together (in the same manner as) a summer cloud (is rolled together?) Then *like* is an adverb of manner. This suggests the answer to the second part of your question. If the meaning is the crowd came together until it was like a summer cloud (in appearance), then *like* is an adjective modifying *crowd*. The first is probably the correct meaning and construction. 3. This is a question in astronomy, or mathematical geography, which we have not space to answer in full. The immediate reason is, of course, that the earth's orbit is not a circle but an ellipse. But what you wish to know is probably why the heat is not in proportion to the distance. This is in consequence of the inclination of the earth's axis to the plane of its orbit, but this can hardly be made clear without illustrations. Read up in some good geography or encyclopædia.]

IN a late issue of the JOURNAL you give Bowmanville as the capital of Durham county. I think this is wrong. Cobourg is the county town of Durham and Northumberland.—T. F. S.

[Our correspondent is right. We were misinformed.]

"THEIR varying tints unite,
 And form in Heaven's light
 One arch of peace."

These lines are found at end of the lesson, "Canada and United States," Fourth Reader. Please state the author of them.—"Dominie."

[We do not know. Perhaps some reader can tell us.]

SECOND Reader, Lesson XXIII., "The Harper."

(a) Was the Irish lad "poor, forsaken and blind"?

(b) "To my sweet native village." Name the village.—SUBSCRIBER.

[(a) Pat was no longer a lad. He and his dog had grown "weary and old." (b) The village on "the green banks of the Shannon." It is not likely that the poet had in view any particular village.]

WERE Notes on Entrance Literature published on following lessons:—"The Ocean," Byron, and "Canada and the United States," Howe?—TEACHER.

[These seem to have been inadvertently omitted.]

WILL you kindly (a) give me the names and addresses of two or three of the best wholesale chemists and druggists in Toronto, and also (b) inform me to whom I must write for information concerning the next Civil Service Examination?—SUBSCRIBER.

[(a) Lyman & Co., Elliott & Co., Evans, Sons & Mason, Front Street. (b) Apply to Secretary of the Board of Civil Service Examiners, Ottawa.]

WILL you please state in next issue of JOURNAL which Drawing Book is required for next Entrance Examinations?—SUBSCRIBER.

[As no change is specified, the requirement is, no doubt, the same as at the last (December) Exami-

nation, viz.: "Drawing Book No. 5, of the Drawing Course for Public Schools. Pupils may present their school work in Drawing in any blank exercise book, so long as it covers the prescribed course, and no discrimination will be made in favor of work contained in the authorized Drawing Book."]

Book Notices, etc.

THE Copp Clark Co. (Limited) have been appointed agents in Canada for the Isaac Pitman & Sons shorthand books. These phonographic publications have of recent years commanded a constantly increasing sale, and the Copp Clark Co. have done well in securing the trade sale for these books in Canada. They are just preparing a full list.

Promissory Notes, Drafts and Cheques. What a Business Man Should Know Concerning Them. By J. W. Johnson, F.C.A. Published by Ontario Business College, Belleville. Third edition.

This useful little work was first published two years ago, as a series of articles in the EDUCATIONAL JOURNAL. The fact that a third edition is now called for, and that the original pamphlet has grown from sixteen to thirty-four pages, affords the best practical proof that the treatise has supplied a felt want and been found useful for business men as well as for teachers.

THE Copp Clark Publishing Co. have just issued another volume of the Henderson Classics. This number contains Books I. and II. of Cæsar's *Bellum Gallicum*, with notes, vocabulary and Maps by J. Henderson, M.A. Mr. Henderson's books have already attained a very wide circulation, not only in Ontario schools, but throughout the other Provinces, and this new volume will no doubt be fully equal to the others in this particular. Mr. Henderson is just about issuing, through the same publishing house, a little volume of notes and aids to Xenophon's *Anabasis*, Book III. Students about to take up the Greek Texts will be glad to find help forthcoming from the same pen that has so often cleared up for them difficulties in the Latin Texts.

Preston Papers. By Miss Preston's Assistant. Publisher: William H. Briggs, Treas. Lawyers' Co-operative Publishing Co., Rochester, N.Y.

These papers are a treasury of excellent practical hints, suggestions, discussions and reasonings, which we should like to see in the hands of every teacher. The author informs us in a prefatory note that "Miss Preston is no ideal teacher, but one well known to both publishers and author as a *bona fide* teacher who still lives, works and enjoys her work, with a zest unknown to mere 'machine' teachers. The experiences are real and possibly not unusual and are offered to the pedagogical fraternity with the hope that they may be suggestive of a 'Beyond' in the work."

Two Great Teachers. Johnson's Memoir of Roger Ascham; and Selections from Stanley's Life and Correspondence of Thomas Arnold, of Rugby. With Introductions by James H. Carlisle, President of Wofford College, Spartanburg, S.C. Syracuse, New York: C. W. Bardeen, Publisher, 1890.

The title of this volume is its best recommendation. The two standard biographies of the two famous teachers, far apart though they were in time and in character and ideas, will always be of great interest and value to teachers. They are here presented side by side in one neat and convenient volume, each prefaced with a well-written and useful introductory essay.

THE teacher will feel the need of looking upward as he goes onward. No teacher of any eminence in this world but has dealt with the deepest truths. In fact, the great teachers have been mystics—seekers for transcendent truth; they have all been moralists, too—enforcers of duty. The best teacher is not the one who can get his pupils through the arithmetic, but the one who can get his pupils to feel they must rise to their high water mark, or as it is put in homely words, "make something of themselves." The teacher who looks upward has a reason for it; he, too, needs teaching; he can get it from his Creator.—*N. Y. School Journal*.

Mathematics.

All communications intended for this department should be sent before the 20th of each month to C. Clarkson, B.A., Seaforth, Ont.

PROBLEMS.

WE invite all our readers to send the neatest and clearest solutions they can find to the following problems on or before Sept. 10th, in time for the issue of Oct. 1st, in which they will be duly acknowledged :

Alpha.—A man and a boy work on alternate days at a piece of work which the boy could do in thirteen days. If the boy begins first the work will be done half a day later than it would be were the man to take the first day. How long would both together require to do the work ?

Beta.—In a given time B and C together can do three times as much work as A ; A and C three times as much as B. Show that C alone can complete any given piece of work in a whole number of days only when all three working together can do it in a number of days that is some multiple of 5.

Gamma.—The hour, the minute and the second hand of a watch all revolve on the same centre. It is now half-past four. Find (1) the number of seconds that must elapse before the minute hand is first twice as far from the second hand as it is from the hour hand ; and (2) the number of seconds before the minute hand is midway between the other two hands.

Delta.—A town borrows \$10,000 to build a school-house. The interest is 3½% semi-annually, and the whole amount is payable ten years from the issue of the coupons. What is the amount that must be set aside each year to cancel principal and interest by means of a sinking fund within the required period ?

Epsilon.—To a given circle draw a tangent, from the point of contact draw a perp. on any diameter, also draw perp.'s from the centre and from the ends of the diameter to the tangent. Show that these four perp.'s are proportional.

Zeta.—Show that any perfect cube less than a million may have its cube root determined by inspection.

Eta.—Find the sum of *n* terms of the series

$$\frac{1}{1^4} + \frac{1}{4^9} + \frac{1}{9^{16}} + \dots + \frac{1}{n^2(n+1)^2}, \text{ and the sum to infinity.}$$

Theta.—ABCD is a quadrilateral ; BC and AD produced meet in F ; AB and DC produced meet in E. Join EF and take R the mid-point of EF, Q of BD, and P of AC ; P, Q, R lie in the same straight line.

Iota.—Resolve into factors

$$(a^3 + b^3 + c^3)xyz + (x^3 + y^3 + z^3)abc + 3abcxyz + (a^2b + b^2c + c^2a)(x^2y + y^2z + z^2x) + (a^2c + c^2b + b^2a)(x^2z + z^2y + y^2x).$$

Kappa.—Show how to produce a given straight line so that the rectangle contained by the whole line and the produced part may be equal to the square on the part produced.

Lambda.—Find the factors $x(y-z)^5 + y(z-x)^5 + z(x-y)^5$.

Mu.—If $\sqrt{a} + \sqrt{b} + \sqrt{c} = \frac{1}{u}$, $\sqrt{a} + \sqrt{b} - \sqrt{c} = \frac{1}{z}$

$$\sqrt{c} + \sqrt{a} - \sqrt{b} = \frac{1}{y}, \text{ and } \sqrt{b} + \sqrt{c} - \sqrt{a} = \frac{1}{x},$$

prove the following identity :—

$$\frac{(y+z-x+u)(z+x-y+u)(x+y-z+u)}{(x+y+z-u)} = (b+c-a)(c+a-b)(a+b-c) \div 8abc.$$

PROBLEMS, WITH SOLUTIONS BY THE EDITOR.

IN the June issue, Mr. Dickson gave four different forms of the factors of $a^3 + b^3 + c^3 - 3abc$. The fourth was demonstrated in the February number, the third in the June number and the second is easily obtained from the first. This Column has supplied numerous examples of the application of

these forms to difficult questions in factoring, and also of special artifices of substitution. See April, 1887, July and December, 1888, and the numbers for this year. We now add a few more examples to complete the series that has had to struggle through piecemeal for want of space. We commend the whole collection to the consideration of our algebraical readers.

No. 45. Sum

$$\frac{a^2}{(a-b)(a-c)(a-d)} + \frac{b^2}{(b-a)(b-c)(b-d)} + 2$$

similar fractions.

SOLUTION.—Restore symmetry by changing the factors of the denominators to the forms $a-b, b-c, c-a, a-d, b-d, c-d$. This will make the sign before each fraction minus.

Let $\frac{a^2}{(a-b)(c-a)(a-d)} - \&c. = S$ and clear of fractions,

$$\therefore -a^2(b-c)(b-d)(c-d) - b^2(c-a)(a-d)(c-d) - \&c. = S(a-b)(b-c) \dots (c-d).$$

Now factor the left hand by putting $a-b=0, \&c.$, and K = numerical factor.

Exp. 'n = $K(a-b) \dots (c-d)$. Put $a=0, b=1, c=2, d=3$, and we get

$$0 - (1)(2)(-3)(-1) - 4(-1)(-3)(-2) - 9(-1)(-1)(2),$$

$$\text{or } 0 - 6 + 24 - 18 = 0 = K(a-b) \dots (c-d), \therefore K=0, \therefore S=0.$$

No. 46. Sum $\frac{a^3}{(a-b)(a-c)(a-d)} + 3$ similar fractions.

SOLUTION.—Restore the symmetry, and thus place a minus sign before each fraction.

$$\text{Then } S(a-b)(b-c)(c-d)(b-d)(a-d)(c-d) = -a^3(b-c)(b-d)(c-d) - b^3(c-a)(a-d)(c-d) - c^3(a-b)(a-d)(b-d) - d^3(a-b)(b-c)(c-a)$$

$$= K(a-b) \dots (c-d). \text{ To find } K \text{ put } a=1, b=2, c=3, d=0, \text{ and we get}$$

$$12K = -1(-1)(2)(3) - 8(2)(1)(3) - 27(-1)(1)(2) - 0 = 6 - 48 + 54 - 0 = 12$$

$\therefore K=1$ and therefore $S=1$.

No. 47. Sum $\frac{a^4}{(a-b)(a-c)(a-d)} + 3$ similar fractions.

SOLUTION.—As before, $S(a-b) \dots (c-d) = -a^4(b-c)(b-d)(c-d) - b^4(c-a)(a-d)(c-d) - c^4(a-b)(b-d)(a-d) - d^4(a-b)(b-c)(c-a)$

$= K(a-b) \dots (c-d)(a+b+c+d)$, since the expression is of 7 dimensions and $a+b+c+d$ is the only symmetrical factor of one dimension.

Find K by putting $a=1, b=2, c=3, d=0$. N.B.—In choosing these numbers we have to take care to see that the values assigned do not make any of the factors $a-b, b-c, \&c. = 0$, otherwise K would disappear and we should defeat the object in view. Here we get $6 - 96 + 162 = 72K = 72$; $\therefore K=1$; and therefore $S=a+b+c+d$.

No. 48. Sum $\frac{a^3(b+c)}{(a-b)(a-c)} + 2$ similar fractions.

SOLUTION.—Sum $= a^3 \left\{ 1 + \frac{2a(b+c)}{(a-b)(a-c)} \right\} + b^3 \left\{ 1 + \&c. \right\} + c^3 \left\{ 1 + \&c. \right\}$

$$= a^3 + b^3 + c^3 + 2 \left\{ \frac{a^4(b+c)}{(a-b)(a-c)} + 2 \text{ sim. fractions.} \right\}$$

$= a^3 + b^3 + c^3 + S$, say.

To find S , proceed as in questions above.

$$S(a-b)(b-c)(c-a) = -a^4(b+c)(b-c) - b^4(c+a)(c-a) - c^4(a+b)(a-b) = -a^4(b^2-c^2) - b^4(c^2-a^2) - c^4(a^2-b^2)$$

Put $a^2-b^2=0, \&c.$, and the expression = $K(a^2-b^2)(b^2-c^2)(c^2-a^2)$

Find K , by putting $a=1, b=2, c=0$, and we get $12K = -4 + 16 - 0 = 12$, or $K=1$.

Thus $S(a-b)(b-c)(c-a) = (a^2-b^2)(b^2-c^2)(c^2-a^2)$

or $S = (a+b)(b+c)(c+a)$, hence the whole sum $= a^3 + b^3 + c^3 + 2(a+b)(b+c)(c+a)$.

No. 49. Simplify $(a^2+2bc)^3 + (b^2+2ca)^3 + (c^2+2ab)^3 - 3(a^2+2bc)(b^2+2ca)(c^2+2ab)$.

SOLUTION.—

If $x = a^2 + 2bc, y = b^2 + 2ca, z = c^2 + 2ab$, this becomes $x^3 + y^3 + z^3 - 3xyz$, and using Form II.—(see last issue)—we have

$$(x+y+z) \frac{1}{2} [(x-y)^2 + (y-z)^2 + (z-x)^2]. \text{ But } x+y+z = (a^2+b^2+c^2+2ab+\&c.) = (a+b+c)^2, \text{ two factors found.}$$

$$\text{And } (x-y)^2 = (a^2+2bc-b^2-2ca)^2 = (a-b)^2[(b-c)-(c-a)]^2$$

$$\therefore (y-z)^2 = (b-c)^2[(c-a)-(a-b)]^2$$

$$(z-x)^2 = (c-a)^2[(a-b)-(b-c)]^2$$

For $a-b$ write A ; for $b-c, B$, for $c-a$ write C , and we get $\frac{1}{2} \left\{ (x-y)^2 + \&c. \right\}$

$$= A^2(B-C)^2 + B^2(C-A)^2 + C^2(A-B)^2 = 2(A^2B^2 + \&c.) - 2ABC(A+B+C), \text{ but } A+B+C = 0$$

$$\therefore \frac{1}{2} \left\{ (x-y)^2 + \&c. \right\} = A^2B^2 + B^2C^2 + C^2A^2, = (AB+BC+CA)^2,$$

since $A+B+C=0$; $= \left\{ (a-b)(b-c) + (b-c)(c-a) + (c-a)(a-b) \right\}^2$, which is the second factor of Form III.

\therefore the whole expression $= (a^3 + b^3 + c^3 - 3abc)^2$.

No. 50. Find the factors of $(ax+by+cz)^3 + (bx+cy+az)^3 + (cx+by+az)^3 - 3(ax+\&c.)(bx+\&c.)(cx+\&c.)$

SOLUTION.—The form is $A^3 + B^3 + C^3 - 3ABC$, that is, form II.

$$(A+B+C) \frac{1}{2} \left\{ (A-B)^2 + (B-C)^2 + (C-A)^2 \right\}$$

Now $A+B+C$ is easily seen to $= (x+y+z)(a+b+c)$; two factors found. And $A-B = x(a-b) + y(b-c) + z(c-a) = xR + yS + zM$, say ; where $R = a-b, S = \&c.$, and therefore

$$R+S+M=0$$

$$\therefore (A-B)^2 = x^2R^2 + y^2S^2 + M^2 + 2xyRS + 2yzSM + 2zxMR,$$

$$\therefore (B-C)^2 = x^2S^2 + y^2M^2 + z^2R^2 + \&c., \text{ by symmetry.}$$

$(C-A)^2 = x^2M^2 + y^2R^2 + \&c.$, by changing R into S, S into $M, \&c.$

$$\therefore \text{sum} = (x^2 + y^2 + z^2)(R^2 + S^2 + M^2) + 2(xy+yz+\&c.)(RS+\&c.)$$

But $R^2 + S^2 + M^2 = 2(a^2 + b^2 + c^2 - ab - bc - ca)$, and

$$RS + SM + MR = -(a^2 + b^2 + c^2 - ab - bc - ca).$$

Hence the 2nd factor above $= (x^2 + y^2 + z^2 - xy - \&c.)(a^2 + b^2 + c^2 - ab - \&c.)$ the other two factors of the given expression.

No. 51. Simplify $(x^2 + 2yz)^3 + (y^2 + 2zx)^3 + (z^2 + 2xy)^3 - 3(x^2 + 2yz)(y^2 + 2zx)(z^2 + 2xy)$.

SOLUTION.—This is the same as question No. 49. We will this time apply Form IV., viz., $(a+b+c)(a+wb+w^2c)(a+w^2b+wc)$, where we now require to substitute $x^2 + 2yz$ for $a, y^2 + 2zx$ for $b, \&c.$ Hence we have $a+b+c = (x+y+z)^2$, as before.

$$\text{2nd factor} = \left\{ (x^2 + 2yz) + w(y^2 + 2zx) + w^2(z^2 + 2xy) \right\}$$

$$= x^2 + wy^2 + w^2z^2 + 2yz + 2wzx + 2w^2xy = (x+w^2y+wz)^2, \text{ as is easily seen.}$$

Similarly by symmetry,

3rd factor $= (x+wy+w^2z)^2$; and product of 2nd and 3rd factors (see Forms IV. and I.)

$$= (x^2 + y^2 + z^2 - xy - \&c.)^2 ; \therefore \text{expression} = (x^3 + y^3 + z^3 - 3xyz)^2, \text{ as before.}$$

No. 52. Resolve into factors the expression, $(na-b-c)^3 + (nb-c-a)^3 + (nc-a-b)^3 - 3(na-\&c.)(nb-\&c.)(nc-\&c.)$

SOLUTION.—Using Form IV., the 1st factor = sum of brackets $= (n-2)(a+b+c)$.

$$\text{2nd factor} = (na-b-c) + w(nb-c-a) + w^2(nc-a-b) = a(n-w-w^2) + b(-1+nw-w^2) + c(-1-w+nw^2)$$

$$= a(n+1) + b(n+1)w + c(n+1)w^2, \text{ if we apply } 1+w+w^2=0$$

$$= (n+1)(a+bw+cw^2). \text{ By symmetry we get}$$

3rd factor $= (n+1)(a+bw^2+cw)$; \therefore by Form IV, the whole quantity together becomes

$$(n+1)^2(n+2)(a+b+c)(a^2+b^2+c^2-ab-bc-ca)$$

No. 53. Factor $(by+az)^3 + (bz+ax)^3 + (bx+ay)^3 - 3(by+az)(bz+ax)(bx+ay)$

SOLUTION.—Apply Form IV, and 1st factor is the sum of the brackets, or 1st factor $= (a+b)(x+y+z)$.

$$\text{2nd factor} = (by+az) + w(bz+ax) + w^2(bx+ay) = a(z+wx+w^2y) + b(y+wz+w^2x). \text{ Similarly}$$

3rd factor = $a(z + w^2x + wy) + b(y + w^2z + wx)$.
 Now the product of the 2nd factor \times 3rd factor is
 $a^2(x^2 + y^2 + z^2 - xy - \&c.) + b^2(x^2 + y^2 + z^2 - xy - \&c.)$
 $+ wab(x^2 + y^2 + \&c.) + w^2ab(x^2 + y^2 + z^2 - xy - \&c.)$
 $= (x^2 + y^2 + \&c.) \{ a^2 + b^2 + ab(w + w^2) \}$
 $= (x^2 + y^2 + z^2 - xy - \&c.) (a^2 - ab + b^2)$; thus the
 four factors of the expressions are
 $(a + b)(a^2 - ab + b^2)(x + y + z)$
 $(x^2 + y^2 + z^2 - xy - yz - zx)$,

which of course may be written
 $(a^3 + b^3)(x^3 + y^3 + z^3 - 3xyz)$.
 No. 54. If $1 + w + w^2 = 0$, show that the cube of
 $(b - c)(x - a) + w(c - a)(x - b) + w^2(a - b)(x - c)$ +
 the cube of
 $(b - c)(x - a) + w^2(c - a)(x - b) + w(a - b)(x - c)$ is
 equal to
 $27(b - c)(c - a)(a - b)(x - a)(x - b)(x - c)$.

SOLUTION.—If $1 + w + w^2 = 0$, we see that w and
 w^2 are the two imaginary cube roots of unity (see last
 article in February issue), and therefore $w^3 = 1$ and
 $w + w^2 = -1$. Now write A for $(b - c)(x - a)$; B
 for $(c - a)(x - b)$; C for $(a - b)(x - c)$, and it is easily
 shown that $A + B + C = 0$, or $A = -(B + C)$. We
 have, then to prove that $(A + wB + w^2C)^3 +$
 $(A + w^2B - wC)^3 = 27ABC$. We factor the sinister
 member of the equation and reduce thus: The sum
 of the two cubes is divisible by the sum of the two
 quantities, i.e., $2A + B(w + w^2) + C(w^2 + w)$, or $2A -$
 $B - C$, which is equal to $3A$, since $A + B + C = 0$.
 The quotient is of the form $x^2 - xy + y^2$, i.e.,

$$\frac{(A + wB + w^2C)^2 + (A + w^2B + wC)^2 - (A + wB + w^2C)(A + w^2B + wC)}{A^2 + w^2B^2 + wC^2 + 2wAB + 2wAC + 2BC}$$

$$\frac{A^2 + w^2B^2 + wC^2 + 2wAB + 2wAC + 2BC}{A^2 + w^2B^2 + wC^2 + 2w^2AB + 2wAC + 2BC}$$

$$\frac{-A^2 - B^2 - C^2 - AB - AC - BC}{\therefore \text{Quotient} = A - 2B^2 - 2C^2 - AB - AC + 5BC}$$

$$= A(A - B - C) - 2(B + C)^2 - 9BC = 2A^2 - 2A^2 + 9BC = 9BC$$

\therefore sinister member = $3A \times 9BC = 27ABC$. Q.E.D.
 N.B. In expanding the quotient write down the
 second line by changing w into w^2 and *vice versa*,
 and write down the third line from Form IV. (See
 June issue.)

No. 55. By Prof. Godefroy. If $x + y + z = 0$
 then $\left(\frac{y-z}{x} + \frac{z-x}{y} + \frac{x-y}{z}\right) \times \left(\frac{x}{y-z} + \frac{y}{z-x} + \frac{z}{x-y}\right)$
 $= -9$.

SOLUTION by the Editor.
 First factor reduces to $\frac{1}{xyz} (x - y)(y - z)(z - x)$
 Second factor = $x(z - x)(x - y) + y(y - z)(x - y) + z$
 $(y - z)(z - x)$
 divided by $(x - y)(y - z)(z - x)$. Hence the
 whole product is really
 $\frac{\{ x(z - x)(x - y) + y(y - z)(x - y) + z(y - z)(z - x) \}}{\div xyz}$
 $= \frac{\{ x^2(y + z) + y^2(z + x) + \&c. - 3xyz - x^3 - y^3 - z^3 \}}{\div xyz}$
 $= \frac{\{ -x^3 - y^3 - z^3 - 3xyz - x^3 - y^3 - z^3 \}}{\div xyz}$
 since $y + z = -x$, &c.
 $= \frac{\{ -3xyz - 3xyz - 3xyz \}}{\div xyz}$, since
 $x^3 + y^3 + z^3 = 3xyz$
 $= -9$.

No. 56. By Prof. Svěchnikoff. Solve the equa-
 tions
 $x + y + z = a$; $x^3 + y^3 + z^3 = a^3$; $x^2 + y^2 + z^2 = a^2 + 2b^2$.

SOLUTION by the Editor.—
 $(x + y + z)^3 = x^3 + y^3 + z^3 + 3(x + y)(y + z)(z + x) =$
 $x^3 + y^3 + z^3$
 $\therefore 3(x + y)(y + z)(z + x) = 0$, $\therefore x + y = 0$; $\therefore z = a$
 $\therefore x^2 + y^2 = 2b^2$. But $x^2 + y^2 + 2xy = 0$, $\therefore 2xy =$
 $-2b^2$
 $\therefore (x - y)^2 = 4b^2$; $x - y = \pm 2b$; $x = \pm b$, $y = \mp b$, $z = a$.
 No. 57. By Prof. Orchard. Solve as a quad-
 ratic the equation
 $x^8 + (x^2 - x)^4 + (x^2 - 2x)^4 + (x^2 - 3x + 2)^4 + 9(x - 1)^4$
 $+ 7(x - 2)^4 + 16x^4 + 63 = 0$.

SOLUTION by the Editor.—
 2nd term = $x^4(x - 1)^4$; 3rd = $x^4(x - 2)^4$; 4th =
 $(x - 1)^4(x - 2)^4$

Write y for $x - 1$ and z for $x - 2$, and we get
 $x^8 + x^4y^4 + x^4z^4 + y^4z^4 + 9y^4 + 7z^4 + 16x^4 + 63 = 0$
 or $(x^4 + y^4 + 7)(x^4 + z^4 + 9) = 0$. Thus we have
 two biquadratics
 $x^4 + (x - 1)^4 + 7 = 0$, and $x^4 + (x - 2)^4 + 9 = 0$. The
 former becomes
 $(x^2 - x + 1)^2 = -3$, whence $x = \frac{1}{2}$
 $\{ 1 \pm [-3 \mp 4\sqrt{-3}]^{\frac{1}{2}} \}$, &c., &c.

Educational Meetings.

NORTHUMBERLAND TEACHERS' ASSOCIATION.

(From the Brighton Ensign.)

THE County Teachers' Association held its
 annual meeting at Colborne on Thursday and Fri-
 day of last week. Over one hundred teachers
 were present, but many from the north of the
 county were missed. The first paper on the pro-
 gramme was that of Dr. Tilley, Inspector for Dur-
 ham, and was on "Strong Points in Teaching." He
 dealt with the surroundings, the teacher's work
 —government and education—the child's road to
 success by attention, self-activity and criticism,
 and the teacher's road to success by securing
 attention, training the pupils to criticize, and
 encouraging them to overcome difficulties. He
 ended with these valuable hints: 1. Keep your
 pupils constantly and pleasantly employed. 2.
 Never give them work to keep them busy, but keep
 them busy to do work. 3. Aim at perfection, but
 never wait for it, go on and review. 4. Guard
 them against the too common habit of "working
 for nothing." Mr. E. Scarlett, Inspector for North-
 umberland, read a short paper setting forth some
 of the common defects in primary teaching, which
 was discussed by Messrs. Barber, Black, Tilley and
 Wilson. In the absence of the person who was to
 give a paper on "Reading," a short discussion on
 that important subject was led by Mr. Barber, who
 dwelt on the necessity of word recognition and
 naturalness. Complaint was made that the read-
 ing of the Fourth Class was too much confined to
 the lessons set for literature, and that the Depart-
 ment put a premium on this narrow reading by
 prescribing parts of those lessons to be read by
 candidates at the Entrance Examination. Mr. J.
 Houston, Head Master of Brighton High school,
 then read a paper on the Non-professional Exami-
 nations, tracing briefly the history of the changes
 in teachers' qualifications from the time previous
 to 1816, when there were no Public schools, down
 to the present time, which is characterized by a
 tolerably complete differentiation of professional
 and non-professional work. He closed by recom-
 mending several important changes to simplify and
 make more uniform the non-professional courses,
 in such a way as to save the time of pupils and
 teachers in the High schools, and in some cases
 avoid the necessity of a third teacher. The sub-
 ject was fully discussed.

The first paper read on Friday was that of Mr.
 Delamatter, Head Master of Colborne High
 school, on English Literature. He held that
 examinations were an imperfect test of the pupil's
 power to feel the beauty and appreciate the
 thought of literary productions—that power which
 should be a source of recreation and genuine plea-
 sure through life, and a hindrance to vicious
 indulgence, especially in the yellow-covered and
 dime literature of to-day. Mr. John Kelly's paper
 on "The Public School Programme," complained
 of the burthen of work placed upon the teacher—
 eighteen classes having to be taught in the day.
 He thought Agriculture, Drawing and Temperance
 should be omitted. The discussion that followed
 showed that some difference existed as to Agricul-
 ture and Temperance, but no one sided with the
 view that Drawing should be dropped. The next
 paper was read by the President, Mr. S. E. Dixon,
 who introduced a discussion on "Time Tables." He
 showed what a loss of time and energy
 resulted from the absence of a well-arranged time
 table, especially with the present multiplicity of
 subjects. Mr. Dixon gave an example from his
 own time-table, and the Association voted that it

should be printed and copies sent to all the teach-
 ers. The next paper on the programme was
 "Random Shots at Flying Follies," by Mr. W.
 Scarlett. The nature of the follies caught on the
 wing by the erudite marksman is indicated by
 such expressions as, "We teach too much at many
 subjects," "Don't hurry a boy who is already mov-
 ing and thinking, and whose motion and thought
 are suited to the boy; we are not all built alike,"
 "Ask sensible questions," "Don't use Johnsonese,"
 "Don't lecture." The volleys were accompanied
 by pleasing coruscations of wit and humor, and
 their reverberant echoes died peacefully away
 amid the silvery ripple of the author's original and
 inimitable verse. Dr. Tilley's address on "Junior
 Work" closed the programme. In this he gave
 many useful hints on dealing with the little folk
 successfully from the first day of their school life
 through the work required in the lowest classes.
 He dwelt on the occupation of eye, ear and hand,
 and gave some methods of practising addition.

What was undoubtedly a successful meeting was
 then closed by tendering votes of thanks to Dr.
 Tilley and to the retiring President, who had con-
 tributed so much to make the meeting pleasant
 and profitable.

The officers for the ensuing year are: President,
 J. Houston, M.A.; Vice-President, Miss M. Field;
 Sec.-Treas., Mr. A. Barber; additional members
 of Executive Committee, Messrs. Becker, Ellis,
 B.A., Gould, E. Scarlett and Wilson.

SOUTH SIMCOE TEACHERS' INSTITUTE.

THE annual Convention of the South Simcoe
 Teachers' Institute was held in Alliston, 29th and
 30th ult.

It was decidedly the most successful Convention
 ever held in this Inspectorate, that is, in the way of
 good, honest, solid work.

The essays read were of a very superior order,
 while the subjects handled were sufficiently varied
 to make the whole proceedings very interesting.

The subject of "Teachers' Union" intro-
 duced by the Secretary, on the strength of a circular
 received from the Secretary of the Carleton
 Teachers' Association, was fully discussed, *pro* and
con, the teachers of South Simcoe resolving to
 uphold the "Union," but not adopting all the steps
 taken by the Carleton Association.

W. F. Moore, of Cookstown, read a paper criti-
 cizing the Public School Arithmetic and History,
 but it pleased the Association not to adopt his
 criticisms in full by refusing to pass a motion
 "that the teachers of South Simcoe recommend
 the Minister of Education to take our present History
 off the list of authorized text-books, and sub-
 stitute a better one."

Messrs. Hoath Batten and G. B. Wilson read
 very interesting essays on Agriculture, Physical
 Geography and Literature, respectively, which
 were very much appreciated.

Miss Wanless, of Tuam, favored us by teaching
 reading to a junior class, and J. P. Finn, of Tecum-
 seth, exhibited his method of teaching music to
 children.

Inspector Day, Ph B., of N. E. Simcoe, threw
 out some exceedingly practical hints on teaching
 primary classes, which will be of lasting benefit to
 all, but particularly to those who are young in the
 profession.

The subject of "Uniform Promotion Examina-
 tions" was then introduced by J. A. McPherson, of
 Beeton, and, after some discussion, the teachers of
 the Association recommended that these examina-
 tions should be used throughout the Inspectorate.

The officers elect of the Institute are:—Presi-
 dent, Rev. Thos. McKee, Barrie; Vice-President,
 Dr. Forrest, M.A., Bradford; Sec.-Treas., G. M.
 Robinson, Tottenham; Executive Committee,
 Messrs. Brown, Sutherland, Moore, Hoath and
 McPherson, and Misses Wanless and Cunning-
 ham. Delegates to the Ontario Teachers' Con-
 vention, Rev. T. McKee and G. B. Wilson.

In the evening of the first day, Rev. D. D.
 McLeod, of Barrie, gave a most excellent address
 on the "Ideal School." This was a genuine intel-
 lectual treat, and was well received.—G. M. ROB-
 INSON, *Secretary*.

THERE is an art of reading, as well as an art of
 thinking, and an art of writing.—*Disraeli*.

The Educational Journal.

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A JOURNAL DEVOTED TO LITERATURE, SCIENCE, ART
AND THE ADVANCEMENT OF THE TEACHING
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J. E. WELLS, M.A. - - - - - Editor.

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✻ Editorials. ✻

TORONTO, JULY 1, 1890.

THE KINDERGARTEN SYSTEM.

A CORRESPONDENT writes us as follows: "It has been said that there are now no kindergartens in Germany; is that true? If so can you satisfactorily account for it?"

This statement must be, we think, based on a misconception. Though Germany is the land of Froebel, and the birthplace of the kindergarten, the system has never been adopted by the German Government, as it has by that of Italy and, to some extent, that of Belgium, Austria, Hungary, Switzerland and other Continental States. But in the larger cities of Germany there have been, and to the best of our knowledge, still are a good many private schools founded on kindergarten principles. These are mainly conducted by cultivated and philanthropic ladies, for the benefit of the poorer classes. Among others is the Pestalozzi and Froebel House, of which Frau Schrader is the promoter and organizer, and which combines with the kindergarten, industrial and cooking schools and classes for kindergarten students.

There are, too, in Germany, or were within a year or two, private kindergarten training schools, which have been very useful and freely resorted to by students from other countries.

In regard to this subject we may add that, while we believe the kindergarten principles to be educationally sound, there is, in our opinion, great danger of waste of time and energy in the attempt to apply so-called kindergarten methods. Judging from the kind of exercises we frequently find given as models in some of our educational exchanges, a vast amount of puerility and non-sense passes current in the names of Froebel and his compeers. Take, for instance, the interminable exercises in the handling of splints, shoe pegs, etc., which are sometimes put forward as models of the proper methods of giving to children the conception of number—a conception which we venture to say is already tolerably clear in the mind of every child of ordinary intelligence, who has learned to count his fingers and toes. The use of objects to aid the thinking of the child at the outset is natural and philosophical, but to chain him down to the counting and manipulation of blocks or pegs one moment after he has acquired the power of performing the necessary mental operations without such aid, is not only to clog his mental movements and deprive him of the delight which is the natural reward of success in the exercise of the thinking powers, but tends to form and confirm habits of mental indolence which may affect all his future course. We have seen children perform mentally, in one or two minutes, by the aid of a little judicious questioning and stimulus, operations with numbers to which they would have been led up by the methods in vogue in some of the so-called kindergartens, only through preliminary processes lasting over days or even weeks. We believe the kindergarten system is in great danger of being brought into disrepute by the failures of incompetent teachers to understand and apply its true principles and methods.

SUMMER NORMAL WORK.

AS a rule, it is better for the teacher to give up his summer vacation entirely to exercise or recreation of a physical kind, rather than to undertake during that too brief period any systematic course either of intellectual culture or of professional training. But in some way the teacher who means to stick to his calling and make his living by it must keep abreast of the march of educational improvement, and as he cannot without great sacrifice of time and money attend the sessions of the regular Normal schools it is fortunate for him that teachers' institute work has become a prominent feature of the programme of summer resorts. The ordinary annual institutes, which continue in session for only two days each, are useful in their way, but the time is too short to enable their members to discuss many subjects, or to treat any of them very thoroughly.

Under these circumstances it is matter for congratulation that the management of the Niagara Assembly—better known as the Cana-

dian Chautauqua—have undertaken a three weeks' institute for the benefit of those teachers who are interested in the discussion of methods. The term "Chautauqua" may easily mislead in this connection. It is usually associated in the mind with the well-known and popular course of reading presented for those who belong to the literary and scientific circles organized under Chautauqua auspices. But the Niagara Assembly Teachers' Institute has no connection with this reading course, as a glance at its programme will show. The Institute began its existence last year in a modest way with a few courses of instruction. This year it includes no less than nine, namely, physical training, kindergarten work, the teaching of English, Elocution, Gesture, Mathematics, History, Music and Drawing. A very few more courses would make the circle of Normal work fairly complete, the one most urgently needed being Botany, the most suitable of the sciences to be used as a means of making teachers practically acquainted with inductive reasoning and scientific methods, during their sojourn at a summer resort.

It is needless to say that the names of the members of the Institute staff are a guarantee that the work done during the three weeks' session will be of the most thorough kind. Miss Louise Curry, who takes the kindergarten work, is superintendent of the Toronto kindergartens, and Major Thompson, who has charge of the physical exercise, including swimming, holds a similar position in the Toronto public schools. Prof. S. H. Clark, who will give a primary and an advanced course in Elocution, has won a high reputation as a reader and a teacher in this and other Canadian cities, and Miss Laura Mc Gillivray is a thorough expert in the Delsarte system of gesture teaching. Mr. William Houston will give, more fully than he has ever before been able to do, his somewhat revolutionary views on the teaching of English. Mr. W. J. Robertson will give a course on the teaching of Mathematics, and Mr. Robertson and Mr. Houston will take up together the related subjects of history, politics and economics, with a view to showing the use that may be profitably made of them in Public schools.

Special interest attaches to the subjects of music and drawing. For several years past the Education Department has encouraged the development of these subjects amongst teachers by subsidizing, to a limited extent, summer schools. A few such schools as those provided by the Niagara Assembly would enable the Department to regard the problem of securing properly trained teachers as practically solved. In music Mr. A. T. Cringan, the well-known exponent of Curwen's system will give a primary and an advanced course, using both the tonic sol fa and the staff notation. In drawing ample provision will be made for teaching all three courses, primary, advanced and mechanical. The work will this year be under the charge of two gentlemen who have had long experience in teaching drawing in High schools, Art schools and Mechanics' institutes. At the conclusion of the Institute the Education Department will

hold examinations in Music and Drawing on the grounds, and will grant the usual certificates and pay the usual bonuses on the awards of the Examiners.

It is interesting to observe that no special fee is charged for any or all of these courses. We do not profess to be able to see how the management can afford to take up Normal work in this public spirited way, but teachers who feel disposed to take any of the courses need not concern themselves with this aspect of the matter. We may add for their information that intending students are expected to report themselves on Saturday, the 19th of July, in order that the organization of the classes may be completed and a time table arranged to begin work on the following Monday. Any one who wishes meanwhile to get a copy of the programme can procure it by writing to W. Houston, M.A., who is at once Secretary to the Assembly and chief director of the institute. The experiment should have a fair trial at the hands of the teachers, now that this enterprising corporation have done their part.

THE NEW EAST HURON INSPECTOR.

THE choice of a successor to the late Inspector Malloch, of East Huron, seems to have given rise to considerable discussion of the claims of rival candidates in the inspectorate. As many as seven candidates were, we learn, in the field. The choice of the County Council, as made by ballot, was Mr. D. Robb, of Clinton Collegiate Institute. The Clinton *New Era*, though it advocated the claims of another candidate, pays the following handsome tribute to Mr. Robb:

"To the public of North Huron, indeed, Mr. Robb has been well and favorably known during the past nine years. Recommended highly by the masters of the Toronto Normal school, he was appointed mathematical teacher of the Clinton High school in 1881. Since that time he has pursued his studies quietly, and has gained the standing of specialist as a teacher of Mathematics, and also of the Natural Sciences in the Provincial Collegiate Institutes. As a teacher and disciplinarian his standing has always been rated high by the High School Inspectors. In the Public school work to which he is now called, his training has been ample and varied. For three years he taught in Amherst Island, and for thirteen years in the Birmingham Public school; he afterwards devoted an entire year at the Normal school to the study of methods in teaching. Mr. Robb holds a First Class Certificate as a graduate of the Military school at Kingston, is holder of a Special Certificate in Agriculture and Agricultural Chemistry, and is legally qualified as a Public School Examiner. As a teacher he has been noted for the directness of his instruction, the lucidity of his teaching and for the kindly manner of his intercourse with his pupils. During his term of office we believe the schools under his charge will be distinguished by good scholarship and good government; the teachers will feel a stimulus from associating with an enthusiast in education, and the trustees will find in the new Inspector one well read in the school law, and able to interpret it in a rational way."

SUMMER SCHOOL OF MUSIC.

IN response to numerous requests from teachers who desire to study the Holt system of teaching vocal music, Prof. Holt, of Boston, has been engaged to conduct a class for teachers in the Toronto Normal school building during the first week of August next. Many of those who attended the summer school of 1887 have again applied for admission, and a large and enthusiastic gathering of teachers is expected. The instruction will be entirely confined to school music work from elementary to advanced grades.

The Minister of Education has requested Mr. S. H. Preston to make all arrangements, and teachers who wish to attend may obtain full information from him.

✻ Literary Notes. ✻

"THE Baby a Prisoner of War," is the title of the beautiful picture which makes the frontispiece of the July *St. Nicholas*, and also of the illustrated story by Margaret Foster Owen which follows it. Articles and instalments of articles on "Cycling," "Bat, Ball and Diamond," "Six Years in the Wilds of Central Africa," "How to Sail a Boat," and "Hawks and their Uses"; instalments of the stories "Lady Jane," "Marjorie and Her Papa," and "Crowded Out o' Crofield"; bits of verse and short poems by seven or eight writers, among them Harriet Prescott Spofford, Margaret Johnson, Laura E. Richards, Julia C. R. Dorr, and other well known and favorite contributors, with "Jack-in-the-Pulpit," "The Letter Box," numerous pictures and illustrations, make up an attractive number of this always attractive magazine.

A NEW serial, called "Felicia," by Miss Fanny Murfree, sister to Charles Egbert Craddock, opens the *Atlantic* for July. Miss Murfree's pages are full of clever characterizations, and there is an atmosphere about the story which promises well for the future numbers. This, with some chapters of Mrs. Deland's "Sidney," concludes the fiction of the number. James Russell Lowell's lines "In a Volume of Sir Thomas Browne," and some verses on Wendell Phillips, represent the poetry, and there is also some charming verse at the end of Dr. Holmes' "Over the Teacups." Frank Gaylord Cook has a sketch of Richard Henry Lee, and Professor Shaler writes about "Science and the African Problem." Mr. Albert Bushnell Hart's paper on "The Status of Athletics in American Colleges" may be called, if one may use a much abused phrase, "particularly timely."

THE American Institute of Instruction, the oldest teachers' organization in existence, holds its annual meeting for the present year July 7th to 10th, at Saratoga Springs, N.Y. Engagements for addresses have been made with President G. Stanley Hall, of Clark University, on "A Plea for Studying European Systems of Education"; Mr. John Tetlow, Principal of Girls' High and Latin Schools, Boston, on "School Instruction in Morals and Manners"; Superintendent G. C. Fisher, of Weymouth, on "Woman in Education"; Professor William North Rice, of Wesleyan University, on "The Place of Natural Science in the Educational Course"; Superintendent Edwin P. Seaver, of Boston, on "The Preparation of Teachers"; President E. B. Andrews, of Brown University, on "Patriotism and the Schools," and President B. P. Raymond, of Wesleyan University.

OSCAR WILDE contributes the complete novel

to the July number of *Lippincott's Magazine*. It is entitled "The Picture of Dorian Gray," and it is a story that everybody will want to read. Edward Heron-Allen, the well-known expert in palmistry, has an article upon "The Cheironomy of To-Day," and Mrs. Bloomfield-Moore contributes an important article on "Keeley's Contributions to Science." To the second instalment of "Round-Robin Talks" Col. Thos. P. Ochiltree, Richard Malcolm Johnston, Moses P. Handy, Thomas Nelson Page, Julian Hawthorne, Senator Squire and others contribute. Other articles which will attract attention are an interesting biographical sketch of Senator John J. Ingalls, and a paper upon "The Powers of the Air," by Prof. Felix L. Oswald. Mrs. Elizabeth Stoddard contributes a striking poem, entitled "A Unit," and Rose Hawthorne Lathrop has some charming verses called "Wait but a Day."

PRESIDENT JORDAN, of the University of Indiana, contributes to the July *Popular Science Monthly* an article on "Evolution and the Distribution of Animals," in which he shows what bearing the fact of certain animals being found or not found in certain localities has on the origin of species. This number contains the ninth of Dr. Andrew D. White's new chapters in the "Warfare of Science." Its subject is "The Antiquity of Man and Prehistoric Archaeology," and it tells how step by step "thunder-stones" or "heaven-axes" came to be recognized as flint implements of human make, and how their discovery together with bones of men and of extinct animals in the drift established the very early appearance of man upon the earth. In an article on "The Musical Sense in Animals and Men," August Weismann argues that "as man possessed musical hearing organs before he made music, those organs did not reach their present high development through practice in music."

THE July number of *The Chautauquan* contains the first instalment of a new department called "Woman's Council Table," in which will appear, from month to month, articles on some phase of woman's work and woman's home life. Over fifty well known women writers have been engaged to write for this department, which is opened this month by a bright and chatty article on "What Women Should Wear," by Mary S. Torrey; Kate Carnes writes of "Homesteads for Women," and tells how a woman may acquire independence if not wealth by a few years of intelligent industry; Frances E. Willard describes a visit to the Russian countess, gypsy, scholar and seer, Madame Blavatsky; Olive Thorne Miller tells of some "New Birds for the House;" "Summer Resort Acquaintances" is a helpful and practical talk by Felicia Hillel; "Dinners and Dinner Giving," are discussed by Mrs. Emma P. Ewing, a high authority on such matters, and Mrs. Hester M. Poole writes of "The Growth of a Home." "The Woman's Council Table" will doubtless add to the popularity of *The Chautauquan*.

THOUGHT QUESTIONS IN GEOGRAPHY

1. WHAT two American cities are nearest to the Canadian boundary?
2. In what month and about what date are the days the longest?
3. What country of Europe is celebrated for its silk production?
4. Which continent has the longest coast line, compared with its area?
5. What language is spoken in Brazil? Peru? Australia? Italy? Scotland? Holland?
6. In what standard time belt is Texas?
7. In what countries, states or localities are the following minerals found in greatest abundance: Coal, iron, gold, zinc, copper and silver?
8. Name three republics, three empires and three kingdoms.—*Educ. Gazette*.

* Correspondence. *

THE LATE INSPECTOR GROVER.

THOMAS GROVER, B.A., Public School Inspector for Western Assiniboia, was born in Grafton, Ontario, fifty years ago. His grandfather was a U.E. Loyalist who settled at Grafton, and gave the name to the village, having lived in a town of the same name in the United States. The subject of this sketch was taken by his parents to Wardsville in boyhood, where he attended the Public school, subsequently being sent to the Grammar school at Norwood, at which place he lived with his uncle, P.M. Grover, Esq., M.P. His uncle, John Grover, who resided at Colborne, was at that time Registrar for the County of Northumberland. Thomas attended Victoria University, Cobourg, and Toronto University, graduating at the latter. He also matriculated at Osgoode Hall, and for a short time studied law, but left the legal profession during the oil speculation excitement, after which he was appointed Examiner and Public School Inspector in Ontario.

After serving for a few years in this profession, he entered into partnership with his brother and for several years carried on a manufacturing establishment in the State of Maine. In 1872 he was married to Etta F. Brown, daughter of the Rev. Wm. Browne, B.A., Methodist minister of Portland, Maine, and Military Chaplain of the United States.

He removed his establishment to Toronto, engaged for a short time in real estate business, and in the spring of 1882 came to the North-West, locating near Regina. When the North-West Territorial Board of Education was organized, he was appointed one of the first Public School Inspectors for the Territories, having assigned him the western half of the District of Assiniboia.

For the past two years his health had not been good, and a severe attack of La Grippe having deprived him of what strength he had, he finally passed away on Sunday evening, May 25th, at his residence, Regina.

He leaves a wife and two sons. The teachers of his Inspectorate have keenly felt their loss, and numerous were the letters sent to the bereaved family by the members of the teaching profession. He was an excellent mathematical scholar and well versed in the classics, subjects which he delighted in and in which he did good service as Examiner for the Board of Education. He studied faithfully the latest publications and numerous periodicals relating to the science and art of teaching. On this specialty he was fully abreast of the times. For the past three years he had in contemplation the preparation of a series of Public School Readers, specially adapted for the North-West schools. The Rev. Dr. McLean, Examiner and member of the Board of Education, preached a funeral sermon and conducted the burial services.

His widow, a lady of eminent literary attainments, and an excellent writer of short stories for the New York and Boston Press, has the sympathy of the entire community in her bereavement.

ROBIN RUSTLER.

TEXT-BOOKS IN HISTORY.

To the Editor of the EDUCATIONAL JOURNAL:

SIR,—There has lately been a good deal said in the JOURNAL about the Ontario Public School History of England and Canada. It is justly said to lack grasp and proportion, to be in a style which makes it wearisome to "a grown person," and to be in a language from which it has to be translated for the pupils. Different correspondents have been calling for the writing of a new text-book, apparently assuming that no text-book, already on the market, meets the required conditions. So far as a Canadian History goes, this is no doubt the case; but there is an English History which, I think, is as good as any we are likely to get written. It is little known in Canada, being used by only one school that I know of; and it is to be had, I believe, no where in the country except from the book room of that school—Trinity College School, Port Hope. The publishers are Messrs. Rivingtons, London, Eng.; it is called "A First History of England," and is by Louise Creighton. Do not let the name

"Creighton" lead your readers to confuse it with the "Epoch" series, or its author with theirs.

It is written in thoroughly pure and good English, in an exceedingly attractive style; and, though there is nothing "childish" or affectedly "simple" about it, yet a pupil who does fairly well in the Third Book will read it with so little difficulty that he can enjoy it. In my present school there isn't a pupil in the Third Book who doesn't enjoy reading it. Apart from its style, I think it is an excellent history. It is very much like Green's. Things are in about the same proportion and are looked at in about the same way.

I write this to, if possible, induce you, and those of your readers who are interested in the teaching of history, to become acquainted with this text book. It is to be regretted that teachers should go on harassed and impeded by having to use an inferior text-book, while an excellent one is ready to hand, and remains unknown. I think that it might be worth while if you and some of the more prominent of those interested in history were to look up this text-book and let the teachers at large know, should it be, in your and their opinion, what I think it is—a really good "First History of England."

The "Book Room" of T.C.S. supplies books only to the boys of that school, but as this history is not kept in stock anywhere else, the manager would doubtless forward copies on receipt of the price, 90 cents. This is, of course, higher than it would be, were it in at all general use. Yours, etc.,

ALAN LAKE.

School-Room Methods.

GOOD SPELLING LESSON.

PLACE upon the board, or hang upon the wall, a large picture, and have the children write as words, not in sentences:

The things they see.

The things they think about because of what they see.

The action words suggested by the picture.

The pronouns they think of in connection with it.

The adjectives suggested by it.

There is great need of spelling words not used in sentences. Some minds are so constituted that in writing sentences the thought is so far ahead of the word they are writing that its perfect form does not concern them. There is need of special, thoughtful attention to the writing of words by themselves.—*Journal of Education.*

ARITHMETIC AS A LANGUAGE STUDY.*

FROM the time when the pupil begins his written work in arithmetic, probably when he reaches the third grade, he should be taught to write out the solution of problems. Up to this time he has had to do mainly with number work. He has memorized a long array of facts, which have been skilfully presented in simple mental problems concerning familiar objects and transactions. He may have learned certain forms of expression, but the main thing has been to get the right answer. But it is time to begin the training in language and in thought, which problem work contains. He must receive such instruction as will accustom him to state the conditions of the problem and to proceed from them, step by step, to the answer. Thus, in the problem, "A boy having a 50-cent piece, a 25-cent piece, and a cent, spends 56 cents; how much has he left?" The answer may be found by a series of simple mental operations, and if the object be simply drill on memorized facts, the end has been attained. But the third grade pupil should receive more than this from his work with problems. A boy having a 50-cent piece, a 25-cent piece and a cent, and spending 56 cents, has 20 cents left. Any third grade pupil, not uncommonly dull, will give the answer at once. Let him also be able to write out the solution somewhat as follows:

.50c. + 25c. + 1c. = number cents the boy has at first = 76c. ∴ the boy has 76c. at first. 76c. — 56c. = what he has left = 20c. ∴ he has 20c. left.

*From a paper read by E. C. Rosseter, of Kewanee, Ill., before a Teachers' Association in that State.

What have we gained by requiring the written solution of a problem which the pupil is able to solve mentally in a fourth of the time? Just this, as it seems to me; we have made the thought process more prominent, and we have acquired the use of logical statement on the part of the pupil. This statement may seem cumbersome and unduly prolonged. It might be shortened by combining certain steps. But my observation is to the effect that we lose nothing by having the work written out in full. "Writing makes an exact man," says Bacon, the wise. What we know we can tell, orally or in writing. Then, too, this work is to lead the way to the solution of problems of increasing difficulty, problems whose solution depends upon the accurate statement of each step. I have known and I still encounter pupils in the higher grades who are utterly unable to solve problems of only moderate difficulty, because they have not had the training in logical thought, resulting from writing out statements. When pupils begin to prepare written statements, and for a long time after, they make hard work of it, and this, I take it, shows the need of early and continued practice with simple problems. But by degrees the difficulty vanishes; the pupil learns to examine the conditions of the problem, to collect the data, and to note the various steps leading to the conclusion.

As the pupil progresses through the various grades he is introduced to more and more difficult operations in number work, until he has mastered that huge stumbling block, long division, fractions, common and decimal, weights and measures, etc. At the same time that he is doing this work with numbers, I would have, as a separate part of his arithmetical training, continued practice in the written solution of problems. Let the second process serve to supplement the first, as far as possible, but by no means allow unnecessary work with numbers to take from it the time and attention which is its due. *Do less work with big numbers, and more work with problems.* Cut out the millions and the hundred thousands, eliminate the awkward fractions, but we cannot afford to curtail the language training contained in the written solution of problems.

On the other hand, it is possible to give our pupils examples in which the statements are long and complicated. So, too, we come across many problems where the reasoning processes are abstruse and confusing. It is well to avoid them altogether. Benefit may sometimes be derived from the effort to solve puzzles, but such work does not rank high in pedagogical value.

It will sometimes happen that problems involve number work in which we wish to test the pupil's accuracy. Then let the statement be given as usual, and in another place let the number work be shown.

To enable pupils to do such work in problems as has been indicated, they must have some preparatory training in the use of signs and other arithmetical devices. From the first, teach the use of the equation, and see that pupils have a full appreciation of its significance. It is not necessary to discuss with them the various operations of combination, transposition, etc., which are required in the highest mathematics. They should be taught to look upon it as a balance in which equilibrium must be preserved. It is well to keep before them the idea of a pair of scales, in which, though there may be many and frequent changes among the particular things put into them, yet there is always to be the thing indicated by the name, an equality of values between the two sides.

With this mental picture before them, pupils will soon learn to be careful in the use of equations, and thereby to make accurate statements. Errors will doubtless arise from the attempt to condense the work and to combine two or three steps in one equation, but inspection shows the loss of equilibrium and points out the remedy.

Teach pupils to begin the solution of problems with the equation which expresses that fact of the data which they must first use. This is generally a very simple one, so simple indeed that it is not usually mentioned in such working of problems as aims at the answer only. Having the first equation, the succeeding ones, embodying the successive steps, are found from the terms of the problem.

Teach pupils to state first the fact which forms a part of the reasoning, and then having performed, either mentally or otherwise, the necessary number work in another equation, to state the result of the operation. Teach the use of the sign of conclusion, or deduction, ∴, which is read "therefore," and with

it sum up each step of the solution in a short statement. Do not be afraid of considerable writing. Writing makes an exact man, woman or child. What one knows he can tell orally or in writing.

For what must I sell 40 bbls. flour, bought at $\$4\frac{1}{2}$ per bbl., to gain $\$75$? The unit in this problem is the cost of one bbl. of flour. Put into an equation the first statement is, $\$4\frac{1}{2} = \text{cost of 1 bbl. flour}$. The fact thus expressed is our major premise. Then $\$4\frac{1}{2} \times 40 = \text{cost of 40 bbls. flour}$. $\$4\frac{1}{2} \times 40 = \180 ; here we have performed the number work and reach our minor premise. $\therefore \$180 = \text{the cost of the flour}$. Here is our first conclusion, reached through the use of the syllogism. $\$180 + \$75 = \text{selling price of the flour}$. $\$180 + \$75 = \$255$. $\therefore \text{the selling price of the flour} = \255 . A second syllogism leads us to the final conclusion, the result we are seeking.

Such practice in problem work, I take it, is language training of the best kind. It is *logic*, neither more nor less.

Concluding, let me summarize as follows:

1. Language training should accompany and form a part of every teaching exercise.

(a) Thought—power and language must be developed together.

(b) A pupil does not know what he cannot tell.

2. Arithmetic is particularly valuable for developing thought—power, and the faculty of reasoning logically to a conclusion.

(a) Arithmetic teaches (1) facts in regard to numbers and the operations with them; (2) the solution of problems involving logical thought.

(b) The two processes are necessarily combined more or less, but the second is the more important.

3. From the beginning of the pupil's written work in arithmetic, teach the solution of problems, requiring written statements.

Keep in mind the distinction between the two phases of work. In the first, aim at accuracy in numberwork and familiarity with principles and processes; in the second, aim at language and thought training.

4. Teach the use of the equation and a proper understanding of it; teach the use of the sign of deduction, read "therefore," and let the solution take the form of a syllogism, or a series of syllogisms.

Thus we may, through arithmetic, teach logic, the foundation of all accurate speech.

✻ Hints and Helps. ✻

TEACHING COMPOSITION BY LETTER WRITING.

BY MRS. EVA D. KELLOGG.

EXPERIENCE has been the slow and sure teacher to convince me that letter-writing is the very best means of composition teaching.

The letter-form is the one which pupils will use in ninety-nine cases out of a hundred in all their after-life composing. Its practical utility seems to appeal to them and make them work harder to attain skill.

The letter-form creates by its personalism a feeling on the part of the pupil that he has an audience—a definite "somebody to talk to." Consequently his thought has not that loose, wandering tone which characterizes a composition.

The letter-form allows room for great originality, and necessitates sufficient similarity of productions to make class criticism effective. The work is so easy that a large proportion of it can be well done.

Doing away with a text-book gives opportunity to bring strongly before the pupil the errors which he actually *does* make, without confusing him with the errors he *might* have made.

I would give pupils something to write about. In this way can be ingeniously worked in, points of honor, morality and etiquette, not to mention business letters, which would at once suggest themselves. These directions as to subjects make the pupil grasp the thought and reflect on it before he begins to write, and render the plagiarisms of the average essay impossible.

While we acknowledge that a genuine letter-writer is born, and not made, we believe in a generous attempt at their construction, so long as electricity has not quite done away with the necessity of letter-writing.—*Educational News*.

IS IT TRUE?

THE leading article in the *Atlantic Monthly* for June was written by Charles Dudley Warner, and is entitled, "The Novel and the Common School."

Mr. Warner very justly argues that there is very little taste for good literature found among the masses in this country, and, therefore, the low trashy novel has a greater sale than the good one: that, but for the magazines, the best writers of fiction could earn no more than day laborers, and that the literature underlies all other knowledge, and hence, must be given more attention in the common schools. He blames the common school teacher for this lack of taste for good reading, because very few teach literature at all, and some who try do not know how. Is it true that the poorly paid Public or Private school teacher, who has so many other charges to bear, must also bear the cause of the evil wrought by the trashy, sensational novel? Is it true that the educator must be responsible for not only what he does that is wrong, but also for what he fails to do that should be done? Alas! *too true!* In many professions and callings such is not the case, at least, to so great a degree, but the teacher must deal with the mind, that immortal being, that part of man which, through his higher endeavors, like the twig, grows and bends and develops according to the force brought to bear upon it, forms habits, becomes strong or weak as the teachings of his instructors may warrant.

Mr. Warner says that the remedy lies with teachers. Good literature must be introduced early and taught through the entire course. Not simply who wrote and when, but the actual reading is the study of literature.

When the people demand better books the publishers will publish better books, and when the teachers cultivate the taste for better and higher literature the people will demand it.—*Educational Exchange*.

ONE KIND OF POOR TEACHING.

THE writer visited a school recently in which a lady was teaching a class of young ladies arithmetic. It was in one of the best schools of a large city. The surroundings, the order, the spirit were all that the most exacting could demand. The entire building, containing many rooms, was a model of neatness, and the control was perfect.

The class were learning to "tread the mazes" of percentage. The mysteries of "purchase price," "selling price," "rate per cent." and "amount of gain or loss" were being unravelled in the following manner:

TEACHER.—(Reads problem out of her note book for pupils to solve.)

PUPIL.—(Solves and gives wrong answer.)

TR.—"That is wrong. What had you given?"

P.—"Purchase price and rate per cent. to find the selling price."

TR.—"Well, how did you do it?"

P.—"I multiplied the purchase price by the rate per cent."

TR.—"But that is wrong. How have I told you to do when you had the purchase price and rate per cent. to find the selling price?"

P.—"I have forgotten."

TR.—"Who can tell her?"

MARY.—"Multiply the purchase price by the rate and then add the result to or subtract it from the purchase price, as it is gain or loss."

TR.—"Right. Now do you see your mistake?"

P.—"Yes."

TR.—"Well, correct it."

Another pupil is called on. The answer is pronounced right.

TR.—"What did you have given?"

P.—"The purchase price and rate per cent. of loss to find the amount of loss."

TR.—"How have I told you to proceed in such a case?"

P.—"Multiply the purchase price by the rate per cent."

TR.—"Right."

Another pupil is called on but the result is wrong.

TR.—"What have you given?"

P.—"Selling price and purchase price to find the amount of gain."

TR.—"Well, how have I told you to do in such a case?"

P.—"I have forgotten."

TR.—"But you must learn to remember. Who can tell her?"

Some one in the class gives the rule.

ANOTHER PUPIL (who is working an example given to her).—"I have forgotten what to do when I have the purchase price and amount of loss to find the per cent. of loss."

TR.—"Why, you must remember. Who will give her the rule? (Some one gives it.) "Now has not that been told several times?" (This question was evidently for the visitors, to impress upon their minds that the teacher had not neglected her duty.)

And the writer could readily believe that she had not neglected her duty as she understood it. She was a conscientious and devoted teacher, and a lady of refinement. She was evidently exerting herself to the uttermost to teach the young ladies percentage, and they were doing their part as best they could.

It seems almost incredible, and yet there is good reason to believe that there are many teachers in that great imperial state who are pursuing the same general process in teaching the children. Is it any wonder that the press is mourning over the ignorance of the school children when any test of power to think is made?

The lady teacher seemed to have no idea that her pupils possessed any other faculty than that of memory. Every item of knowledge was to be held in the mind by the power of memory (recollection). When there was one group of ideas, a certain *rule* was to be applied. When a different grouping was made, a different *rule* was to be learned, and so on, a new rule for each new grouping, to the end of the chapter. Such demands would tax the memory of a Chinaman.

The demands thus made upon these young ladies were more than their ordinary ability to meet. And yet the writer read a few days after a report of a speech made by the mayor of that city to the Pan-American Commission, in which he declared that the Public schools of that city were the "best" (or possibly "among the best") in the world.—*The Public School Journal*.

Teachers' Miscellany.

PEACE.

BY MRS. J. W. A. STEWART.

I HAVE known those whose simile was benediction,
Whose voice was dropping balm;
Yet who had passed through storms of great affliction
To find the after-calm.

Perhaps within their hearts some voiceless yearning
Still longed for human love;
Yet did their thoughts, like constant incense burning,
Forever mount above.

Ah me! To learn their holy self-denying,
What bitter pangs it cost,
What nights of tears, what weary days of sighing,
The victory well-nigh lost.

For is there one, ah! surely there was never,
Who loving yet could say,
"I will love on, although unloved forever."
And not have wept that day.

They strove in tears, at times almost rebelling
Against the guiding hand,
Sweeter to die of grief than, passion quelling,
To follow stern command.

Sweeter to let the heart fulfil its breaking,
And sooner end its grief,
Than to return to patient labor, taking
A wound without relief.

Yet at the last, though without exultation,
Did they victorious rise,
And something that was more than resignation
Shone steadfast in their eyes.

And they had learned to love, but now divinely,
Not looking love to reap,
Like angels spreading gracious wings benignly,
Where saints unconscious sleep.

Oh could I learn their deep self-abnegation!
Then were my soul thrice blest;
Finding, like them, enduring consolation,
And long-desired rest.

—*Woodstock College Monthly*.

POET—"I've taken your advice, sir, and cut down the eighteen stanzas of my Memorial Day poem to three."

EDITOR (*coaxingly*)—"Now, just try a little harder and see what you can do with them."

The following unsolicited testimonial has just been received at the office of the Central Business College, Stratford, Ontario, from one of its recent graduates:—Norwich, May 10, 1890. "After ten years' experience in teaching I determined to take a course in some Business College, and after making a careful comparison of the facilities offered by the different colleges I decided to attend the Central Business College, Stratford, of which Mr. W. H. Shaw is the Principal. Having now completed the course, I have no hesitation in stating that it is the model college of its class. The equipment in every department is complete. The course of study is most thorough, and of a decidedly practical character. The teachers are courteous and attentive, and manifest an earnest desire to advance the interests of the students. The penman, Mr. W. J. Elliot, is not only a thorough master of the art, but is also a most efficient teacher of the same. Frank Lyon, (teacher), Norwich, Ont.

JUDGE—"As it has not been sufficiently proven that you stole those pants, I discharge you. You may go now."

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(c) *Book-keeping.*—Each candidate shall submit for examination a set of books, worked out by himself, and consisting of Day-book, Journal, Ledger, Bills Receivable, and Bills Payable; the writing, neatness and accuracy of which shall be valued by the examiners.

(d) In determining the final standing in Oral Reading, Drawing, and Book-keeping, the Examiners shall take into account, as may be deemed most suitable, the candidate's school record in each subject.

3. The standing of the the candidates shall be entered in a form provided by the Education Department, and shall be signed by all the Examiners; the standing of the candidates being graded from I. (the highest) to IV., those graded IV. being rejected. The headmaster shall transmit this report to the Presiding Examiner not later than the 4th of July.

4. The school work in Drawing and Book-keeping of High School pupils who have passed this examination shall be retained by the headmaster until the next ensuing visit of the High School Inspector, who shall report specially to the Minister of Education on the character of this work and of the teaching of Reading, Drawing and the Commercial Course in the High School; and in the event of the Inspector's report being unfavorable, the Minister may make other arrangements for holding future examinations in the High School.

II.—Other Candidates.

5. At some convenient time during the days of the Primary Examination

(8th-11th July), the examination of those candidates who were not prepared at a High School shall be conducted at each centre by the Presiding Examiner, who shall examine their work in Drawing and Book-keeping, and shall award them their standing in these subjects and in Oral Reading as above. The final standing awarded shall be reported as in the case of High School pupils, and shall be entered on the list received from the headmaster, which shall then be transmitted by *post* to the Education Department on the last day of the July Primary Examination, or sooner if the examination in Reading, Drawing, and Book-keeping has been sooner completed. The school work of such candidates shall be transmitted by the Presiding Examiner to the Public School Inspector of the district, who shall report to the Minister on the character of the work done in these subjects.



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