

THE EDUCATIONAL REVIEW.

FOR THE ATLANTIC PROVINCES OF CANADA.

VOL. XV. No. 6.

ST. JOHN, N. B., NOVEMBER, 1901.

WHOLE NUMBER 174.

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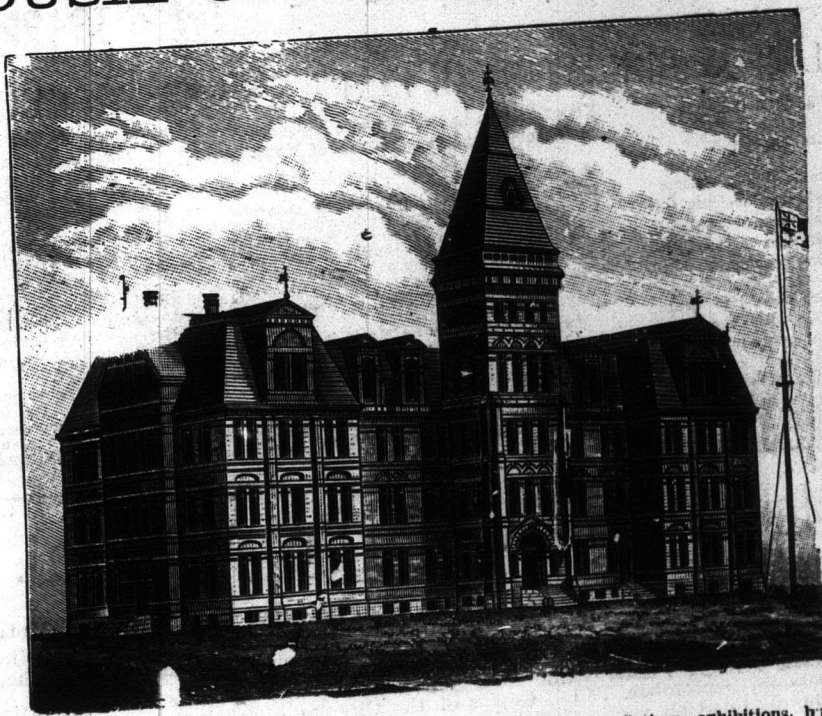
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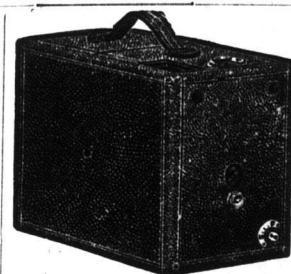
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ST. JOHN, N. B., NOVEMBER, 1901.

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G. U. HAY,
Editor for New Brunswick.

A. McKAY,
Editor for Nova Scotia

THE EDUCATIONAL REVIEW.

Office, 32 Wellington Row, St. John, N. B. (Telephone No. 1209.)

PRINTED BY BARNES & Co., St. John, N. B.

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THE REVIEW has offered a prize of five dollars for the best five stories of animal life. All the stories so far received have been from teachers. Where are the boys and girls? We want to hear from them.

WE give considerable space in this number to Dr. Waddell's excellent review of a recent examination in physics in Nova Scotia. Although the subject is of immediate interest to high school teachers and students

the plea for exact teaching and the clear presentation of some of the principles underlying one subject of study should be a light to the teacher in presenting any subject.

In a recent number of the *Maritime Homestead*, Supt. A. H. MacKay has a very suggestive article on the course of study in schools, claiming that the time given to real nature study takes no time from other subjects of the course, nor from play, nor from work on the farm. It rather enriches all these and broadens the life of the pupil. In this number of the REVIEW, Mr. Brittain gives two examples which show that pupils, who have done good work in nature subjects, are proficient in other subjects. Such testimony is conclusive. But in the words of Dr. MacKay the "nature lessons" teaching, properly done, is "the application of common sense to those things which lie immediately around us, and which are in touch with us, and which we can touch."

PRINCIPAL C. S. BRUCE, of Shelburne, N. S., calls attention to the fact that the plant (*Smilax rotundifolia*), mentioned in the September REVIEW as an unexpected find in western Nova Scotia, is abundant about Shelburne. He also sends us specimens of the following plants which perhaps have never been recorded in our lists: *Ilex glabra* (Inkberry); *Bartonia tenella*; with the reported appearance of what may be a new Plantain (*Plantago Patagonica*, var. *aristata*).

HAS every teacher who reads this decided upon a plan of study and self-improvement for the coming winter? It may be a course in education, where the examples of eminent teachers will stimulate you in your work; perhaps a course in English literature, or in English composition; a careful study of some period of history, either of our own or some other country, or the investigation of local history; or it may be some phase of natural science work. Whatever course of study you have decided upon, let it be pursued with spirit. Let your pupils see that you are drinking from some living fountain. Organize, also, some home work in any of the above subjects or others in which your older students or those who have left school may share, and thus lead them to use the golden hours of these long winter evenings.

A Better Education.

No one disputes that the education of children now is better than that received by their parents and grandparents. And yet it is claimed that the education of to-day is a training for intellectual, professional or mercantile life rather than for farming and other industrial pursuits. If children are better educated than their grandparents they should become better workers, not only in the professions, but in every vocation where honest labor is demanded. If our education leads students to respect one class of toilers and despise another there is something wrong in their training. And yet it has that tendency if we cultivate the intellect and neglect the eye, the hand and the muscles. We need a sensible and better defined study of our surroundings, a liberal course in manual training and drawing, in short, a firmer and closer correlation of intellectual training with *doing* things scientifically and accurately. Improved methods of farming, dairying, poultry-raising, market gardening, fruit culture and other pursuits, are attracting young men and women; and many of these occupations are as suitable for energetic and capable women as for men. Are our schools leading the way in this better education for the development of home industries?

Lectures to Teachers.

A course of free lectures, instituted in Montreal three years ago, has been very successful, and might be instituted in other centres throughout Canada. The object sought is to diffuse among teachers, in the most attractive manner, by means of abundant stereopticon views, a broader knowledge of the geography, physical aspects, and great natural resources of Canada, with other subjects of interest and value to instructors. These lectures are also open to the public, and the result must be to arouse a broader intelligence and stimulate the desire to know more about our own country. These lectures are available for use in other places, and may be obtained and used under certain conditions on application to Prof. D. P. Penhallow, McGill University, Montreal.

Rev. J. de Soyres, rector of St. John's church, St. John, is reviving the University Extension lectures which were, in former seasons, a source of such interest in the city. Two courses of lectures are now being delivered in the school house of that church, one by G. U. Hay on the Life and Relations of Plants, and the other by Rev. W. O. Raymond on the History of New Brunswick. These will be finished before the Christmas vacation, after which it is expected that lecturers from the University of New Brunswick will continue the course through the winter months.

For the EDUCATIONAL REVIEW.]

Some Notes on a Recent Examination Paper.

BY JOHN WADDELL, D. SC., PH. D.

Examinations, properly carried out, should have an educative value besides being a test of knowledge, and the examinee should endeavor to learn something from each examination. It is customary to decry the examining system, and certainly examinations have a numbing influence if the examinee devotes himself to cramming into his brain undigested facts and distorted theories in the hopes that he may be asked something that he knows on the great day of trial. But if the student studies with a view to learning the subject, the fact that he has in prospect an examination in which he will be expected to set forth his knowledge in a clear manner is a stimulus to accuracy and clearness of ideas. A teacher finds that when he has to explain something to a class of pupils his own ideas are frequently made much more clear, and that little points, formerly overlooked, have to be attended to, so that while teaching others he teaches himself. In the same way the prospective examinee has an incentive to accurate thought since he has to present his ideas to the consideration of an examiner almost as exacting in his requirements as the average pupil.

The great difficulty in regard to examinations is, that the candidate is liable to learn those parts of the subject that he thinks are likely to be asked, without reference to the relationships that these bear to other parts; and the examiner should endeavor as far as possible to set a paper that will discourage such action on the part of the examinee. Questions involving only formulae and definitions test accuracy of statement, but hardly accuracy of idea, because memory exercised in learning off by rote the words of a definition is little more valuable than memory exercised in learning a column of the dictionary. The examinee, however, more frequently than he thinks, reveals whether he repeats words like a parrot or grasps the idea involved.

I propose in this article to discuss some of the questions on the examination paper in Physics for Grade B in Nova Scotia; but first I wish to make a few observations about the papers in general.

If examinations are to develop clearness of thought and accuracy of expression, it is evident that accuracy in reading the questions is a first requisite, and care in reading the instructions is almost equally necessary. Many of the papers in the Nova Scotia examinations contained alternative questions; in the Botany paper, for instance, the examinee was asked to describe either the shield fern, *or* the cinnamon fern, *or* the club moss, *or* the hair cap moss. In the Physics paper only five out of eight questions were to be answered. Not unfrequently the little word *or* was overlooked, and in many cases the warning that five questions only were to be attempted was unheeded. A little care on the part of the examinee would have been of great advantage. Six or seven questions answered instead of five leaves too little time for each, and the candidate should not trust to the examiner picking out the best five, nor should he hope that the marks of six or more would be added.

The examiner has too much to do to feel any special happiness when the examinee, not content with showing what he knows about five questions, insists on parading his knowledge on six, seven or eight.

The examiner sometimes reads the paper straight ahead, marking each question in order, without noticing how many he has read, and his joy is not to say excessive when he finds that he has toiled through six questions instead of five. It would be a very lenient and soft-hearted, nay, even over-generous examiner, that would choose out the five best answers and add up their marks; the ordinary examiner would probably take the first five and neglect what came after, and the examinee runs the risk that, as a punishment for his carelessness, the *worst* five will be selected.

If the examiner notices that too many questions are attempted he may merely read and mark the first five, or he may, if indulgent, pick the ones that he *thinks* will be answered best. In either case the examinee may suffer, because it is possible that the very best answer may be unread.

A neat paper, legibly written, may wheedle a few marks from an examiner; so that a little time taken in attending to the form in which the answers are presented is well spent. There is a style of writing which many of the younger candidates especially might think easily read which, as a matter of fact, tries the patience of the reader exceedingly. It is the large writing that leaves very little space between the lines. This tries the eye, the words lack individuality, and present somewhat the same difficulty as this line of print to the reader.

I now proceed to the examination paper in Physics.

The first question is—What is the weight of an object? Illustrate by reference (a) to variation on the surface of the earth and (b) to the law of its variation in a line normal to the earth's surface.

This question is intended to test the candidate's knowledge, that weight depends upon two things, namely, upon the quantity of matter in the object, that is its mass, which does not change whatever its position, and upon another factor due to the earth and the position of the object in respect to the earth. This other factor is the acceleration due to the earth's attraction. The weight varies with the distance of the object from the centre of gravity of the earth; the farther away the object is the less is the attraction if the object is upon the surface of the earth or outside of it, which is the more usual case considered. The law in this case is, that the weight varies inversely as the square of the distance of the object from the centre of gravity of the earth. In (a) we have to consider two conditions, one that the sea level at different parts of the earth is at different distances from the centre of gravity, the poles being nearer and the equator farther away. Hence, an object would weigh more at the poles than at the equator. Again, in any given neighborhood a body would weigh more at the bottom of a hill than at the top.

A factor that enters into the weight, which the question however was probably not intended to cover, is the rotation of the earth which is more rapid at the equator than at any other part of the earth's surface.

The so-called centrifugal force would cause the weight to be less at the equator than at any place north or south of it.

It is to be noticed that the weight is to be determined by a spring balance or some similar contrivance, the ordinary scales not being suitable because in them one weight is compared with another, a quantity of tea for example with a particular lump of iron marked one pound; and the same conditions that would cause a variation in the weight of the one substance would cause a similar variation in the weight of the other. The ordinary scales in fact measure mass, not weight.

In the part (b) of the question it may be premised that the normal is the perpendicular to the earth's surface, the radius or its continuation.

If the object is taken above the earth's surface the law of inverse squares spoken of above holds good. But if the object is taken below the surface the conditions are changed. The object is brought nearer to the centre of gravity indeed, but it is not attracted by the whole mass of the earth, but only by a sphere whose radius is the distance of the object from the centre. So there are the two factors at work, the body is nearer the centre and for that reason should be more attracted; but on the other hand the attracting body is smaller, and for that reason the attraction should be less. As the net result, the attraction varies directly as the distance from the centre, and therefore becomes less as the object is carried down into the earth, becoming zero at the centre.

The above statement would be perfectly correct if the density of the earth were uniform, but since the earth is more dense towards the centre it so happens that for a little distance the effect of getting near the centre more than counterbalances the fact that the attracting part of the earth is smaller, and so for a certain distance the weight increases till it reaches a maximum, after which it diminishes.

Question 2.—Sketch in outline an Atwood Machine and show how any one law of momentum or of falling bodies may be demonstrated by it?

Very few of the examinees seemed to realize the purpose of the Atwood Machine, though nearly all had some notion of its construction. A body falling freely has too great a velocity to permit of its being accurately observed. The Atwood Machine is so arranged that what causes the motion is not the total weight of the moving system but only a fraction of that weight. I shall assume that the construction of the machine is known.

When the two weights are equal there is equilibrium, but if a small additional weight is added to one side motion takes place. Suppose the weights are thirty grammes each and an additional weight of two grammes is placed on one side. Then the one weight falls and the other one rises. The moving force is two grammes, the total weight moved is sixty-two, the moving force is, therefore, $\frac{1}{31}$ that of gravity; but its law is exactly the same.

There is a mechanical arrangement for placing the additional weight (the rider) upon the one side; at the same time the exact instant is registered. The system moves for a certain length of time, one, two, three or

four seconds for example, and the rider can be removed at the end of that time. The other weights keep on moving with a uniform velocity, and it only remains to see what that velocity is by measuring how far they move in a second or a number of seconds. It would be found that if the rider were on the weight for two seconds the velocity would be twice as great as if the rider were acting for only one second, and a number of experiments would show that the velocity was proportional to the length of time the acting force was in operation.

A similar experiment would show the law regarding the space passed over by the moving system while under the influence of the moving force, the rider.

By using riders of different sizes it would be found that the velocity would depend upon the magnitude of the moving force in comparison with the weight moved. It is to be noted that a rider of four grammes would not give exactly twice the velocity of a rider of two grammes, because in the above instance the two gramme rider moves sixty-two grammes, whereas the four gramme rider would move not sixty-two but sixty-four grammes.

Question 3.—(a). What amount of kinetic energy does a body weighing 20 pounds and moving with a velocity of 300 feet per second possess? *(b).* What amount of work can the body do?

The large majority of candidates knew the formula $e = \frac{mv^2}{2}$ but very few that *(a)* and *(b)* are practically the same question, the energy being the measure of the work the body can do.

$$e = \frac{m}{2}v^2 = 10 \times 90,000 = 900,000.$$

This answer was obtained by many, but here came in the difficulty—900,000 what? Some candidates solved the difficulty by leaving the matter open, probably because they did not realize that they needed to put down the unit, possibly because they thought that was a matter they might leave to the discretion of the examiner. Others knew the term *erg* as applied to work, and gave the answer as 900,000 ergs, forgetting that the erg is the unit of work when mass is measured in grammes and velocity in centimetres per second. Some ventured *pounds*; a few, I think, suggested feet, many gave foot pounds which was the nearest approach to correct, but none, if I remember rightly, gave foot poundals, the correct unit. Foot pounds is a unit of work, in fact the ordinary British unit, but it is not the one applicable here. This can at once be seen by remembering that 900,000 foot pounds would be the work done by 20 pounds falling through 45,000 feet, and a body falling 45,000 feet would have a far greater velocity than 300 feet per second.

In the second part of the question perhaps the greater number used the formula for momentum, but many interpreted the work that the body could do as the power, forgetting that power involves the element of time. In most of these cases 900,000 was divided by 33,000 and the quotient given as horse power. A horse power is the power capable of doing 33,000 *foot pounds*

of work per *minute*, and there are half a dozen misconceptions involved in working out *(b)* in this way.

The fourth question on the condensing of steam by ice gave a good deal of trouble; but it would make this article too long were I to go into it fully, and the mere pointing out of the correct solution of the problem would be of little value.

*Question 5.—*What current will 8 Bunsen cells furnish through an external resistance of 10 ohms? *(a)* When connected in series? *(b)* When connected in arc (assuming each cell to have a resistance of 0.9 ohms and an E. M. F. of 1.8 volts).

This is a formula where the candidate might apply the formula and make his calculation, possibly without understanding the underlying principles. It may be well to make these prominent.

The formula for cells in series is—

$$c = \frac{ne}{nr + R} \text{ where } n \text{ is the number of cells } e \text{ the}$$

electromotive force, and r the resistance of each cell, and R the external resistance. Ohm's Law is a statement of the result of experiments and says that the current is equal to the electro-motive force in the circuit divided by the resistance. Here again the matter of units comes in, but these did not seem to give so much trouble as in the former case. The relation between volts, ohms and amperes is such that when the E. M. F. is measured in volts and the resistance in ohms the quotient of the former, divided by the latter, gives the current in amperes.

When the cells are in series the current goes through them all in succession, hence the resistance of the eight cells in the given example is eight times that of one cell. On the other hand each cell adds its own electromotive force, just as a series of pumps in working would raise water. If one pump raises water twenty-five feet to a reservoir, a second pump could be so placed as to raise it another twenty-five feet, and so with eight similar pumps water could be raised two hundred feet, the quantity of water so raised passing through every one of the pumps and having the friction of the whole series.

In the example given, then, the electromotive force of the eight cells is eight times that of one cell and we see the reason of the formula.

We have therefore

$$c = \frac{8 \times 1.8}{8 \times 0.9 + 10} = \frac{14.4}{17.2} = 0.837 \text{ amperes.}$$

When the cells are in multiple arc, or in parallel, as it is often called, there is no increase of electromotive force. Returning to the analogy of the pumps, it is the same as all the pumps being on the same level. Any number of pumps, each of which was capable of raising water twenty-five feet, could, if they were on the same level, raise water no higher than twenty five feet. If they were all working, water would go through them all and there would be more water raised than with one alone, that is the current of water would be greater, but it would not attain a greater head. In the same way when cells are in parallel a current goes through each of them. The current that goes through each of them depends on the electromotive force of the cell

and its resistance, and if all of the cells are alike the current will be the same through each. But if all the cells are joined to the external resistance then this external resistance has to carry all the current passing through each of the cells; or, putting it another way, the current is divided in the cells. But since the current is divided between the cells, less resistance is offered to it than if it all had to go through one cell, just as ten gallons of water a minute going through two one-inch pipes would have less friction than if going through one one-inch pipe. In the case of the current of electricity the resistance is decreased just in proportion to the number of cells; two cells would have one-half and three cells one-third of the resistance of one cell.

Since the electromotive force of a number of cells in arc is the same as that of one, while the resistance is decreased just in proportion to the number of cells, Ohm's law leads us to the formula

$$c = \frac{E}{\frac{r}{n} + R}$$

the external resistance being of course unaffected by the arrangement of cells. Substituting the numbers given in the problem we have

$$c = \frac{1.8}{\frac{0.9}{8} + 10} = \frac{1.8}{10.1125} = 0.178 \text{ amperes.}$$

Question 6.—On a hot day, with the thermometer at 20°C ., the flash of a gun is seen 21 seconds before the sound is heard, what is the distance of the gun?

This question involves two or three things. First, that light travels so fast that the time required for the flash to travel to the eye is inappreciable; second, the velocity of sound at the particular temperature, or a knowledge of its velocity at any other temperature, say 0°C ., and the amount by which it varies for each degree in temperature.

Only a small number of candidates realized that the velocity depends upon the temperature. The velocity varies with the temperature because the density of air varies with temperature, and the velocity is a function of the density. The velocity increases nearly two feet for every rise in temperature of 1°C ., and is at zero, if I remember rightly, 1,091 feet per second.

Question 7.—Explain, with the aid of a diagram, how a convex lens forms an image.

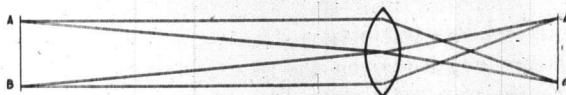
The study of lenses is a very interesting one, as is also that of mirrors.

Any point in an object sends out rays of light in all directions. A large number of rays must therefore go from any point of the object to the lens, and these rays pass through the lens and go on their course. Unless, however, these rays all come to one point, there can be no real image, and if the rays are intercepted by a screen at any place except where they meet, there is only a blur, and we say that the screen is not in focus.

In order then to determine where a screen should be put, we must calculate where all the rays will cross. Now, since all the rays cross at one point, if we find out where any two of the rays cross we know where they all cross. We might take any two of the infinite number of rays, and if we had sufficient mathematical ability, we might calculate where they meet. But there are two of the rays that is very easy to trace, the one

from the point in the object passing through the centre of the lens, and the one from the point passing parallel to the principal axis. The first goes straight on, not being deviated by the lens; the second is bent down to the principal focus.

In the diagram this is shown clearly:



The two rays from A meet at *a*; the two from B meet at *b*, and so for all points between A and B.

When drawn to scale it is easy to see whether the image will be larger or smaller than the object.

I have drawn only one particular case. By varying the position of the object, interesting variations of the image may be noticed.

Question 8.—Describe in detail your best apparatus or experiment made by yourself for the demonstration of some principle or law in physics.

It is especially to be noticed that the description should be such as to show that the candidate really understands the principle.

The following description of an experiment written, however, by a Grade D candidate in answer to a similar question was not very successful in this respect, though interesting from another point of view.

"The only experiment I have tried in electricity was taking a cat into a room as dark as possible, and on firmly stroking her back streaks of light would issue from it, accompanied by a crackling noise. The cat did not enjoy it, so the experiment was short, but I was convinced of the powers that lay in the cat, and, although latent, could be, when proper measures were used, brought out effectively. If you doubt my statement, try it yourself; only take a kind cat and have some person hold its feet for you."

THURSDAY, Nov. 28th, has been appointed Thanksgiving Day for Canada, and is a public holiday. There is great cause for thanksgiving to the Bountiful Giver of all things—the beautiful season, the abundant crops and the peace and prosperity that we are enjoying.

THE King's birthday, November 9th, was not generally observed throughout Canada. As it is a school holiday and fell on Saturday this year, teachers may observe any other day agreed upon by them and their trustees.

THE fourth number, volume one, of *Acadiensis* is handsomely illustrated and printed, and the contents justify the hope that this excellent magazine is receiving that support which it has so well deserved. Its editor, Mr. D. Russell Jack, and a strong corps of talented contributors, have treated topics of local history and other matters of interest to the Maritime Provinces in a manner highly creditable to their literary taste and judgment. This number completes volume one. Mr. Jack is to be congratulated on the success of his venture which gives promise of increasing usefulness.

For the EDUCATIONAL REVIEW.]

NATURE WORK.

JOHN BRITAIN, NORMAL SCHOOL, FREDERICTON.

Questions for November.

(Answers should be sent to the editor of this department by December 15)

1. Find by examining a Fir bough or top, whether there are any leaves on the parts which grew out last year—the year before last—the year before that.
2. Find which retains its leaves a longer time—the White Pine or the Spruce. How did you find this out?
3. Find a cone-bearing tree which is deciduous.
4. Make an outline drawing of a single carpel of a Spruce cone and of the White Pine, showing the impressions on the upper face of each made by the bodies and wings of the seeds.
5. Find three trees whose buds occur, as a rule, in pairs (two opposite buds on one side). How old are the parts of the branches upon which you find the buds? Why do you think so?
6. What wild birds did you observe during the last week of November? Where did you see them?—and how did they act?
7. Make a drawing of the new moon in December within three days of its first appearance. In what direction were the points of the crescent turned? Give the date.

Good Examples.

The students at the New Brunswick Normal School were lately asked to hand in summaries of their work in Natural Science at the schools from which they had come. Two examples are here given; but many very different and very sad ones might have been selected. It should be stated that the time and attention they devoted to Nature study did not prevent these two students from making an excellent record in the other subjects, both Language and Mathematics, in the Entrance Examinations in July, 1901.

No. 1. (From a small rural school): In the spring, when the trees were just beginning to blossom, we got branches from a great many of them. We noticed whether the blossoms grew singly or in catkins, and whether they had stamens or pistils or both. We then drew the flowers. We noticed which trees bloomed first, and whether the leaves or the blossoms appeared first. When the leaves appeared we drew them and learned how to distinguish them.

In the autumn we examined and drew the fruit. We also noted whether they were covered-seeded or naked-seeded plants.

At dinner hours we would go and gather flowers. We would determine the number of parts in each set of

floral leaves, and note whether the foliage leaves were simple or compound, etc. Then we would find the name of the plant, if possible. Plants that were alike, in a great many respects, were grouped in families.

After school, our teacher and any of the children who wished, would go on little expeditions through the fields and woods to see birds. If a nest was found, we would note its size, where it was built, etc. We would watch it until all the eggs were laid, and then look every day until we found out how long it took the eggs to hatch, and how old the nestlings were before they learned to fly. We observed the plumage of the birds, and whether there was any difference in color between the male and the female. We also followed the life-history of some insects and other animals.

We did not learn much chemistry, because the school had no apparatus, and our teacher thought it was not advisable to learn only by memory. We only studied such simple experiments as could be performed with home-made apparatus. We examined the minerals found in the neighborhood, and any others that could be procured. I feel that I owe a debt of gratitude to ———, who was my teacher for about seven years. I think she did all any one in her place could do to help and direct me in my studies.

No. 2. (From a graded superior school): In botany, we examined and determined members of the Crowfoot, Rose, Pulse, Lily, Violet, Pink, Composite, Heath, Saxifrage, Honeysuckle, and Purslane Families. We examined the Willow, the Red Maple, and several members of the Grass Family. We experimented with the plants to find where and how they obtained their food. All this work was done during school hours.

Out of school we went to the woods and examined trees, and learned how to distinguish the birds we could get close enough to in our walks. Each of us collected, pressed and mounted several plants, and wrote out descriptions of them. We never studied botany without having the plants before us.

In chemistry, we performed the experiments ourselves under the direction of our teacher. We began with the study of molecules, atoms, etc. We prepared oxygen, hydrogen, nitrogen and carbonic acid gas, and experimented with them. We prepared acids, bases, and salts, and studied the composition of the air.

In mineralogy, we examined siderite, calcite, green vitriol, gypsum, feldspar, mica, several varieties of quartz, hematite, limonite, magnetite and pyrite. Rocks, too, were taken up in school; and sometimes we went to the beach and studied the large rocks.

We also had a few lessons in physics.

I am deeply grateful to ———, who was my teacher for four years. I know he worked faithfully for his school.

For the EDUCATIONAL REVIEW.]

Unusual Frost Effect.

In the valley of the Tobique and elsewhere in Central New Brunswick, the firs and spruces in August last (1901) arrested attention by the remarkable appearance of the tips of all their branches. The new growth of the year, from two to four inches in length, hung downward, brown, withered and dead. I was informed, no doubt correctly, that their destruction was caused by a severe frost during the first week in June. I noticed that many of them were sprouting again behind the dead part, and usually by two buds on opposite flanks of the branch. The growth of all these trees for 1901, therefore, is likely to be marked for the future both by its shortness, and also by the unusual amount of bifurcation in the branches, features which may puzzle the student unless he knows the cause as here given.

W. F. GANONG.

For the EDUCATIONAL REVIEW.]

Astronomical Notes.

A star-gazer asked to-day where he could now see Mars, and was not Venus bright enough now to be seen in daylight.

Mars is still an evening star and will be so for some five months longer, but he is now very far off and very faint, and he sets so early in the twilight sky that it is not easy to catch a glimpse of him. For myself, I have not bothered looking at him since he was in conjunction with Venus on the 10th of last month, and I don't propose looking for him again until near his next opposition in the spring of 1903.

Yes, Venus is now visible in daylight as she is almost always, but as she does not rise very high above the horizon one needs to know very exactly where to look about the middle of the afternoon in order to pick her up. But after the middle of this month she will improve in this respect, and before the end of the year she will be quite an easy object in the afternoon sky.

As an evening star it is only within the last few weeks that Venus has asserted her supremacy. During the summer she seemed to be surpassed by Jupiter. But it was only a seeming, for had Jupiter been low down in a sunset sky and Venus well up against a fairly dark background there would have been no difficulty in seeing that she was a much more brilliant object than he appeared to be. She began her present evening star season at the beginning of May. Her declination position was so much against her, for the northern hemisphere, that it was not until the middle of June that she managed to stay above our horizon for an hour after sunset. She has now barely attained two hours in this

latitude, but from this on she will rapidly mend. Before the end of November we shall have her in our south-west sky for over three hours after the sun sets, and this will increase to nearly four hours before the end of the year.

Of course all star-gazers have been watching Jupiter and Saturn in their close approach to each other among the stars of the Milk-Dipper. They will be at their closest on the night of November 27th, and the sky space between them will then be less than half a degree of arc. For nearly a week about that date their distance will not much exceed the half degree. This is an unusually near approach for these two big planets. Nothing nearer is on record since 1683, and no other conjunction between them will be as close until 2020.

In the year 7 B C., Jupiter and Saturn were in conjunction three times, at a distance of about a degree. Some astronomers have thought that these phenomena may have had something of a connection with what St. Matthew records of the Star of Bethlehem—*v. EDUCATIONAL REVIEW*, March, 1890.

* * * * *

Something reminds me that there were some queries left over on the one astronomical evening we had at the Summer School this year, and that I promised to attend to them in these columns. They would come in very handy as copy just now, but I don't know where to lay hands on them. If any of the unsatisfied querists will take the trouble to write out once more what it was that they wished to know, I will do what I can to satisfy them. At present I can do no more than express my regret at having mislaid their questions. A. CAMERON.

For the EDUCATIONAL REVIEW.]

English Literature in the Lower Grades.

(Under this heading there will appear, in succeeding numbers of the REVIEW, suggestions on teaching as lessons in literature some of the selections in the readers, beginning with No. 4. Most of the poetry and some of the prose will be taken up. These suggestions are intended to aid those teachers who have had no special training or experience in teaching literature, and who have access to few books of reference. The writer of these notes will be glad to answer any questions on the subject, addressed to the REVIEW, and also to receive any suggestions that will tend to make the notes more useful.)

TO THE QUEEN.

Fourth Reader, page 11, (N. B. Series.)

The teacher is recommended to read these lines in connection with the prologue and the epilogue to the Idyls of the King. Tennyson's earnest and chivalrous devotion to the great Queen is well shown, not only in

such poems, but in the letters which passed between them.

Wordsworth died in 1850, and Tennyson succeeded him as Poet Laureate. This is the reference in the second verse. Once in conversation Tennyson said, "writing to order is what I hate. They think a poet can write poems to order as a bootmaker makes boots. For the Queen I am obliged to do it, but she has been very kind and has only asked me once or twice. They call the 'Ode on the Duke of Wellington' a Laureate Ode; nothing of the kind. It was written from genuine admiration of the man." And so, we may be sure, were these lines written from genuine admiration of the Queen.

What divisions does the poem fall into, as regards subject? Say, in your own words, what is expressed in each section.

What "Kings of old" do you think of as you read the first verse? Work out the metaphors in the last two lines of the second verse. Can the same thing be said of Tennyson that he says here of Wordsworth? Name some of Wordsworth's poems that you have read. Express the thought in the third verse in your own words. The exact meaning of *Empire* here. In 1883, after a visit to Osborne, Tennyson wrote to the Queen, "Madam, when I left your presence, those lines of our Shakespeare in his *Henry V.* came across my memory:

O hard condition twin-born with greatness,

* * * * *

What infinite heart's ease must kings neglect
Which private men enjoy."

This poem was written in March, 1851. What is a throstle? Do we have them in this country? Read Tennyson's poems "The Throstle" and "Early Spring." Find any references to birds in other poems of his.

In February, 1889, Tennyson "sat in his kitchen garden summerhouse, listening attentively to the different notes of the thrush, and finishing his song of "The Throstle."

Which of the Queen's palaces is meant in verse 4? Why? Show how the wishes expressed in the last section of the poem have been fulfilled.

What is meant by "taking occasion by the hand?" What statesmen have done this? Compare I Chronicles 12:32.

With the last line but one, compare the last few lines of Lincoln's speech at Gettysburg. Fourth Reader, p. 112. What is it that is "compassed by the inviolate sea." Explain fully. Compare "The Ode on the Death of Wellington," verse 7.

RECESSIONAL.

Fourth Reader, page 13.

In 1891, the year before he died, Lord Tennyson wrote a letter to Mr. Kipling commending his poem "The Flag of England." Mr. Kipling replied, "When

the private in the ranks is praised by the general, he cannot presume to thank him, but he fights the better next day."

After the great rejoicing, gladness and triumph of the Jubilee of 1897, Kipling wrote this Hymn, expressing the fears of the best and wisest people, that the nation would be boastful and forgetful. Forgetful of what? or of whom?

What does "dominion over palm and pine" mean? Give other examples of this figure of speech. Discuss the reason for "dies" being in the singular.

With lines 3 and 4 of verse 2, Compare Ps. 51:17, and Isaiah 57:15.

Explain "Far-called our navies melt away."

Where are Nineveh and Tyre? What do you know of their history? Why does the poet use the phrase "Judge of the Nations" in this verse? Who are meant by "the Gentiles" and "lesser breeds without the law?" Explain "all valiant dust that builds on dust." Cf. Ps. 127:1.

Though what great experiences have we, as a nation, passed since these verses were written? Do you think Kipling's warning was needed? That it was taken? A comparison might be made with Solomon's prayer in I Kings, chapter VIII, and with the well-known hymn, "O God, our help in ages past." In dealing with the fourth verse, the teacher has an opportunity of drawing out the lesson that great power and great privileges involve heavy responsibilities and a high standard of duty.

E. ROBINSON.

[For the EDUCATIONAL REVIEW.]

Talks and Busy Work for Primary Grades in November.

BY MRS. S. B. PATTERSON.

"Dull November" may be greatly brightened up by occasional glances outside the schoolroom, searching for the general character of the month's work in the fields and woods, in the home and on the farm; even the shop windows in the town may help to awaken thought with regard to the preparations being made for winter. It is a time especially adapted to the development of connectedness of thought as well as of kindness of feeling. The cold weather is coming—Jack Frost is here already—we must be prepared for snow and ice and storms, and we should have some thought, too, for those who have nothing to prepare.

Useless now to go into the garden for vegetables or fruit for dinner; the fields are bare and cold, no cows or sheep are to be seen in the meadow or pasture. In imagination visit the well-stocked barns and cellars. See the hay, straw, oats, and cornmeal in the one, and the

potatoes, beets, carrots, parsnips, squash and apples, etc., in the other. Then take a peep into the closet and see the preserves and canned fruits on the shelves! And, afterwards, look at the busy mother sewing and knitting as fast as she can, making warm dresses and coats, mittens, socks and caps.

The value to little children in such observations lies in the development of power to see connections and to trace cause and effect. What is the meaning of all this careful storing away in cellars and shops, and of all such preparation, either in our own homes or elsewhere, for us? How much care and labor has been needed for months back in order to provide the things now being stored away! Far back in the early spring the farmer began plowing and harrowing, getting the ground ready for seed; and all summer he was busy taking care of the growing crops, while the rain watered the thirsty roots, and the sunshine was sent to do its work, ripening and coloring the apples and squash and corn, etc. How fitting, after all is gathered in, that there should be a "Thanksgiving Day!" We say "thank you" to people for being kind to us, or for giving us things, so we surely should thank God, especially at this time of year, for food and comforts for the long winter soon to come.

Children are frequently thoughtless and selfish because they have not been led to experience the pleasure that comes from giving. Thanksgiving season is a good time to bring to their notice the needs of those who are poor. They should share their good things.

During the week before Thanksgiving have a special corner of the room, or a table, set apart for things they may bring to give away. The sight of these good things, as the pile increases from day to day, arouses sympathy for the poor, and awakens a desire to have some share in the giving. This plan has been practised with marked success in a certain school room for some years back, and the experience is excellent for the children. Everything that comes is welcomed, and the variety is often considerable. One brings two or three potatoes, another a few carrots, a cookie or an apple brought for lunch is donated by some one who has nothing else to give, and who has grown more hungry to give than to keep. In many cases the mother's interest has been awakened, and a bottle of preserves, or some sugar, or a little package of tea finds its way to the table. Little by little the pile increases, and the day before Thanksgiving it is sent by the teacher to some poor home where there are children to enjoy it; and later on, an account is given in school of their pleasure at the unexpected gift. There are times when it is necessary to withhold the name of the family, but that does not lessen the interest in the giving and in the story of how it was received.

A small bunch of wheat is a useful decoration for the primary room; and one that it should not be difficult to get. At the least a few stalks may be secured before the grain is threshed; if too late for that, one may easily get some kernels of wheat for the children to examine and taste.

Describe by talks and illustrate by pictures where possible the growth of the grain, encouraging the pupils to tell what they know of it. Let them measure the height of the straw and imitate the work of the farmer in beating the wheat out of the heads and in blowing away the chaff. Then, in imagination, carry it away to the mill to be ground. Of what use is it now? Continue the story of the flour as it is taken to the homes to be made into bread, biscuits, cakes, etc. Give specimens of different kinds of grain to look at and to sort, wheat, oats, barley, buckwheat, etc., and draw attention to their use.

It is surprising how little knowledge most children have of the origin of the things they use. This thing and that were got at the shop, and to them the shopkeeper seems the originator and creator of all he keeps to sell. A little skilful questioning will often lead them into broader light and give them new interest in the things they see and use.

THE MILLER.

1 The¹ mill wheels are turning, the brook turns them round,
clip² clap;
By¹ day and by night is the wheat being ground,
clip, clap;
The miller is busy as busy can be,
That we may have bread and be happy, you see,
Clip clap, clip clap, clip clap,
Clip clap, clip clap, clip clap.

2 The wheel¹ quickly turns, and then round³ goes the stone,
clip, clap,
And grinds up the wheat which the farmer has sown,
clip, clap;
The mother then makes us nice biscuits⁴ and cakes,⁵
O such a good mother, what nice things she makes!
Clip clap, clip, clap, etc.

1 Let hands revolve, imitating the motion of the wheels.

2 Clap hands twice, first having left hand palm upward, bringing right hand down on it, then the reverse, and so with the "clip clap" in other places.

3 Left hand palm upward to represent lower stone, the right hand representing upper stone rubbing round and round on it to imitate grinding.

4 Join tips of thumb and first finger on each hand to represent biscuits.

5 Curve left arm to represent pan, and with right hand imitate stirring and beating batter for cake.

MAKING BREAD.

Selected from "Finger-plays," by Emilie Poulsson.

"The farmer and the miller
Have worked," the mother said,
"To get the flour ready,
So I will make the bread."¹
She scooped from out the barrel²
The flour white as snow,
And in her sieve she put it³
And shook it to and fro.

Then in the pan of flour⁴
A little salt she threw;⁵
A cup of yeast she added,⁶
And poured in water, too.
To mix them all together
She stirred with busy might,⁷
Then covered it and left it
Until the bread was light.⁸

More flour then she sifted⁹
And kneaded well the dough,⁹
And in the waiting oven
The loaves of bread did go.
The mother watched the baking,¹⁰
And turned the loaves, each one,
Until at last, rejoicing,
She said, "My bread is done!"¹¹

¹ Draw sleeves back from wrists as for mixing bread.

² Curve right hand for scoop and make motion as of taking flour from barrel.

³ Interlace fingers, holding hands somewhat curved, palms up, to represent sieve, shaking gently.

⁴ Curve left arm on desk to represent pan.

⁵ Pretend sprinkling salt in pan with right hand.

⁶ Curve right hand for cup and imitate pouring.

⁷ Stir with right hand.

⁸ Make motion with both hands as of covering with cloth.

⁹ Make motion of kneading on desk or lap.

¹⁰ Pretend to open oven door, looking in and turning loaves.

¹¹ Clap hands once.

An interesting occupation for small children is the making of paper and straw chains. Get some wheat straw, (oat straw is too brittle), and after a little soaking in water to toughen it, cut it into one-inch lengths. A quantity of this may be prepared by older children and kept for use as required. Each time before using the straws they should be toughened by a few hours soaking, and then wrapped in a cloth or spread out to dry for a little while. Prepare also some papers, colored if possible, either one inch square, or circles one inch in diameter, and let the children string them, putting on first a paper and then a straw, and so on until the chain is complete. A coarse sewing needle should be used, with coarse white thread; the thread being tied into the

needle, if necessary, and a knot at the end of the thread made large by the addition of a knot of soft twine, or a bit of thick paper. Colored papers cut specially for this purpose may be had from Selby & Co., 10 Shuter St., Toronto. When such papers are used the exercise may be useful in teaching color. The difficulty and value of this work may be increased by requiring two colors to be strung alternately in the chain, or by using shades and tints of a certain color in regular order.

BUSY WORK.

I. For a written spelling lesson have the pupil write as many of the words of his reading lesson as he can recall. In a short time not a few in the class will be able to write the whole list of words which present any difficulty. When you think sufficient time has been given, call on three or four who have the longest lists to pronounce, and direct the others to supply missing words.

II. Require words to be grouped according to number of syllables they contain.

III. Require class to write twenty words that are names of things used to cook with, or of things raised in the garden, or of things bought by dry measure, or of bones of the skeleton, etc.

IV. Give a word. Direct class to make as many words as possible from the letters contained in the given word.

V. Add *ing* and *ed* to beg, plod, fret, rub, etc. Add *ing* and *ed* to scrape, manage, escape, excuse, etc. Add *er* to slip, big, sin, etc. Add *ment* to amaze, manage, measure, judge, acknowledge, etc. In the same way require the adding of *able*, *full*, *less*, and so on.

VI. Lists of words misspelled should be corrected and accurately written many times, in order that the pupil may get a right impression of the word in place of the wrong form.

VII. Make memory list of words used in previous geography lesson.

VIII. Make a list of words alike in spelling, but different in meaning and pronunciation. Of words alike in sound but different in spelling.—*Midland Schools*.

A pupil at school received word from his father to return home. He answered as follows: "I have received your letter. I shall pack my trunk, hire an expressman to take it to the station, buy my ticket, and leave on the first train on Wednesday morning." Recast the above, and say only what is necessary in reply.

See how many of your advanced class will spell correctly and give the meanings of the following words on the first trial; on the second after study; on the third.

Finally give the exercise as a test without previous notice: Primer, kidnapper, numbskull, rebelling, travelling, gnawed, pencilled, vie, vying, bilious, fiery, forcible, vilify, recommendation, California, sacrilegious panicky, Mussulmans, dumbfound, parallel, peaceable, Bismarck, Louisiana, stratagem, separate, metallic, liquefy, ecstasy, pansy, strategy, recede, succeed, secede, supersede, delible, indelible, dyeing, dying.

Write abbreviations for hour, second, minute, gallon, dollar, bushel, degree, quart, peck, barrel, sergeant, captain, general, colonel, account, example, barrels, the square root of 16, the cubic root of 16, major-general, pound (money), pound (weight), notice well, postmaster, postscript, (for what else do the last two abbreviations stand?)

Write the words for which the following abbreviations stand: E. R., MS., e. g., Dr. (What else?), Cr., Sr., Jr., 10th prox., C. O. D., Xmas, MSS., D. V., from 54 B. C. to 43 A. D., Vol. III., pp. 14-16, A. O. U. W., 12th ult., 14th inst.

Write the plural of the following words. As a second exercise write the possessive singular and possessive plural, writing an appropriate noun after each word where admissible: Fly, fancy, lady, chimney, turkey, valley, shelf, staff, knife, life, sheep, deer, goose, child, man, mouse, ox, tooth, foot, woman, brother, bandit, beau, madam, memorandum, aide-de-camp, commander-in-chief, son-in-law, man-of-war, hanger-on, dormouse, court-yard, handful, goosequill, step-son, toothbrush, man-servant.

November Poets and Authors.

William Cullen Bryant, American, b. Nov. 3, 1794; d. June 12, 1878. Studied and practised law; was for fifty years editor of the *N. Y. Evening Post*. His best known work is "Thanatopsis," (a view of death).

James Montgomery, a Scotsman, b. Nov. 4, 1771; d. April 30, 1854. Was educated and lived in England. Edited the *Sheffield Iris* for 31 years. He is best known by his hymns and devotional poems.

Oliver Goldsmith, Irish, b. Nov. 10, 1728, d. April 4, 1774. Author, physician, proof reader, writer for periodicals. His best works: *Citizen of the World*; *The Traveller*; *The Vicar of Wakefield*; *She Stoops to Conquer*.

Wm. Cowper (pron. Kow-per or Koo-per), English; b. Nov. 15, 1731; d. April 25, 1800. Studied law but never practised. Devoted himself to literature. His best known poems are, *The Task*, and *John Gilpin's Ride*.

Give other works of the above-named authors.

The lives of Goldsmith and Cowper have a pathetic interest. Can you give any particulars?

Can you name any hymns that Cowper wrote?

Which one was a nature-poet? (See memory gems REVIEW for October and November).

Did Cowper live in more than one century?

Prepared for the REVIEW.]

Memory Gems: November—Thanksgiving.

- a
November woods are bare and still;
November days are clear and bright;
Each noon burns up the morning chill,
The morning's snow is gone by night;
Each day my steps grow slow, grow light,
As through the woods I reverent creep
Watching all things lie "down to sleep."
—HELEN HUNT JACKSON.
- b
Glorious are the woods in their latest gold and crimson,
Yet our full-leaved willows are in their freshest green.
Such a kindly autumn, so mercifully dealing
With the growth of summer, I never yet have seen.
BRYANT—*Third of November*.
- c
Autumn wins you best by this its mute
Appeal to sympathy for its decay.
ROBERT BROWNING—*Paracelsus*.
- d
The warm sun is failing, the bleak wind is wailing,
The bare boughs are sighing, the pale flowers are dying;
And the year
On the earth her death-bed, in a cloud of leaves dead
Is lying.
Come, months, come away,
From November to May,
In your saddest array;
Follow the bier
Of the dead cold year,
And like dim shadows watch by her sepulchre.
SHELLEY—*Autumn*.
- e
This sunlight shames November when he grieves
In dead red leaves, and will not let him shun
The day, though bough with bough be over-run,
But with a blessing every glade receives
High salutation.
DANTE GABRIEL ROSSETTI—*Autumn*.
- f
Decking herself in autumn's cheeriest tints,
Crowned with a veil impalpable as breath,
One long, warm kiss upon the earth she prints,
And, smiling to the last, goes down to death.
EDWARD VANCE COOKE—*Indian Summer*.
- g
And let these altars, wreathed with flowers,
And piled with fruits, awake again;
Thanksgivings for the golden hours,
The early and the latter rain!
WHITTIER.
1. Which of the above extracts best represents our November of this year?
 2. What leaves have put on their "latest gold" and "crimson"?
 3. What leaves are in their "freshest green?" Note if this is true of our willows or other shrubs and trees.
 4. What is the "long warm kiss" "(f)?"
 5. What is the "veil impalpable as breath" (f)?

Selections and Reflections.

If we are to judge by the new educational scheme for Ireland, education is becoming intensely practical. In its great prominence will be given to manual training, drawing, experimental science, the domestic arts and physical drill. All teachers must, within a reasonable time, become qualified to teach those subjects in which they are deficient, especially drawing and singing. The teaching has hitherto been so largely on the old-fashioned lines of the three R's that the introduction of the new subjects will amount almost to a revolution.

If a child leaves school inefficiently grounded in the three R's, it is not necessarily so because the teaching he has received has been inefficient, but because there has not been sufficient time while he remained at school to foster the seed sown in very stony ground of a dull and feeble intellect, and because the conditions of home life were only such as would tend to blight any mental growth.

While we hear from time to time of the children who fail at first to satisfy employers, I think we do not realize how many thousand of children pass from one school into employment, and how many of them, by good honest work, are reaping the fruits of a good education. In this, as in other things in life, it is the voice of the non-contents, and not of the contents, which is more readily heard.

"The custom of prescribing a play of Shakespeare to be studied with elaborate annotations still prevails in many schools, and is generally a mistake, while to turn Shakespeare into exercises for parsing and analysis amounts to a desecration. . . . There seems a general agreement that the reading of English literature in class, with only the most necessary explanation, is a very valuable exercise. Reading aloud, far too uncommon with grown-up people, can scarcely be practised too frequently at school."—*Daily News*.

Not Rule But Service.

Not rule but service. What does this mean? Does it mean anything less than the teacher is subject to the law of service to her children from the moment she comes in contact with them? Not only service to teach them so many hours a day, and to prepare them for the next grade, but the higher spiritual service that seeks to understand them individually, to search out their needs, to correct wrong tendencies, and to start them in a life course for which they are best adapted.

The teacher who takes up a new class in August is overwhelmed with opportunities to serve these little ones, even as the Master served humanity. This boy is

inattentive. Does he hear well? Has he perfect eyesight? This little girl enunciates badly. Are the physical organs free from obstructions? Another is sullen. Is it fear, bad management at home, or the loneliness and discouragement that come to children that we never dream of? The restless, forlorn, poorly dressed, bad-tempered child. Did he have enough breakfast? Is another deceitful? Perhaps he has never known the joy and pride of being trusted and believed in. In fact, there is not one child among them all that does not need to be studied in the true spirit of helpfulness. The home influences must be known and analyzed, the mental bent discovered, the peculiar talent developed, and each one helped in his own way. This is not to be a separate service superimposed upon the regular routine of school work to increase one's duties, one's hours, and one's fatigue; but it must go right along with, and be a part of, the regular work, taking no more added time and effort than to think, to feel, to suffer, to love, and to enjoy. It is the undercurrent of school life, the soul current that makes the outward life worth living.—*Primary Education*.

My Schoolroom.

I have closed my books and hidden my slate,
And thrown my satchel across the gate,
My school is out for a season of rest,
And now for the schoolroom I love the best.

My schoolroom lies on the meadow wide,
Where under the clover the sunbeams hide,
Where the long vines cling to the mossy bars,
And the daisies twinkle like fallen stars:

Where the clusters of buttercups gild the scene,
Like showers of gold dust thrown over the green,
And the wind's flying footsteps are traced, as they pass,
By the dance of the sorrel and dip of the grass.

My lessons are written in clouds and trees,
And no one whispers except the breeze,
Who sometimes blows, from a secret place,
A stray, sweet blossom against my face.

My school bell rings in the rippling stream,
Which hides itself, like the schoolboy's dream,
Under the shadow and out of sight,
But laughing still for its own delight.

My schoolmates there are the birds and bees,
And the saucy squirrel, more dull than these,
For he only learns, in all the weeks,
How many chestnuts will fill his cheeks.

My teacher is patient, and never yet
A lesson of hers did I once forget,
For wonderful lore do her lips impart,
And all her lessons are learned by heart.
O, come! O, come! or we shall be late,
And Autumn will fasten the golden gate.

—*Katherine Lee Bates, in American Agriculturist.*

A Device in Discipline.

The writer recently spent a little time with H. G. Woody, principal of the Kokomo (Ind.) high school. His school room was crowded, there being five more pupils in attendance than were seats in the room. Yet the order was perfect. Not a whisper — not a note passed — no side glances — simply an earnest attention to business. There were frequent consultations of dictionaries, encyclopedias, and other reference books, but no communication. Each pupil seemed interested in his own work and attended strictly to his own business. It was simply a model school.

In this school each pupil keeps his own record of both conduct and study, in a little blank book prepared for the purpose, and makes daily entries. This is not the "self-reporting system," because the pupil's standing is not made up from this record. The pupil does not report to anybody; he simply keeps the record for himself. The principal frequently looks at these little books to see how they are kept, but never criticizes the marking. The pupil is not required to show his books to his parents, and yet he is encouraged to keep a report that he will not be ashamed to show. The pupil is given to understand that the record is for his own benefit exclusively, and that it is for his own inspection exclusively, unless he chooses to let others see it.

It seems to the writer that the above named device is an excellent one, for two very manifest reasons:

1. It compels the student to constantly compare his own performances, in both conduct and work, with his own ideal standard of excellence, and this is worth a great deal to any one, whether in school or out of school.

2. It places no inducement before the pupil to make a false report, and this gives it its immense advantage over the "self-reporting system."

Let no teacher flatter himself that this device or any other, however good, will run itself.—*Indiana School Journal.*

The following is a "device" I have used for tardiness: Being a believer in plenty of oral as well as written spelling, I have the old fashioned spelling class once each day, and to the one getting the greatest number of head marks, I award a prize at the close of the term. When I see a disposition on the part of some of the pupils to be tardy, I change my programme, so as to have the spelling lessons just after opening exercises in the morning. Of course, I give due notice of the change, and it is surprising to see the increase in the response at roll-call. I have tried this experiment in rural and town schools, and find it all right in either.—*B. F. Murphy in West Virginia School Journal.*

CURRENT EVENTS.

The young Brazilian aeronaut, Santos-Dumont, has succeeded, after many attempts, in steering his balloon from St. Cloud to the Eiffel Tower, in Paris, and back to his starting point within a given time. Though his balloon is of little practical use as a means of transportation, and he has more than once nearly lost his life in managing it, yet his persistence and final success have proved the possibility of navigating the air.

To the English and German expeditions for the exploration of the South Polar regions is added a Swedish expedition, which sailed on October 16th. The British explorers will work south of New Zealand, the Germans south of Cape Colony, and the Swedes south of Tierra del Fuego, which island they will explore before going farther.

The Canadian Pacific Railway authorities have under consideration a scheme of irrigation for the Northwest by which millions of acres of land, which now lies sterile between Calgary and Medicine Hat, may be turned into farming and grazing land. The waters of the Bow river would be used to irrigate the barren region.

The most important event mentioned in the foreign news of the past month seems to be the death of Abdul Rahman Kahn, the Amir of Afghanistan, and the peaceful succession of his son, Habib Ullah Hahn. The new Amir, Habib Ullah, is friendly to the British. It is hoped that, like his father, he will be able to keep peace among the turbulent Afghan tribes, and remain a firm and watchful ally of Great Britain.

Though the rulers still deny that there is war, the fighting continues along the frontier of Venezuela and Colombia.

Nicaragua has denounced her treaties with Great Britain, France and the United States. This is supposed to be with the purpose of making new treaties, giving to the United States exclusive rights in the proposed Isthmian canal.

The name of America has long been supposed to have been derived from that of an early navigator, Americus Vesputius. It is now stated upon the authority of recent investigations that Vesputius was not a navigator, and that his name was not Americus, but Alberice; and that the word America is of native origin and was used by Columbus, who found that the inhabitants of the northern coast of South America called their country *Amaraca-pana*, meaning the land of *Amaraca*.

An active insurrection in the island of Samar is giving trouble to the United States authorities in the Philippines.

King Victor Emmanuel, of Italy, will act as arbitrator between Great Britain and Brazil in regard to the British Guiana boundary.

The census has shown a remarkable increase in the French population of the Atlantic Provinces, an increase of over 30,000 within the last ten years. Exact figures are not yet given, but it is estimated that the French speaking people of the three Maritime Provinces will aggregate 150,000.

A new scheme for a shorter route of travel to Europe is now claiming attention in New York. It is to run from New York by rail to some port in Nova Scotia or New Brunswick, and thence by swift steamers to some port on the west coast of Ireland, thence by rail and packet to connect with the English railways; time from New York to London, four days and four hours. Something like this was the dream of the founders of the European and North American railway, when they built the road of that name between St. John and Shediac.

A New York newspaper thus summarizes the recent developments and future prospects of Canada: Rails are being laid on a road designed to push forward to James Bay. A company is proposing to connect Lake Winnipeg with Hudson's Bay by canal and river, thus making a short water route by which the wheat and cattle of the Northwest may be carried to Europe. Men are pushing northward and westward by thousands. Government explorers just returned tell of rich mineral lands and valuable forests in what has been supposed to be a part of the barren grounds. The same men say forty miles of canal will connect the Mackenzie river with Chesterfield inlet, and promoters are already planning to undertake the enterprise, with a view of making a water route to those vast undeveloped lands of the far Northwest. In the light of facts and tendencies it is not rash to predict that Hudson's Bay will yet be seen from a car window, that farms and mines and factories will one day touch elbows with the barren grounds below the Arctic, and that Davis Strait will see an endless line of steamers carrying the products of a new Canada over a short line to Europe.

The last of the four largest armored cruisers in the world, which have been launched this year in England, is named King Alfred. The others are called the Drake, the Good Hope, and the Leviathan. They are commerce protectors, and are built in answer to the new commerce destroyers of France and other European powers.

The existence of the bubonic plague in Liverpool and Glasgow, and in San Francisco, is causing our health authorities to take strong precautions against its introduction into Canada.

The annexation of Crete to Greece is now thought to be inevitable.

The royal tour of the colonial empire is ended. The Duke and Duchess of Cornwall and York have completed their journey, over five continents and many seas, yet without leaving the king's dominions, and without visiting all the lands beneath his imperial rule. The Ophir, with the royal party on board, left Halifax on the 21st of October, and arrived at Portsmouth on November 1st, stopping on the way at Newfoundland. An imposing naval display at Portsmouth, and an enthusiastic greeting in London, were at once a welcome to the returning travellers and a tribute to the loyalty of the colonies which they had visited and where they had been so well received. The magnificent reception accorded in Canada to the heir to the throne was very pleasing to the people of England, and has shown to the

world that no people who owe allegiance to the British crown are more sincerely attached to the empire than His Majesty's American subjects in this great Dominion.

The king's new title, which recognizes the colonies, runs thus: Edward the Seventh, by the grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the seas, King, Defender of the Faith, and Emperor of India.

That brigandage still exists in Turkey is proved by the case of Miss Stone, an American missionary, who is carried off and held for ransom. It is suspected that the abduction is the work of Bulgarians and is chiefly for political effect.

A force of West Indian negro troops is to be despatched to quell disturbances in the Niger region in West Africa.

British naval vessels have been coaling at Sydney, N. S. It seems strange to us that this has never been done before. Coal from the British Isles has hitherto been sent at whatever cost to the coaling stations all over the world.

The total number of vessels sailing under Canadian register last year was 6,735, and their value about \$20,000,000.

The search for petroleum in Westmorland Co., N. B., has proved successful, and four oil wells are now yielding more or less oil.

The latest of the wonders of electricity is a wireless electric lamp, which has been tried successfully at distances of between four and five miles.

Three companies of the Royal Canadian regiment will be sent to Bermuda, to assist in guarding Boer prisoners.

Li Hung Chang is dead. He was undoubtedly the greatest Chinese statesman of recent years, and his friendship for Russia has had a marked influence upon Chinese foreign policy.

The usual accounts of minor successes of the British forces in South Africa were interrupted last month by a report that a few of the enemy had pushed through Cape Colony to the sea, and later by news of a slight reverse of one of the British columns, with the death of the commander of the party and the loss of two guns. Botha was in command of the Boers, who attacked the British rear. His force was driven off, and is now scattered for the present. There are two other Boer forces in the field, led respectively by Delarey and DeWet, and unless more men are sent to the seat of war, these roving bands will be able to prolong the struggle for some time to come.

France and Turkey are on the verge of war. A French fleet has been sent to the island of Mitylene, to seize ports, if necessary, for the enforcement of French claims against Turkey. It is believed that the Sultan will yield.

The last rails of the great Siberian railway, connecting Moscow with Vladivostock, were laid November 4th. Nearly ten and a half years were occupied in building the road, which is 4,694 miles long; and cost \$175,000,000.

TEACHERS' CONVENTIONS.**NORTHUMBERLAND COUNTY INSTITUTE.**

The twenty-fifth annual meeting of the Northumberland County Teachers' Institute was held at Chatham on the 10th and 11th of October, President Wathen in the chair. Papers and addresses were given by the president, J. C. Mersereau, Dr. Cox, Miss Troy, Mr. McIntosh, Mr. McNaughton, Miss Beatrice Ellis. A largely attended public meeting was held on the evening of the 10th. Newcastle was named as the next place of meeting of the Institute. The following officers were elected:—*President*, Geo. K. McNaughton; *Vice-President*, Miss Maggie Mowatt; *Secretary-Treasurer*, R. W. Alward. Additional members of Executive, Miss B. Ellis and Miss K. I. B. McLean.

WESTMORLAND COUNTY INSTITUTE.

The twenty-fourth annual meeting of the Westmorland Teacher's Institute was held at Shediac on the 10th and 11th October, the president, C. H. Acheson in the chair. The attendance was about one hundred. Mr. Acheson made an excellent president keeping the institute well to the work. The discussions were spirited and practical, especially those on Principal Dixon's paper on bird life and Miss Bourque's on Manual Training and its Effect on Character Building. Principal H. B. Steeves read a thoughtful paper on The School and Citizens. The public meeting on the evening of the 10th was largely attended and interesting addresses by Rev. Messrs. Burt and Pierce, Principal Oulton and G. U. Hay were given, interspersed by a fine musical programme. The next meeting of the Institute will be held at Port Elgin. The following officers were elected:—*President*, R. L. Hetherington, Moncton; *Vice-President*, Miss Ella Copp, Sackville; *Sec.-Treasurer*, S. W. Irons, Moncton.

KINGS COUNTY, N. B., INSTITUTE.

The sixteenth annual meeting of the Kings County Teachers' Institute was held at Sussex on the 24th and 25th October, President H. R. Keith in the chair. The excellence of the papers and addresses, the spirited discussions, and the cordial welcome extended to the visitors by the citizens and teachers of Sussex, rendered this one of the most interesting gatherings of teachers ever held in the county.

The absence of Inspector R. P. Steeves through illness was a matter of general regret. The presence of Chief Supt. Dr. Inch, at the first institute he has been able to attend since his return from England was a great source of help. There were papers and addresses as follows: Matthew G. Duffy on discipline; D. P. Kirk-

patrick on history; E. E. MacCready, drawing and manual work, followed by an exhibition of designs, etc., from the Manual Training School, Fredericton; Miss A. Peck, mental arithmetic; Miss Laura E. Mace and Susan P. Fenwick, local history papers; Miss Mabel Folkins, time table difficulties; Weldon Pickle, literature; J. T. Horsman, arithmetic.

The election of officers resulted as follows: *President*, Wm. Brodie; *Vice-president*, Margaret Stewart; *Secretary-treasurer*, C. M. Kelly.

Hampton Station was decided on for the next place of meeting.

After adjournment the teachers of Sussex grammar school served the members of the institute with refreshments.

The public meeting on the evening of the 24th was largely attended. Addresses were given by J. A. Freeze, Secretary of the School Board; Dr. Inch, G. U. Hay and E. E. MacCready, Principal of the Macdonald Manual Training School, Fredericton.

SCHOOL AND COLLEGE.

The commercial classes at Horton Academy, Wolfville—book keeping, typewriting, stenography, commercial law, penmanship and correspondence—are much fuller than in any previous year. The Manual Training department is receiving due recognition; there are more taking this work this year than ever before. Since last June the interior of the Edward W. Young Manual Training Hall has been remodelled, thus adding much to its convenience and efficiency.

The following letter from the teacher of the school in New Denmark, Victoria County, N. B., will be read with interest.

"I would like to tell you something of the school where I teach. The address has told enough to know that it is in the Danish colony where, among themselves the people speak the Danish language, although the older ones can speak English when it is necessary. But when the children first go to school they cannot speak one English word; they don't even know what is said to them until it is translated for them.

There are five schools in the colony, but the New Denmark school house is the prettiest and best furnished of them all. It is painted white outside, and the woodwork inside is painted a pretty slate colour. A year ago we made a pie supper and raised enough to get hardwood desks and chairs; before that the desks were so uncomfortable for the children that they were tired before dinner.

Hanging over our map of Canada, we have a small Canadian flag 24x18 inches and in the yard, half way between the school door and the road is a flag-staff, forty-feet high with halyards from which may sometimes be seen flying a three-yard Canadian ensign belonging to the district. These two are the only school flags in the colony, so the people of the district are very proud

of them. Inspector Meagher calls on us twice a year and we are always glad to see him. I have been teaching among the Danish people for nearly six years and can speak their language to the children when necessary. While I write the children are talking Danish. I find the EDUCATIONAL REVIEW a great help in my work." ALLISON M. JENSEN.

Harry L. Bustin, B. A., of Malvern Square, a teacher of much experience succeeds Stanley L. Dukeshire, B. A., as principal of the public schools, Canning, N. S. Mr. Dukeshire replaces Mr. John Godfrey in the principalship of the County Academy, Antigonish.

The Wolfville, N. S., public schools have an enrolment of 250. There are 35 doing high school work. Wolfville is to be congratulated on its educational advantages. The work of Mr. Ford who enters upon the fifth year as principal, and his painstaking and efficient staff, is justly appreciated by the citizens.

The following teachers have, by their own efforts, assisted by their pupils, procured and paid for since the present term opened a supply of apparatus and chemicals for nature lessons during the winter months, and sets of minerals for class use: Miss Evelyn Boone, Oak Bay, Charlotte County; Mr. J. C. Carruthers, Blackville, Northumberland County; Miss Bessie Fraser, Grand Falls; Miss May Floyd, Hillsdale, Kings County; Miss Myrtle A. Harmon, near Woodstock. Miss Harmon is indebted to a friend for a nice cabinet in which to store apparatus and material for nature lessons.

Inspector Roscoe intends to visit the schools in Hants County from November 4th, until the Christmas vacation.

Mr. Graham P. Morse, of Windsor, N. S., led the province on the examination for the A Class last July. Mr. Morse attended Acadia last year—a member of the sophomore class. He has been appointed on the staff of Windsor Academy.

Miss McCarthy, of Kentville, N. S., who has been teaching at Walbrook, Kings County, died recently of smallpox at her home.

The Kentville, N. S., schools have been closed since the first of October on account of small-pox. Several other schools in western Kings are all closed for the same reason.

'ROUND TABLE TALKS.

F. T.—Please solve 7th example, page 79, and 4th example, page 83, Kennedy and O'Hearn's Academic Arithmetic.

1. Interest on first payment (no matter what the rate).

For 5 mos. = Int. on second payment for 3 mos.

First payment \times rate $\times \frac{5}{12}$ = second payment \times rate $\times \frac{3}{12}$

5 times first payment = 3 times second payment

First payment = $\frac{3}{5}$ second payment.

First payment + second payment = \$1,000

$\frac{3}{5}$ second payment + second payment = \$1,000

Second payment = \$625

First payment = \$375

2.	\$200 \times 0 =	0 months
	200 \times 1 =	200 "
	200 \times 2 =	400 "
	200 \times 3 =	600 "
	200 \times 4 =	800 "
	200 \times 5 =	1000 "
	200 \times 6 =	1200 "
	200 \times 7 =	1400 "
	200 \times 8 =	1600 "
	200 \times 9 =	1800 "
	200 \times 10 =	2000 "
	200 \times 11 =	2200 "

\$2400 into 13200 = $5\frac{1}{2}$ months.

\$200 \times 0 = 0 months

1000 \times 5 = 5000 "

800 \times 7 = 5600 "

\$2000 10600 months

Balance of debt Balance of mos. (13200 - 10600)

= \$400 = 2600 months

2600 \div 400 = $6\frac{1}{2}$ months. Answer.

W. C. S.—Would you please give a solution of example 4, list 28, examination questions, p. 18, Kennedy & O'Hearn's Academic Arithmetic. Kennedy & O'Hearn make it \$725.40. I make it \$55.80, or thirteen times less than the answer given.

\$55.80 is the correct answer. See last edition.

Boarding-House Geometry.

Some definitions, axioms, postulates and propositions. The following have a familiar sound to all who have ever tried to follow old Euclid's vagaries of boarding-house life:

DEFINITIONS AND AXIOMS.—All boarding-houses are the same boarding-houses—boarders in the same boarding-house, and on the same flat, are equal to one another; a single room is that which has no parts and no magnitude. The landlady of a boarding-house is a parallelogram, that is an oblong and angular figure which cannot be described but which is equal to anything. A wrangle is the disinclination of two boarders to each other that meet together but are not on the same flat. All the other rooms being taken, a single is said to be a double room.

POSTULATES AND PROPOSITIONS.—A pie may be produced any number of times. The landlady can be reduced to her lowest terms by a series of propositions. A bee line can be made from any boarding-house to any other boarding-house. The clothes of a boarding-house bed, though produced ever so far both ways, will not meet. Any two meals at a boarding-house are together less than two square meals. If from the opposite ends of a boarding-house a line be drawn passing through all the rooms in turn then the stove pipe which warms the boarding-house will lie within that line.—*New York Truth.*

RECENT BOOKS.

ANCIENT HISTORY, for High Schools. By P. V. N. Myers, L. H. D. Cloth. Pages 444. Price 75c. Canadian Edition. The Copp, Clark Co., Toronto.

This book, which has been authorized by the department of education, Ontario, has many excellent features. It is sufficiently full in outline of the history of Greece and Rome, and written in an attractive and vigorous style.

LITERARY SELECTIONS, for advanced classes in Public and High Schools. Edited by Inspector Wm. Houston, M. A., Toronto. Cloth. Pages 420. Gage & Co., Publishers, Toronto.

This book, which has been authorized for use in the schools of New Brunswick, has many excellent points to commend it. The editor, Mr. Wm. Houston, a gentleman of marked literary tastes, has incorporated in the volume a collection of some of the best poetical and prose passages of English and colonial literature. The valuable feature of the book is that the selections have been arranged in groups to represent such ideas as love of country, character, contentment, duty, etc.

PUBLIC SCHOOL HISTORY. Of England. By W. F. Robertson, LL. B. Of Canada. By G. U. Hay, D. Sc. Cloth. Pages 289. Price 30 cents. The Copp, Clark, Co., Toronto. J. & A. McMillan, St. John, N. B.

This book has just been authorized for use in the schools of New Brunswick. It is compact, well bound, illustrated by maps, and contains a concise and interesting record of the growth of England and Canada.

ALFRED THE GREAT: His Life and Times. By Geo. F. Bosworth, F. R. G. S. Cloth. Pages 200. Price 1s. 6d. Macmillan & Co., London. The Copp, Clark Co., Toronto.

An interesting account of the chief events of the life of King Alfred with stories, illustrations, and a description of the England of that time. The book is of special interest to boys and girls in connection with the recent millenary celebration.

JUNIOR COURSE OF ENGLISH COMPOSITION; AND (2) ORAL EXERCISES IN ENGLISH COMPOSITION. By J. C. Nesfield, M. A. Cloth. Pages 224 and 216. Price 1s. 6d. each. Macmillan & Co., London. The Copp, Clark Co., Toronto.

Both the "Junior Course" and "Exercises" are planned to teach Composition orally, although the teacher may substitute written exercises at any stage. The author has carefully estimated the difficulties of the subject, and has furnished a carefully graded system of instruction and exercises.

ENGLAND'S STORY: A History for Grammar and High Schools. By Eva March Tappan, Ph. D., with more than 100 illustrations and maps. Cloth. Pages 370. Price 85 cents, postpaid. Houghton, Mifflin & Co., Boston.

This is a narration of the principal events of English History from Julius Cæsar down to the present date, told in simple and pleasing language. Much care has been taken in selecting only such illustrations as will add to the interest and clearness of the text. It may be used either as a text-book or as a supplementary reader.

NATURE STUDY READER, Parts I and II. By Rev. J. C. Atkinson. Cloth. Pages 433. Price 1s. 6d. each part. Macmillan & Co., London. The Copp, Clark Co., Toronto.

This attractive book records the walks, talks, travels and exploits of two school boys. It is not only a book of boyish sports, but contains many bits of choice descriptions of nature. It is healthy and invigorating.

ELEMENTARY CHEMISTRY. By W. F. Watson, A. M., Professor of Chemistry and Biology in Furman University, South Carolina. Cloth. Pages 320. Price \$1.25. A. S. Barnes & Co., Publishers, New York.

In its make-up this is a very attractive book, being printed in large, clear type, with full page engravings of experiments and apparatus. The matter is concisely arranged and well adapted to meet the needs of teachers and private students. Principle and experiment follow each other in admirable order throughout the book. The book is well suited for the needs of those who have limited laboratory appliances. A few simple directions for the preparation and handling of apparatus would have made the book still more useful to the private student.

THE STARS IN SONG AND LEGEND. By Jermain G. Porter, Director of Cincinnati Observatory and Professor of Astronomy in the University of Cincinnati. Cloth. xiv + 129 pages. Illustrated. Mailing price, 55 cents. Ginn & Co., Publishers, Boston.

This book has unique interest in its portrayal of the mythology of the sky as embodied in the classic stories of Greece, in the folklore of more recent periods, and in much of our best literature. Constellations, of which most people are strangely ignorant, are taken up in some detail. The legends about each are told, attention is called to some of the poetic allusions to them, and interesting facts about the more prominent objects in the different groups are also presented. Particularly interesting is the final chapter, which gives the legends of the Milky Way and the weird and beautiful ideas which it has ever inspired.

THE HISTORY AND DESCRIPTION OF ROMAN POLITICAL INSTITUTIONS. By Frank Frost Abbott, Professor of Latin in the University of Chicago. Cloth. viii + 437. Mailing price \$1.60. Ginn & Co., Publishers, Boston.

This is a notable new book, prepared chiefly for the use of students of Roman history, of Latin and of political science. The first part of the work traces historically the development of the Roman constitution from the earliest times to the reign of Diocletian. In the second part of the consulship, the tribunate, the senate, the *comitia*, and the other institutions of the government are taken up in order, and a systematic and detailed description is given of each. The book presents a beautiful appearance both in its binding and in its type arrangement.

EXPERIMENTAL HYGIENE. By A. T. Simmons, B. Sc., and E. Stenhouse, B. Sc. Cloth. Pages 322. Price 2s. 6d. Macmillan & Co., London.

This is an introductory course of work for schools in the principles of domestic science, based on practical experiments of some problems, embracing among others, weights and measures, the atmosphere—its composition, density, capacity for heat, the use of the thermometer and barometer, burning and rusting, ventilation, the chief constituents of flour, milk, butter and cheese, etc. The book contains an excellent working review of some of the commoner principles of physics and chemistry as well as of hygiene.

LATIN PROSE COMPOSITION. By R. A. Little, B. A., Classical Master, London (Ont.), Collegiate Institute. Cloth. Pages (with vocabulary and index) 226. The Copp Clark Co., Toronto.

We like the clear and practical way in which the author takes up his subject. There are no unnecessary rules or in-

volved sentences; but there is sufficient to give the industrious student a thorough mastery of the main difficulties of Latin prose composition.

ERRORS IN SCIENCE TEACHING. By C. Stuart Gager, State Normal College, N. Y. Cloth. Pages 73. Price 50 cents. C. W. Bardeen, Syracuse, N. Y.

The author notes some false scientific statements and theories—"heirlooms of the past"—which still persist in our modern textbooks and teaching. Such as "hot air tends to rise," "heat expands and cold contracts," "the process of respiration in plants is the reverse of respiration in animals," etc.

LEGENDS OF KING ARTHUR AND HIS COURT. By Frances Nimmo Greene. 126 pages. Twelve full-page illustrations after originals by Edmund Garrett. Mailing price 60 cents. Ginn & Company, Boston.

The thirteen short stories presented in this book form a perfectly connected series and relate the adventures of King Arthur and of his most noted knights. The style in which these chivalric legends are told is simple and direct, and the material is selected in such a way as to exclude all those unwholesome matters which render earlier writings on the subject unfit for the perusal of the young. The work is arranged with the particular purpose of adapting it for supplementary reading in schools.

Riverside Biographical Series: ALEX. HAMILTON; by C. A. Conant. WASHINGTON IRVING; by H. W. Boynton. Cloth. Price, 50 cents each. Houghton, Mifflin & Co., Boston.

The design of this series is to present a biographical history of all the eminent men of the United States. The volumes are convenient for school supplementary reading, and future numbers will be issued at intervals during the school year.

OLD INDIAN LEGENDS. Retold by Zitkala-Sa. Cloth. Pages 165. Price, 75 cents. Ginn & Co., Boston.

This beautifully illustrated little volume of Indian folklore will repay a careful reading.

Pamphlets Received.

The Cardinal Principles of Morphology. By Prof. W. F. Ganong.

Secondary Undulations shown by Recording Tide-gauges. By Prof. A. W. Duff.

Research in the Scottish Universities: An Inaugural Lecture delivered at the University of Edinburgh, on the 15th October, 1901. By Prof. James Gordon MacGregor.

November Magazines.

Sydney Brooks opens the November *Atlantic* with a brilliant article on Europe and America, in which he describes the continental attitude upon two great points of international importance: the policy of Reciprocity and the Monroe Doctrine. . . . Mrs. S. T. Rorer's name has become a household word in American homes, through her famous cooking school in Phila-

delphia. The *Ladies' Home Journal*, which for some years has been the medium through which Mrs. Rorer has talked to American women, has conceived a clever idea, incidentally something new. It is to put Mrs. Rorer's cooking school on paper, as it were, giving from month to month exactly the same lessons to its readers as Mrs. Rorer gives to her pupils. In this day, when so much is said about pure foods and the value of correct methods of preparing them, the value of such a feature should be great. . . . With its November number *The Century* begins a Year of American Humor. It contains a twenty page retrospect of American humor, by Prof. W. P. Trent, of Columbia University, with portraits of Lowell, Warner, Holmes, Harte, Hay, Artemus Ward, Mark Twain, Stockton, Harris, Bunner, Field, Bill Nye, Riley, F. P. Dunne, George Ade, and a score or so of others who have successfully sought to tickle the risibilities of the American people. The humor in this issue of the magazine includes *Two Little Tales*, by that most famous of living fun makers and satirists, Mark Twain; *Songs of the Cheerful People*, by Paul Dünbar; Mr. Appleby's vote, by Catharine Glen, and other humorous pieces.

. . . . With its November number *St. Nicholas* begins its twenty-ninth year and volume, taking the occasion to make a new departure in its manner of publishing fiction. Instead of printing, as usual, a large number of short stories, it makes room for a long story, complete in itself, and filling more than half the magazine. The story published, *Tommy Remington's Battle*, by Burton Egbert Stevenson, is an interesting portrayal of American boy life. . . . The *Outlook* was the first weekly paper to publish an annual illustrated book number, and for twelve years these book numbers have been specially interesting features of the autumn publishing season. This year in addition to this annual illustrated book number, the *Outlook* publishes two supplementary book numbers, one dated October 19th, and the other November 16th. \$3 a year. The Outlook Company, 287 Fourth Avenue, New York. . . . The opening feature of the November *Canadian Magazine* is a profusely illustrated account of the Duke's tour across the continent. It is entirely different from anything which has appeared in any of the newspapers, and is full of historical references and quaint imaginings. The illustrations are reproductions of photographs of the chief events. . . . For those mothers who are anxious that their girls should read wisely rather than widely, there is a valuable article in the November *Delineator*, describing *The Book Life of a Girl*. It shows how, with a little assistance, her book reading can be so manipulated that she will be broadened out by her reading without the necessity of later being obliged to unlearn or forget pernicious books. . . . In the *Chautauquan* magazine for November the department of Chautauqua Junior Naturalist Clubs, conducted by John W. Spencer, of Cornell University, deals with the special topics of Moths, Caterpillars, Flower Shows, and Children.

University of New Brunswick.

THE next Academic year begins September 27th, 1900, when Fourteen County Scholarships will be vacant. These Scholarships (value \$60 each) will be awarded on the results of the Entrance Examination to be held July 3rd, at all the Grammar School centres. To candidates who hold a Provincial School License of the First Class an Asa Dow Scholarship (value \$150) will be offered in competition in September. The Departments of CIVIL AND ELECTRICAL ENGINEERING are now open to properly qualified students.

Copies of Calendar containing full information may be obtained from the undersigned.

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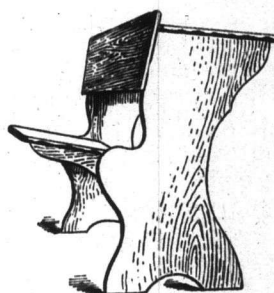
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