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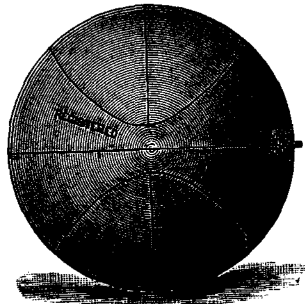

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May:

1. Examinations for Specialist's certificates (except Commercial) at the University of Toronto, begin.

   Notice by candidates for the High School Entrance, and Public School Leaving Examinations to Inspectors, due.

   By-law to alter school boundaries—last day of passing. [P. S. Act, sec. 81 (3).]

3. Inspectors to report Department number of papers required for the High School Entrance and Public School Leaving Examinations.

   Inspectors' nomination of Presiding Examiners for High School Entrance and Public School Leaving Examinations, due.

5. ARBOR DAY.

24. Notice by candidates for the Primary High School Leaving, and University Matriculation Examinations, to Inspectors, due.

EXAMINATIONS 1893.

June:

1. Applications for Kindergarten Examinations, due.
5. Normal School Examinations begin.
26. Examinations in Oral Reading, Drawing and the Commercial course in High, Public and Separate Schools begin.
28. High School Entrance Examinations begin.

    Public School Leaving Examinations begin.
29. Kindergarten Examinations at Hamilton, Ottawa and Toronto.

July:

4. Primary and High School Junior Leaving and University Pass Matriculation Examinations begin.
5. Examination for Commercial Specialists' Certificates at Toronto.
13. High School Senior Leaving and University Honor Matriculation Examinations begin.

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Vol. VII. No. 2.

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❋ Editorial Notes. ❋

AN error crept into our "Question Drawer" in a recent number. County inspectors are appointed by the county councils, not by the Education Department. Our thanks are due to the friend who calls our attention to the error.

In 1877, the first year in which the Department took the Entrance Examinations in charge, the number passed was 3,270; in 1892 it was 8,427. In 1877, only 6,248 wrote for entrance to the High Schools, in 1892 the number had risen to 16,409. In the latter year 254,000 papers were sent out.

WE are sorry that we have not been able to comply with the request of some of our subscribers by giving in this number those of the Entrance Examination papers of last year which we have not already published. We thought we had given all, but it seems that only the questions in mathematics have appeared in our columns. If we can procure a copy of the questions we will give them in next number.

A CORRESPONDENT who wishes to make a beginning in the formation of a school library, writes to ask what books we would recommend as best fitted to create a taste for good literature in boys and girls of from eleven or twelve to seventeen years of age. The question is an important one. No doubt it has been fully considered by the educational authorities. It would be better in the first place to consult the Inspector, who, no doubt, will be prepared to give useful information and advice. Also with reference to wall pictures and decorations. If we mistake not the Education Department publishes a list of books which it specially recommends for the purpose.

WE unwittingly omitted to note at the proper time the resignation of Mr. Goggin of the principalship of the Manitoba Normal School, in order to accept the position of Superintendent of Education for the North-West Territory. During the nine years of his connection with the Winnipeg institution Mr. Goggin did an excellent work for public education in the Province. To this both the teachers and the educational authorities of the Province bear emphatic testimony. We beg leave, even at this late hour, to congratulate Mr. Goggin on his promotion to a still higher and more responsible position, and one in which he will have an opportunity to lay or perfect the foundations of an educational system which, in view of the vast extent and rapid increase of population of the Territory, cannot fail to become in the near future one of very great importance.

THE paper read by Mr. Newlands before the Public School Department of the Educational Association, which we give in full in this number, is well worth the careful attention of our readers. He certainly makes out a very strong case in behalf of the vertical system. From our journalistic experience we are prepared to appreciate that part of the essay which touches on the question of legibility. The loss of time and the trial of temper which are caused by illegible writing are enormous. It is certainly a fact that the legibility of MS., as a rule, decreases with its deviation from the vertical. There is great force in what Mr. Newlands says as to the advantage gained by drawing instead of pushing the pen, an advantage which many of those who write much seek to gain by holding the pen or pencil between the index and middle fingers, instead of in the orthodox position taught at school. Read the article and try the system.

THE Bill introduced by Mr. Gibson and now before the Ontario Legislature to provide for the better protection of children from neglect and cruelty, is an advance movement of much importance. It begins operations at the right end of the road leading to vice and crime. It is always much easier to prevent the child from setting out on this downward path than to stop the debased and degraded adult in the later stages of his career. One of the best provisions of the Bill is that which empowers the proper authorities, for sufficient cause, to remove children from the custody of parents who have proved themselves unfit for their sacred trust, and whose children are growing up under influences which are making them worthless or dangerous members of society and the State, and to place them under proper and heathful conditions. As Mr. Gibson put it in substance, the Legislature is now, for the first time, fully recognizing the right of every child that is born into the world to a good education and a fair chance in life. Some of the special features of the Bill as finally passed may be given in another number.

THE senseless practice of college hazing has just now been carried to a disgraceful and cruel extreme at the Ohio Wesleyan University. A band of roughs from the lower classes attacked a body of juniors, bound five of them with ropes, burned their backs with red hot shovels, and branded them on each cheek, chin, and forehead with the Greek letters delta, omicron, and alpha, with a strong solution of nitrate of silver, put on after scratching the flesh with a sharp pointed stick. Not be outdone by masculine roughs, about twenty young women, on the same evening, got a strong solution of nitrate of silver and proceeded to brand six or seven of their school friends on their necks, breasts, arms, and hands, for the purpose, it is said, of so disfiguring them that they would be unable to wear evening dress at the senior reception. It is comforting to know that the male culprits are under arrest and likely to be taught a lesson which it is hoped may last them a life-time. An example should also be made of the female culprits. The only encouraging feature about such outrages is that they will spur college authorities all over the continent to put an end the more speedily to the reprehensible practice.

Mathematics.

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

INVERTING THE DIVISOR.

On page 316 of The Journal, March 1st, there is an extract from the *Ohio Educational Monthly*, in which the following sentences occur. The writer, Mr. Lloyd Wyman, says: "My experience shows me that the great majority of pupils...... even of the High Schools, are unable to explain intelligently the processes of multiplying and dividing fractions......Is this a reflection on the teachers? I think so......In division of fractions, why not divide each term of the dividend by the corresponding term of the divisor?......Take, for example, the following question: Required, the quotient of $\frac{15}{32} \div \frac{5}{8}$. Dividing each term of the dividend by the corresponding term of the divisor, the correct quotient $\frac{3}{4}$ is immediately found, and the reasoning is plainly apparent, viz., dividing by 15 by 5 brings a quotient 8 times too small; therefore *increase the size of the denominator* 8 times *by dividing* 32 by 8." [Note the confusion of thought in the words we have italicized.]......"Even when the terms are not thus exactly divisible, the process can be indicated; thus, $\frac{3}{4} \div \frac{2}{3} = \frac{\frac{3}{2}}{\frac{4}{3}} = \frac{9}{8} = 1\frac{1}{8}$, and by so doing we guard against propagating that unknowable mystery of 'inverting the divisor.'"

This may pass muster in Ohio, but it will not do for the Province of Ontario. It is a good example of the logical fallacy of stating the same thing under two different names, and then giving one as the reason of the other. The quotient of $\frac{3}{4} \div \frac{2}{3}$ is re-stated in the form of a complex fraction where the line dividing the numerator from the denominator is precisely equivalent to the sign $\div$, and the "unknowable mystery" is solved by substituting one sign of operation for another sign of operation. Is the second mystery any more fathomable than the first? Is it easier and more lucid to say, "Multiply the extremes for a new numerator, etc." than to say, "Invert the divisor, etc.?" The *verve* and cocksure confidence of the writer remind us of what one sometimes hears at Teachers' Institutes even in Ontario, when some callow member of our honorable profession rises to expatiate on "My Method of Teaching Fractions." Mr. Wyman has evidently supposed that his "method" will quickly remove "this reflection on the teachers;" but it is quite certain that he has never tried the experiment on actual living, laughing pupils, or he would be suddenly undeceived. He would find that the second mystery which he substitutes for the first is not one whit less impenetrable to the intellect. Whoever can explain clearly the process of reducing the complex fraction, can also explain the reason for inverting the divisor, and Mr. W. has only darkened counsel by a multitude of words. Heaven help the pupil who has to learn arithmetic from a text-book written by Mr. Lloyd Wyman! He would be in a worse dilemma than the Ontario pupil who has to work out his arithmetical salvation by digesting the "Public School Arithmetic" authorized by our sapient Education Department to the exclusion of a really good book which we formerly used. The greatest wonder is that the teachers of this Province will tamely submit to such a caricature without protesting vigorously and persistently until a better book is supplied, the result achieved in the case of the unutterably bad "Public School History," which the Minister assured us had come to stay.

But to return to these fractions. The first point to be recognized is the fact that the division of whole numbers and the division of fractions are only two examples of the same process. There are not two kinds of division any more than there are two sorts of addition. The difficulty with fractions can only be reduced by a short process of inductive reasoning. If a boy is asked to divide 7 yards by 4 inches he knows at once that the quantities must be expressed in the same denomination as the first step. Very well, if 3 *fourths* are to be divided by 2 *thirds*, must not the same principle hold good? Must he not first reduce them both to *twelfths*, and say 9 *twelfths* divided by 8 twelfths? The answer is, of course, $9 \div 8$; and the teacher then points out the mechanical rule which will give the same result in all cases, without the trouble of reasoning out the result for each particular example. He shows that $\frac{9}{8} = \frac{3 \times 3}{4 \times 2} = \frac{3}{4} \times \frac{3}{2}$. "*A rule is of no use until it is of no use*," *i.e.*, until the application has become a matter of unconscious cerebration. When a pupil has gone through the reasoning process a dozen times and has become thoroughly convinced of the essential truth of the result, he may properly take the shortest cut in his work to arrive at the result which he *knows* to be correct. It is absurd to suppose that he must continuously repeat the PROOF of a result, and not avail himself of the quickest means of finding what he already *knows* to be correct. See what would happen in the practical world of morals, of business, of politics, if mechanical rules were not learned once for all as the result of careful reasoning! In order to *confirm the faith* of the pupil the teacher ought to demonstrate the rule in as many ways as possible, and compel the pupil to repeat the reasoning *with a different example*, always choosing the simplest plan first.

In the case under consideration, he may at the second lesson substitute another method of arriving at the rule, and say $\frac{3}{4} \div \frac{2}{5}$ = the quotient, whatever it may be.

$\therefore 3 \div \frac{2}{5} = 4$ times the quotient; for, 3 is four times $\frac{3}{4}$.

$\therefore 3 \div 2 = \frac{4}{5}$ times the quotient; for, 2 is five times greater than $\frac{2}{5}$, and when the divisor is five times greater the quotient must be five times smaller than before;

$\therefore \frac{3}{2} = \frac{4}{5}$ of the quotient. Multiply these equals by $\frac{5}{4}$

and $\frac{3}{2} \times \frac{5}{4} = \frac{4}{5} \times \frac{5}{4}$ quotient.

$\therefore \frac{3 \times 5}{2 \times 4} = \text{quotient} = \frac{3}{4} \times \frac{5}{2}$, which is the rule.

At the third lesson he may say $\frac{3}{4} \div \frac{2}{5}$ means $\frac{3}{4} \div$ *one-fifth* of 2, and the result must be *five* times greater than $\frac{3}{4} \div$ the whole of 2.

But $\frac{3}{4} \div 2$ is $= \frac{3}{8}$, for the SIZE of eighths is only half the size of fourths. Hence $\frac{3}{4} \div \frac{2}{5}$ must be FIVE times $\frac{3}{8}$, which is $\frac{15}{8}$. And this is $\frac{3 \times 5}{2 \times 4}$, and we see that this is the same as $\frac{3}{2} \times \frac{5}{4}$, from the rule for multiplication learned in previous lessons.

None of the rules of arithmetic should be learned before they have been properly established by reasoning, and all this reasoning must be made to depend on the fact that a fraction expresses the NUMBER of *equal* parts by means of the *numerator*, and the SIZE of those *equal* parts by means of the *denominator*. If we increase the NUMBER of parts, by adding something to the numerator, or by multiplying the numerator, we increase the value of the fraction in the same proportion. If we decrease the NUMBER of equal parts by subtracting something from the numerator, or by dividing the numerator, we *decrease* the value of the whole fraction. The reverse is true for the denominator. If both processes take place together in the same proportion, the value of the fraction remains the same. If these principles, few and simple, are properly understood by reference to ordinary division of whole numbers, there is no "unknowable mystery" at all; the pupil proceeds in the clear sunshine of undoubted certainty, and the mechanical rules are to him only short processes of attaining results of which he is already *sure*, just as Homer's method of extracting the cube root, later on, is only an ingenious device for shortening the labor of applying $(a+b)^3$ to numbers.

In conclusion, we would like to ask the teachers of Canada whether they are satisfied with a book like the authorized "High School Arithmetic," which eliminates the theory of arithmetic and substitutes for it a good collection of problems. How are the teachers of the future to know the *science* of arithmetic, if they have to depend entirely on the oral explanations of their own teachers? Will they pay any attention to a subject that is practically tabooed on all our test examinations? Will they get a proper grasp of the theory at the Model Schools, or at the Normal Schools? Can they teach elementary classes efficiently without a comprehensive knowledge of the theoretical principles of arithmetic? Or, will they not be likely to substitute confused explanations, the fallacy of the circle, and *non sequiturs* for simple and sound reasons, as Mr. Lloyd has, with the purest motives, done in the article just quoted?

CORRESPONDENCE.

52. T.L.N. wishes a solution of the following question:—

The accompanying figure represents a brace which a carpenter is putting into a building. AB and AC represent the timber of the frame. D represents the brace. The brace is made of scantling 4 in. square. What will be the inside and outside length of brace? What will be distance from E to the centre of brace? What will be distance from M to N and from H to K?

The distance from E to H is 3 ft. and from E to M is 2 ft.

The carpenter wants to know what these distances would be if measured by the standard square.

J. T. White, A.M., Principal of Alleghany Co. High School No. 1, Cumberland, Maryland, sends the following problems:—

53. At what time after 10 o'clock is the hour-hand equally distant from the minute hand and from 12?

54. In a given square inscribe an equilateral triangle. Draw the figure and derive a general formula for similar problems.

55. Given $x = \frac{64\sqrt{x} - 105}{x - 42}$ to find x. Four values to be found.

56. Having a line equal to the sum of a side and the altitude of an equilateral triangle, to construct the equilateral triangle.

57. Having a line equal to the difference of a side and the altitude of an equilateral triangle, to construct the equilateral triangle.

58. Having a line equal to the sum of the three sides and the altitude of an equilateral triangle, to construct the equilateral triangle.

J.W.D., Waverly, asks for the solutions of the following questions taken from H. Smith's Arithmetic and Glashan's High School Arithmetic, page 274, No. 145, and page 261, No. 8, respectively:—

59. Two trains start at the same time, one from London to Norwich, the other from Norwich to London. They meet, after which they reach London and Norwich respectively 4 and 1 hrs. Show that one goes twice as fast as the other.

Also a purely arithmetical solution (if possible) of:

60. A father leaves $15,000 to be divided among his three sons, aged respectively 16, 18 and 20, so that if their respective shares be placed at simple interest at 6%, they may have equal shares on coming of age. How much does each now get?

61. A.B.C. asks the following question:—

"Could you give me the name of a work on algebra, one good on the general work and theory, as a companion to the present 'High School Algebra' and McLellan's work, to be used in private study?"

Answer.—See page 220, December, 1892, for reply to the same question, in which "Hall and Knight's" larger book and "Dupuis' Principles" are recommended, together with assistance by mail from some competent person. If A.B.C. will state his case in a private letter to the Mathematical Editor, he will receive a fuller answer.

SOLUTIONS.

62. K.S. wishes for explanation of the formula— $\log_a b \times \log_b a = 1$. He says he cannot understand the proof given in his text-book. We are not sure that we can make it less incomprehensible; however, we will try to help our friend.

Take any number $N = a^x = b^y$, then we have

$a = b^{\frac{y}{x}}$, or $\log_b a = \frac{y}{x}$;

also $b = a^{\frac{x}{y}}$, or $\log_a b = \frac{x}{y}$.

Hence by multiplication we get

$\log_b a \times \log_a b = \frac{y}{x} \times \frac{x}{y} = 1$. Will that do?

49. Factor

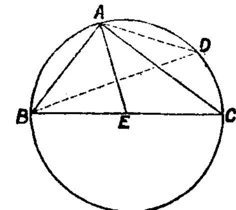
$(a^3+b^3+c^3)xyz+(b^2c+c^2a+a^2b)(y^2z+z^2x+x^2y)+(x^3+y^3+z^3)abc+(bc^2+ca^2+ab^2)(yz^2+zx^2+xy^2)+3abcxyz$.

SOLUTION by the EDITOR.—Observe that every term is of 6 dimensions, that every a^3, a^2, a, has a corresponding factor in b, c, x, y, z. It is plain that a, b, c, x, y, z, are symmetrically involved. Now the *form* of the expression will not be affected if we change every z into y, every y into x, every x into c, every c into b and every b into a. The result of this would be $27a^6$. Let us separate this into symmetrical factors and we have $3a^2.3a^2.3a^2$, *i.e.*, $(a^2+a^2+a^2)(a^2+a^2+a^2)(a^2+a^2+a^2)$. We require now to reverse the process by which we obtained $27a^6$, and form factors involving all the 6 letters symmetrically. Change one of the a's to b, one to c, etc., and we have $(a^2+b^2+c^2)(a^2+b^2+c^2)(a^2+b^2+c^2)$. Now change a to x, to y and to z, etc., and we get

$(ax+by+cz)(ay+bz+cx)(az+bx+cz)$, and these are the factors of the given expression.

EUCLID III. 31.

SIR,—The proof of the third part of this Proposition is, in the text-books, almost, or quite, universally made to depend upon Euclid III. 22. This is not necessary, for, taking D any point in the arc ADC, if we join AD, BD, it is at once seen that the angle BAD is greater than the angle BAC, *i.e.*, greater than a right angle, and the segment BAD less than segment BAC, *i.e.*, less than a semi-circle. Hence, etc.



Again, since the angle BAD is obtuse, the angle ADB is acute, and it is in a segment ADCB greater than a semi-circle. Hence the second case is proved—R. TUCKER, *in Educational Times.*

School-Room Methods.

ARITHMETIC.

MISS ELIZABETH MURRAY, KINGSTON, ONT.

SECOND PRIZE PAPER.

IN the lesson on the Application of the Decimal System to addition and subtraction there was less variety in the method of treatment than in the lessons on Reduction. The lesson that received honorable mention—"Wolverton's"—differed from Bridget's in being rather a description of method than a lesson, and in using dollars, dimes and cents instead of cubes and parallelopipeds.

In carrying in subtraction all agreed on subtracting one from the minuend figure. We have heard teachers argue with much force that the old fashioned method of adding one to the minuend figure is the more rapid and simple to practice, equally logical and not much more difficult to explain to the pupil. The word "borrowing" is inapplicable to the latter method.

The following is Bridget's lesson;

APPLICATION OF THE DECIMAL SYSTEM IN ADDITION AND SUBTRACTION.

I. The apparatus needed for this lesson are small cubes, representing units; sticks equal to ten of these cubes, for tens; and for hundreds parallelopipeds, equal to ten of the sticks laid side by side. These objects are arranged by the class as required, on a table in plain sight of all.

The teacher says: Get me 2 hundreds, 5 tens and 3 units, Tom. Tom places them on the tables, the units at the right hand side of it, left of them the tens and the hundreds.

5 hundreds, 6 tens and 9 units, Agnes. Agnes places hers in the same order.

7 hundreds, 5 tens and 4 units, Mabel.

When these are placed, the teacher says: Now, I want you to find out how many hundreds, tens and units we have laid on the table altogether. How shall we do that? Hands go up, and Arthur says, Add them up. Will it matter which we add first? This puzzles them a little, but Jim doesn't see how it can make any difference. No, Jim, it doesn't really make any difference, but it is easier to begin with the units.

Agnes says: We have 16 units. But what must we do whenever we have ten units?

We must change them for one ten.

Do so, Mabel. Mabel puts ten of the units away and replaces them by one ten.

Does that change the value of what we have, Jim?

No. Why? Because 1 ten is worth the same as 10 units.

Right; now we have obtained part of our answer. What part, Sam?

We have found out how many units we have. There are six.

Yes. What shall we add next, Mabel? I think we had better add the tens, as they come next the units. That is right; how many tens are there? There are 17.

Where did this extra one come from? (pointing to the one for which the units were exchanged.)

That is the one we made out of the units.

Yes, and as we want to find out how many we have altogether, we must add it in too. Sam's hand is waving wildly and he says: We cannot have 17 tens; we must change 10 of them for 1 hundred. This is done, and the hundred obtained is placed with the other hundreds.

How many tens now, Arthur? Seven.

What part of our answer have we now, Agnes? Seven tens and six units.

What shall we do now, Sam? Add the hundreds; there are 15. Where did this come from? We changed ten tens for it. Right; now we have added them all. How many altogether, Mabel? 15 hundreds, 7 tens and 6 units.

We will try again. Get out 4 hundreds, 2 tens and 7 units. We will do this one on the blackboard also. 3 hundreds, 1 ten and 5 units. 2 hundreds; 7 tens and 3 units, Jim. Which are we to add first, Agnes?

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 427
 315
 273
 ———
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The units. How many, Sam? Fifteen; but 10 of them must be changed for one ten. Mabel removes the units and places the one ten with the others.

Then how many units have we, Tom? Five.

Where on the blackboard shall I put that part of the answer? It must go under the units.

What shall we do with this extra ten we got for the units? We must put it with the tens.

I think a good place would be up here at the top.

What next, Sam? We must add the tens; there are 11.

What must we do with them, Agnes? We must change 10 of them for 1 hundred.

Where shall we put that hundred? In the hundreds' place. Yes, up at the top as we did before. How many tens have we, Jim? Just one. We will put that down under the tens. Now add the hundreds.

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  11
 427
 315
 273
 ———
1015
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There are 10, and we must put that down under the hundreds. Right. Now tell me the whole answer, Mabel.

Ten hundreds, one ten and five units.

Can you read the number, Tom?

Ten hundred and fifteen.

II. Get out 4 hundreds, 3 tens and five units, Agnes.

Now, I want you to give me 2 hundreds, 5 tens, and 7 units. When we add, which row do we begin with? The units. Yes; and we will do the same in subtracting.

How many units did I ask for, Mabel?

For seven; but I cannot give them, for there are only five here.

Think about it. After a pause Arthur's hand goes up and he says, I know. We can change 1 ten for 10 units, and then we'll have lots.

Will the value be changed by doing so? No; for 1 ten and 10 units are equal to one another.

Agnes changes 1 ten for 10 units, and says, I have 15 units now, so I can give away 7 and have 8 left. Right. And how many tens have you now? Only two. How many are you to give away? Five, and Sam looks hopelessly at the problem while the others wave their hands anxiously. Well, Jim? We must change 1 hundred for 10 tens.

How many tens have you now, Sam? I have 12, and 5 away leaves 7.

How many hundreds have we now, Agnes? Three, and if we take away 2 we have 1 left.

What have you left altogether? One hundred, 7 tens and 8 units.

We will try again, and this time I will put down the numbers on the blackboard. Get out 5 hundreds, 2 tens, and 6 units.

From that take 2 hundreds, 4 tens, and 9 units; go on, Mabel.

We cannot take 9 units from 6 units, so we must change one of the tens into units.

What *will* we have then, Agnes? We will have 16 units, and 9 away leaves 7.

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 41
526
249
———
277
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Where shall I put that part of the answer, Jim? Under the units.

How many tens have we now, Arthur? We have only one.

I think we had better change it on the blackboard then, so that we may not forget. We will cross out the two and write the one above it. What next, Sam?

Sam is not to be puzzled this time, and answers, We cannot take 4 tens from 1 ten, but if we change 1 hundred into 10 tens, then we will have 11 tens.

Yes, go on, Jim. Eleven tens less 4 tens will leave 7 tens.

Put that under the tens, says Mabel.

How many hundreds have we now, Agnes? We have 4 hundreds left. We will change the figures on the blackboard as we did before. Go on, Sam. Two hundreds from four hundreds leaves two hundreds. Yes, we set that down under the hundreds, and we have the whole of our answer. What is it? Jim reads it.

Two hundred and seventy-seven.

Is that what is on the table, Arthur? Yes; two hundreds, 6 tens and 7 units.

It is almost unnecessary to say that this is only an outline of the work. Many more examples of both rules should be given, and as soon as the children can reason the process out without the aids of objects they should be required to do so.

A SPRING STUDY.

BY E. O. FIELD.

NAME some buds with velvety scales. Name some buds with sticky scales.

Note in a blank book the first day you can find the willow buds swell. Note the first sign of blush or color in the willow twigs.

Note the first day the horse-chestnut bud swells. Select one bud, the first that you see swell, and draw the way it looks each day. Date each drawing. Tie a bit of ribbon on the stem near it, so that you will know it.

Watch a lilac leaf bud in the same way.

How long from the first swelling before the scales fell from the pussy willow? horse-chestnut? lilac?

How long from the falling of the scale to the perfection of the leaf in the horse-chestnut? lilac?

Where is the flower bud of the lilac?

How soon after the leaf-bud opens before the lilac flower bud comes into activity?

In which trees are the bud leaves rolled very tightly?

In which are the leaves rolled up like a horn?

In which are they rolled that you can see only the under surface? in which only the upper surface? which like fans? which along the mid-vein, with one-half the blade placed on the other?

How does the birch open? willow? cherry? peach? apple? maple? tulip tree? fern? currant? oak? violet?

Which are rolled? folded? packed?

Which unroll the quickest?

It what order do the leaf buds unfold of all the trees you know? Make a list, with the day the buds first swell and the day the first leaves are out.

What trees bloom before they leaf?

Watch the flower bud of the cherry. Draw it daily.—*The American Teacher.*

THE best part of one's life is the performance of his daily duties. All higher motives, ideas, conceptions, sentiments in a man are of no account if they do not come forward to strengthen him for the better discharge of the duties which devolve upon him in the ordinary affairs of life.—*Henry Ward Beecher.*

The Educational Journal.

Published Semi-monthly.

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J. E. WELLS, M.A. - - - - - - - *Editor.*

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TEACHERS' CONVENTIONS.

East Bruce, May 4th and 5th, at Kincardine.
Brant County, May 11th and 12th, at Brantford
Haldimand County, May 22nd and 23rd, at Caledonia.
East Kent, May 25th and 26th.
North Simcoe, May 25th and 26th, at Collingwood.
East Gray, May 25th and 26th.
Haliburton County, May 18th and 19th, at Haliburton.
Prince Edward County, May 18th and 19th, at Picton.
East Victoria County, May 18th and 19th, Lindsay.

Editorials.

TORONTO, MAY 1, 1893.

TO WHISPER OR NOT TO WHISPER?

ONCE more we are asked the ever-recurring question: "Is it wise or right for a teacher in an ungraded public school to entirely prohibit whispering without permission during school hours? If not, how far should whispering be tolerated?"

We should like very much to learn the opinions and practice of a large number of successful teachers upon this point. Why may we not have a little symposium upon it? We will esteem it a special favor if every teacher of an ungraded school who is fairly well satisfied with the success of his (or her) own method, will send us on a postal card by next mail, a statement as to what his rule or law, if he has one, in regard to the matter is, and how it is enforced, adding any opinion, fact, or argument which may be put within so small a compass. We say a postal card, not that we would be unwilling to publish longer letters or articles upon this very important practical question, if favored with those that are suitable, but that we wish to get as wide an expression as possible, believing that in a multitude of counsellors there is safety, and because we hope that many who might shrink from writing a longer article may not object to putting the result of their thinking and experience upon a postal card. The name of the writer will not be published without permission, though it should be given us in confidence. Of course we should prefer to give name and location. We are sure that such a journalistic conference would be very helpful as well as interesting to many. What say you, friends? Will you not earn our gratitude and that of many a fellow-teacher by sitting down at once and giving your view and practice in twenty-five, fifty or a hundred words, as you may prefer?

A STEP FORWARD.

UNDER this heading the *Christian Union* has the following remarks on examinations for promotion. We reproduce the article, not because we are fully prepared to endorse the views presented, but because we think them to have much force, and to be entitled to serious consideration. There is, we believe, great educational utility in a written examination of the right kind, and our assent to the arguments in favor of the abolition of the examinations for promotion would be conditioned largely upon the methods of teaching used in the regular work of the class, and especially the frequent use of the pen by the pupils in work equivalent to that called for in the written examination. One of the serious objections to the "Step Forward" seems to us to be that it gives to the teacher into whose classes the promotions are made no voice in a selection in which he is most deeply interested.

We should be glad to have the views of inspectors and others who have made trial of both systems:

Cleveland, O., has taken a wise step. It has abolished in the Public Schools examinations for promotion. Every observing, thinking person knows that an examination is no real test of a pupil's ability. The only test that is true is the record of the student's work shown each day. The mental strain that even small children are compelled to endure in most schools twice a year is a nerve-destroying, cruel, unnecessary torture. The writer remembers a school in Connecticut which for years had followed the old practice of semi-annual examinations preceding promotion. Fortunately, the principal, who had been most strenuous in demanding that this heathenish practice should be followed, was followed by a teacher who was made a teacher by God and by training. He announced three months preceding the usual time for examination that there would be no examinations at the close of the term, that the pupils from the several grades would be promoted on the judgment of the teacher, that those who were not able to keep up with the class when promoted would be dropped back, and that the teacher would be expected to fit these to pass into the higher grade and remain there at the close of the next term. This plan was followed. Of course due announcement was made to the children. Those old enough were made to understand that their examination was going on each day, and it was the record of the term's work that would promote them, not the chance results of a good memory and cramming. The promotions took place, each teacher acting on her own honor during the entire term.

The result of this system was that neither teachers nor pupils were nervously exhausted. There was no omission of lessons because of examinations; the work went quietly on in each department or class-room, and on the appointed day the changes were made. The afternoon preceding the change each teacher told her pupils to come into her room as usual the next morning, and then it was announced who would be compelled to remain another term in the room because of poor work. It was a great surprise to the older ones, who did not believe that the new plan

would be followed. There were tears and protests, but they carried no weight. The effect of this natural system was shown in that school in two years' time. The grade throughout the entire school was raised; a new spirit of work as well as of harmony developed between teachers and teachers, as well as between teacher and pupil. What was done in a graded school in a New England village can be done in a city school. Of course the character of the teacher is the only guarantee of true work, for under this system her work is tested by the next above her, and not by marks which really have no value, because the conditions under which they were made were not normal. If she is a true teacher, she does her work thoroughly. In this case three boys who had been irregular in attendance, as well as unpunctual and indifferent in the school-room, and so were not promoted, were roused up to such an extent through mortification as well as ambition that before half the term was completed, with the aid of the teacher, they were doing the same work as those who had been promoted, and at the next promotion skipped the next grade, once more marching shoulder to shoulder with their former companions.

TWO SEED THOUGHTS.

IN a recent address Sir John Lubbock put two educational principles of great value in simple form and small compass. There have been, he said, and indeed, still are, two common mistakes about education. One is that education is a matter of books; the other that education is only for children. Education that depends upon books is very one-sided. Education that ceases when the child leaves school is no education at all.

The idea that education is a matter of book-lore is becoming pretty well out-grown in this country, but we sometimes fear that the one error is merely giving way to another, and that many are coming to regard education too much as a matter of noting little peculiarities of insects and flowers and other natural objects. Not that we are disposed to underrate the value of cultivating the habit of observation, and thus developing the perceptive faculties, which, under the system that was in vogue thirty or forty years ago, were almost entirely neglected. Nature-study is now becoming pretty well recognized as one of the most useful as well as delightful means of mental culture. No other mode of training is better adapted to counteract the second mistake to which the distinguished philosopher refers—that of permitting the education to end with the school days. The child whose powers of observation have been rightly cultivated in the study of the myriad objects of interest and wonder which are all around us, if our eyes are but open to see them, will have formed a habit which will be to him a source of both profit and delight as long as he lives. But in order to do this the study must be genuine, the observations truly original. The child must be taught to see with his own eyes, not with those of teacher or fellow-pupil. While systematic botany, natural history, etc., have their place and use, the semblance and show of knowledge which is produced by the memorizing of technical terms and systems of classification more or less artificial, must take their place besides the book-work which is not education. Some remarks of John Burroughs touching this point, which we have reprinted elsewhere in this number, are worthy of careful study.

But while we would thus be careful to guard against being supposed to undervalue this education of the faculties of sense-perception, we think it time that it should be plainly said that this in itself is not education, or is at best but a one-sided, unsymmetrical, incomplete education. The perceptive faculties are, after all, but one class of the mental powers, and a subordinate and subsidiary class. Their proper function is but to supply material for the use of the higher faculties. The highest and true function of the mind is the process which we call *thinking*. The business of all other faculties, those of imagination as well as of sense-perception, is to supply the material for *thought*. The only adequate test of an individual's education, is his ability to *think*. It is evident that there may be a great deal of observation, and even of classification, of a certain kind, accompanied with very little real thinking. To a certain extent there is a kind of antagonism between the observation-habit and the thought-habit. We must all have noticed that the power of observation is often in inverse ratio to the power of patient thought. As thinking proper is the highest exercise of the mental powers, so it becomes, when properly trained, the most delightful, and hence in the true educational sense, the most useful. As, apart from this, the accumulation of the largest possible store of facts of perception is of little educational value, so it is with regard to the accumulation of book-facts. This is why the true educator says, with Sir John Lubbock, that it is a great mistake to suppose that the study of books is necessarily education. Rightly used, book-lore, just as, rightly used, nature-study, becomes a most valuable, well-nigh indispensable auxiliary in the educational process.

The test of education is, as we have said, the power of thinking it brings. Hence the profit as well as the delight in the study of literature, or as we prefer to say, in the reading of books, is in direct ratio with the degree in which the student thinks the thoughts of the author as he proceeds. It is in this, too, that the pleasure is derived which is the stimulus to the voluntary perpetuation of the reading when the external necessity of whatever kind is removed. Tried by this standard, how many a university graduate is found to be uneducated. How often do we find men and women whose school opportunities have been very meagre who are more truly educated than half of those who can boast a college diploma.

A devout philosopher thanked God that in the study of His works he was permitted to "think God's thoughts after Him." Every man or woman who really knows how to read has learned the secret which enables him to think the thoughts of all the world's best thinkers after them, and has thereby become possessed of a source of pure and elevated pleasure which is lasting as life and which no vicissitudes of fortune can take from him.

THE summer school term in all Public Schools ends on June 30th, vacation thus commencing with the first day of July—Dominion Day.

EDWARD EVERETT HALE, who has just passed his seventy-first year, says that when he was a student at Harvard the general atmosphere of undergraduate life, was literary. Now he is sure that the subject which is more talked about than any other among the young fellows is athletics. Professor Drummond, on the other hand, seems to think that athletics does not yet receive sufficient attention. "In former days," he said, in one of his Lowell Institute lectures, "every man was an athlete; now you have to pay to see one." The two apparently conflicting opinions are easily reconciled when we remember that the tendency to make athletic games professional and a means of prize-winning and money-making, has the effect of leading to excessive devotion to them on the part of a few, while what is really wanted in order to the national good is that they should be practiced in moderation by the many. It avails little for the physical development of the nation or the race that one man in a thousand should be a trained athlete, so long as the remaining nine hundred and ninety-nine eschew proper exercise in the open air. We are not aware, however, that the athletic craze has yet taken root in Canadian colleges to an immoderate extent, and we hope that as a rule the literary atmosphere still lingers in their halls and grounds.

Special Papers.

VERTICAL VERSUS OBLIQUE PENMANSHIP.*

A. F. NEWLANDS, DIRECTOR OF PENMANSHIP, KINGSTON PUBLIC SCHOOLS.

ALTHOUGH nearly everyone in this country is able to write, there are comparatively few who write well. Excepting those who fill situations for which a good style of writing is positively necessary, it may be said that bad writing is the rule. Merchants, lawyers, tradesmen, and, I may add, a large number of the teachers, in fact, all who may write badly if they choose, with few exceptions, do so.

Journalists, more than others, are frequently made to notice how extremely prevalent the blind style is. I heard a journalist remark recently that not one letter or manuscript in twenty was well or legibly written.

Now, there must be some reason for this universal depravity in handwriting. Legible writing must be a difficult art; we must be indifferent to its importance; the teaching of writing in primary classes must be very defective; or our system is wrong. I fully believe the fault to be in the system, and will endeavor to prove it.

abcdefghijklmnopqrstuvwxyz

At the beginning of the present century we had the round, sloping style, which is a slight modification of the italic print. This continued to be the prevailing style of writing for the first quarter of the century. In America, there was then a gradual reaching out for a shorter method of getting at a normal hand. After passing through several stages, the semi-angular hand, generally known as the Spencerian, was the result. This style has been improved and perfected, and is to-day the standard all over this continent.

abcdefghijklmnopqrstuvwxyz

All the down strokes are shaded in the old round hand; in the semi-angular hand the shading is largely omitted. While the latter style is superior in ease and rapidity to the former, it has lost very much in legibility.

Many present have no doubt observed and noted the important reform in school penmanship that is sweeping over Europe, and has already awakened considerable interest in this country; that is, the change from the oblique to the vertical style, a system originated by John Jackson, F.E.J.S. According to authentic report, the new system has become established in England, Austria and Germany; and France is taking steps towards its general introduction. In a recent number of the New York *School Journal*, I noticed a paragraph copied from a foreign exchange, to the effect that the teachers in Switzerland were agitating for its adoption.

For several years I taught the Spencerian style, and, though not satisfied with the results in some respects, I sincerely believed it much better than any other system. From time to time I heard of educators abroad advocating vertical writing, and last year, in an interview with a gentleman who had spent some time in Europe investigating educational matters, I received a brief description of the movement there which led me to experiment. My conversion was gradual but sound. For six months we have been using the new system in the Kingston Public Schools, and our experience is most gratifying.

In the new system we base our script on the Roman letters, the forms universally used not only in primary and secondary education, but in our newspapers, magazines and books; the forms recognized as the standard by all artists, lithographers, engravers and typefounders as the most sensible letter for printers' use, and one that lends itself most readily to artistic design. The vertical script has the advantage over the sloping at every point. It is more legible, speedy, economic, easy to teach, easy to learn, and hygienic, than any oblique system.

abcdefghijklmnopqrstuvwxyz

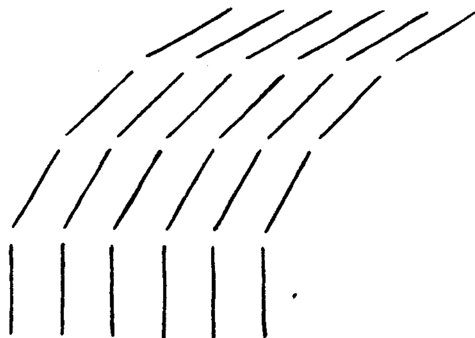
The prime requisite of good writing is legibility. We all dislike reading an author who does not express himself so as to be easily understood; how much more a writer who wastes our valuable time and our still more valuable energy of eye and nerve and brain, to discover even the words he has used. As a medium of thought-expression, therefore, that is the best writing which requires the least effort on the part of the reader.

To be legible, the lines of the letters must be separate and distinct. Geometric principles demonstrate the fact that, as the writing slopes the down lines approach each other, consequently the more the writing slopes the more illegible it becomes. This may be illustrated by a very simple experiment. Here we have four sets of right lines all drawn from equidistant points.

You will observe that they become less distinct with every degree of slope from the vertical, and while a single glance will enable the eye to determine the number of lines in the lower row, those in the top row can be counted only by being regarded separately. You can get the full effect of this experiment by half closing the eyes.

Oblique writers have recognized this principle to the extent that they have striven to secure legibility by spreading out their writing. By reference to the foregoing simple illustration it will be seen that, for an equal degree of legibility, a number of oblique lines must be given much more space than the same number of vertical lines, hence, the eye has much farther to travel to take in the same number of symbols. Thus it will be seen, what they gain in legibility, by their extreme spacing, is fully counteracted by the increased length of words. To realize this truth, try to read aloud a page of unfamiliar writing so spread out that two or three words fill a line.

No one, I am sure, would venture the assertion that Italic letters are as easily read as the Roman. Had we been doomed to read our newspapers, magazines and books printed in Italics, as we should have been had printers not emancipated themselves from the mediæval style and adopted the clear, bold and plain Roman type, it is probable that as a result every pedagogue here would be trying in vain to decipher these characters with the assistance of those optical instruments commonly called spectacles.



Fancy a typewriter manufacturer turning out machines fitted with Italic type instead of the standard Roman. A market for such a style would be rather hard to find. Why, then, may I ask, have the standard written characters not been made to conform and keep pace with the standard print?

Advocates of Spencerian, or oblique penmanship, have always claimed speed to be its principal advantage over every other style of writing, and the term, "a rapid running hand," has always been associated with it. With others I fully believed, with a well-developed movement and the Spencerian forms of letters, the most legible writing at the highest rate of speed could be produced. Contact with very rapid writers in the business world, however, forced upon me the fact that about ninety per cent. of them were writing anything but a Spencerian form, or even a modification of it, and that editors, reporters, telegraph operators and bank clerks, with hardly an exception, write a sort of vertical hand. One of the most rapid writers in our city is the proprietor of one of the daily papers. His writing is as clear and legible as one would wish to read, even when written under great pressure. Having often watched him when at work, I wondered why, with all my training in this branch, I could not get up such speed. I understand it now. In the first place, he had a freer and better position (although I did not think so at the time), about the same that we advocate for vertical writing; then, he pulled the pen, while I had to push it. The testimony of nearly all good business penmen is, that it is much easier to pull the pen in writing rapidly than to push it. One reason for this is, the upward and forward stroke of the oblique writer encounters more opposition from the paper, and is consequently much harder to make, than the side stroke peculiar to vertical writing. The tendency of the pen in oblique writing to pierce the paper and spatter the ink is well known. Take any pointed instrument and push it for a long time along even the smoothest surface, and afterwards pull it; you will at once realize the difference between the two movements.

Telegraph operators, taken as a class, can probably write faster than penmen in any other calling. Many of them, it is said, can make a legible copy at the rate of forty, and some at from forty-five to forty-eight words per minute. Great similarity in the appearance of their writing is noticeable. It is very smooth and open, owing to their great freedom of movement and the pull of the pen. After careful calculations it is found that vertical writing necessitates the pen travelling over twenty per cent. less length of line than oblique writing of the same size, and therefore occupies twenty per cent. less time. Unless the advocates of oblique writing can prove that it takes as long to make a four-inch line as it does a five, it is evident that vertical writing must be more rapid than oblique. To this gain of twenty per cent. we may safely add fifteen per cent. for ease of movement and position.

The position of the writer has much to do with the freedom of movement and therefore with the question of speed. The stiff, constrained, and twisted position of the body, arms and hands of the oblique writer, in a word, a cramped position, is incompatible with the freest movement, while the natural position of the body, arms and paper of the vertical writer is assuredly an easy position, and therefore must be more favorable to the highest rate of speed. Having been trained by some of the best teachers of Spencerian penmanship in America, and having afterwards studied, practiced and taught the same for seven years, I should know something of the possibilities of speed in that system. I have been six months using the vertical system, and already I can write at least thirty per cent. faster than I ever could the oblique.

Economy has also something to say in this argument. The evidence already submitted ought to convince anyone of the great saving of time to both the writer and reader. To this I may add my own testimony: if I were still writing the oblique style, I should count almost one-third of my time utterly wasted. The saving of eyesight and of nerve and brain power has already been referred to, but we have yet to speak of the economy of space. As previously stated, in order to make it legible, oblique writers find it necessary to spread their writing very much. I have in my possession a number of letters from dashing writers of the oblique style in which they get very few words on a

* A paper read before the Public School Section of the Ontario Educational Association, April 6, 1893.

whole page. The more freedom of movement they possess the more they spread their letters. Several times I have heard employers complain of the space taken up by office assistants in making entries in the books. This applies in almost every position where pens and paper are used. After being carefully tested, the difference between the standard vertical and the standard oblique regarding the space occupied was found to be in the ratio of seven to ten, that is, the vertical occupies seven-tenths the space required by oblique writing of the same size. This may at first thought appear a very trifling matter, but when we consider that it means a saving of thirty per cent. on all stationery bills it becomes a matter of considerable importance, especially to large commercial firms, and to the poor man's populous family at school. To teachers also this is important; nearly one-third more matter can be placed upon the always limited blackboard space. The weary hours spent in reading the pupils' written work will be reduced by fully one-third.

To sum up,—if it were possible to measure all of these savings, of time, of space, of energy and of health, it would place the economic importance of the change proposed almost beyond estimate.

The question that will probably interest most teachers is: How does it affect the teacher and the pupil? Is vertical writing as teachable as sloping writing? This is the point that I was most doubtful about when considering the merits of the two styles. In order to determine as to which had the advantage in this respect, I first made a test on a boy about sixteen years of age who had passed through my hands in his Public School course, and who made little or no progress in writing. He was what we call a naturally bad writer. He had apparently little power of conceiving form, nevertheless he had very little difficulty in learning to write a fairly good vertical hand. Since adopting the new system in our Public Schools, it has been forced on my attention that these so-called naturally bad writers have made more progress in the last six months than they did in almost as many years before.

At the time of its introduction all the pupils strongly objected to the change. About three months later, in order to find out how many would like to change back to the old style, I took a standing vote in a class of boys where at first they had been rather free with their expressions of contempt for the reform, but one boy in a class of fifty voted for a relapse. When asked the reason for favoring the new style, the answer from all was: "It is easier."

In two classes—the commercial class and the sixth class for girls—we made vertical writing optional, for the reason that most of the pupils already wrote well and on account of their probable short stay in school. In the former but three out of a class of forty-eight still cling to the slope. In the latter all are taking up vertical writing. Pupils, as a rule, will not favor a difficult way of doing things when they are equally familiar with an easier way, therefore, I consider the decision of these pupils rather significant.

In order to ascertain the attitude of the teachers towards vertical writing, at the time of its introduction, and after six months' experience, a voting list was circulated. Last September eight favored it, ten were neutral, and twenty-one were opposed to it. Now two are opposed to it, two neutral, and thirty-five in favor of it. One significant fact revealed by the voting is that all the primary teachers are enthusiastically in favor of the change. In these classes the experiment was made under the most favorable conditions, having less opposition from previously formed ideas and habits.

Aside from this evidence, that it is easier to teach and learn must be patent to any one who has had experience in teaching children to write and who gives the matter a thought, as he must know how difficult it is to train children to write all their letters on the same slope. Each child gets his own degree of slope and makes infinite variations of it on the same page, if not on the same line, while in vertical writing there is but one definite and easily determined direction for all the main lines.

All must acknowledge that hygienic considerations are of supreme importance, and should receive most careful attention from every teacher, and connected with this thought are some of the strongest arguments in favor of the vertical system.

The best position that a pupil can assume for sloping writing causes the lower part of the spine to bend to the left. The curve or backward slope of the surface of the seat would seem in a measure responsible for this; but even on a level seat, if such still exist in any school-room, the same conditions must prevail. The left arm is deprived of its support, as it is the prop, the left shoulder is therefore allowed to fall lower than the right, thus curving the middle of the spine to the right. The position of the paper on the desk, together with the main lines of the writing, leads to inclining the head to the left in order to view the work properly, thus causing a constant strain on the muscles of the neck and continuing the curve of the spine.

Think of the thousands of Public School children in Ontario who are supposed to be trained in such a way as to make the most of their mental and physical powers allowed to assume day after day, through all the years of school life, a posture which naturally leads to deformity and disease.

In writing for any length of time, continuously, there are certain parts of the body that exhibit signs of fatigue and even of pain—viz.: the eye, hand, chest and spine. Almost any one who writes the sloping hand and finds it necessary to cover large quantities of work in the least possible time can testify to the weary eye, pained wrist, distressed chest, and aching back, as well as great nervous exhaustion. These conditions prevailing from day to day have been found to be the most fruitful source of short-sightedness, spinal curvature and diseases.

It may be questioned by some that such apparently slight causes should produce these terrible physical evils, but the testimony of many of the most distinguished medical men in Europe who have instituted formal investigations for the purpose of discovering cause, stamp it as an indisputable fact.

The well-known Drs. Berlin and Remboldt, who made for the Wurtemburg Government an exhaustive inquiry into the effects of handwriting upon the eyesight and spinal malformation, show conclusively that the sloping style causes the head to hang over, one shoulder to droop, and the spine to curve, so that the writer soon grows weary. A natural result of this position is spinal curvature. In numerous instances the eyes also are injured, especially where a large amount of writing has to be done.

The Supreme Council of Hygiene of Austria has recently been engaged in discussing the advantages of erect as compared with slanting writing, and the official report of Drs. Von Reuss and Lorenz points strongly in favor of the former. They point out that the direction of the written characters has a marked influence on the position of the body. In "straight" writing the scholar faces his work, and is spared the twist of the body and the neck, which is always observable in those who write "slantwise," and one common cause of spinal curvature is thus obviated. The erect style is, therefore, recommended for use in schools in preference to the ordinary sloping lines.

At the late International Congress of Hygiene and Demography in Section 4, which was concerned with the hygiene of infancy and school life, a resolution was passed in favor of the teaching of upright penmanship or vertical writing, on the ground that spinal curvature and short sight are caused by the faulty position of the youthful student necessitated by the slope of the letters.

Medical men in France also recognize the necessity of teaching upright writing, and there the reform has many warm advocates. Among others M. Javal has made an interesting report to the same effect to the French Academy of Medicine.

A lady, recognized as an eminent authority on physical culture, recently gave it as her opinion that in America 50 per cent. of the women have some degree of spinal curvature, and 75 per cent. have some inequality of hips or shoulders. The chief cause, she thought, was the position occupied at school desks.

Mr. Noble Smith, F.R.C.S., who is considered one of the first authorities on spinal curvature, speaks most emphatically of the detrimental effects of oblique writing. His extensive hospital and other practice, and his intimate acquaintance with school hygiene, especially with reference to posture, give his utterances the weight of the highest authority. After making an official and formal inquiry into the question of posture in writing, he publicly declares in many works that "the postures of young people assumed in the sloping writing are one of the chief factors in the production of spinal curvature; and although good seats and desks are a great help in securing a better position, it is impossible for writers to avoid twisting the spine unless they adopt an upright style of calligraphy. Vertical writing is consistent with all hygienic principles."

In the position for vertical writing the upper part of the body remains upright and is supported by the spinal column, which is prevented from becoming tired by resting its lower portion against a support and thus levels the hips. The forearms, not the elbows, are laid on the desk in a symmetrical position, being the shoulder props they bring the transverse axis, the connecting line between the shoulders, and the transverse axis of the head parallel to the edge of the desk. The latter is lowered but slightly, not more than is necessary to obtain a clear view of the paper, which is placed slightly to the right of the median line of the body. As you may see, there is absolutely no twist in any part of the body; it leaves the spine perfectly straight.

Finally, to summarize, judgment is claimed for vertical writing upon the consensus of opinion of all who have examined the matter with care; upon our own observation and careful experiments, and upon the strong unanimous testimony of the most eminent medical and educational experts.

All these agree that:

1. It greatly facilitates legibility and rapidity, the prime requisites in writing.
2. In it all hygienic conditions are most favorable.
3. It is more easily learned than any other style, and hence will earlier become an aid in the teaching of all other school studies.
4. It materially economizes time, material, as well as physical, mental and even moral energy.

It is the writing of the future. When it generally prevails, talking with a pen will be accomplished with as much freedom and grace and almost as much pleasure as talking with the tongue.

Should any one then try to create a craze for sloping writing it would meet with as much public indignation and ridicule as the recent threatened revival of the crinoline.

Correspondence.

THE RAISING OF HANDS.

To the Editor of THE EDUCATIONAL JOURNAL:

SIR,—In the late issues of THE JOURNAL I see some correspondence in regard to "the raising of hands," and, as you invite discussion, I submit the following:

The chief objection to the system is the temptation to which it subjects the pupils. When a teacher assumes control of a school he knows nothing of the scholars, who may, therefore, to some extent, practice dishonesty and deceit. But very soon he knows every scholar—knows who is honest and honorable, and who is inclined to dishonesty. When hands are raised let it be his rule to ask him whom he thinks dishonest or at least likely to answer. Failure to respond, after professing the ability to do so, will cause the pupil, if dishonest, to feel ashamed of his act. Will humiliation before all his companions be a "great temptation" to the scholar? We think not.

When the temptation is thus removed every scholar with the raised hand is ready to answer, and the raised hand indicates thought, and therefore, increased power in the pupil. Besides, finding these cases of dishonesty, as he will at first, affords the teacher an opportunity for moral training that will confer lasting benefit upon perhaps the entire school; by so strengthening them that they are better able to resist other temptations that cannot be removed.

The greatest advantage of the system, however, is this: The teacher can see when it is best to request an answer. If the great majority are ready, he proceeds; but if the minority, or even a small majority, are ready he can, by a little judicious questioning, bring others to the right conclusion, having caused a growth of power in every pupil. Whereas the other system, having one answer as soon as the question is asked, stifles independent

thought in the others, the duller ones especially, by interrupting them before they have had time for consideration sufficient to enable them to answer.

As a matter of experience I have not found the system to lead to embarrassment, disorder, and confusion, while the plan above suggested has always sufficed to prevent deception, save in very exceptional cases where the offender was such that no appeal to his better nature, nor any degree of humiliation, would have any reforming effect upon him.

INNERKIP, ONT. W.H.D.

English.

Edited by Fred. H. Sykes, M.A., EDUCATIONAL JOURNAL, Toronto, to whom communications respecting this department should be addressed.

THIRD READER LITERATURE.

(FIRST PRIZE PAPER.)

"THE ROAD TO THE TRENCHES."

MISS M. A. WATT.

THE literature lesson has a threefold division, though, one might say, it takes in its circle a glance over the whole curriculum of our schools. Its first and, probably, grandest work is the cultivation of taste, of imagination, of the perception of the beautiful or the false, and the training of the youthful mind to reject the poor, the untrue and the low in their reading. The second part of the literature lesson is the examination of the special lesson surroundings and the discovering of meanings of words, phrases or idiomatic expressions, and the third division has to do with the training of the child in expressing correctly and thoughtfully his knowledge or opinions. Mere rote work can never be successful in fulfilling the first consideration, and it will leave the pupils helpless to grasp the meaning and power of new extracts, that may be presented to them. The rote work of meanings and pronunciation may be gone over by having the extract as a spelling lesson some time during the term, before it is considered as a literature lesson, but the reading of it as a reading lesson may be left until after its thorough study is over. The "Road to the Trenches" is long enough for three days' work at least, having a review at the end in the shape of an examination.

Title.—Class open books at page 221. Read title silently. Write on paper words not understood, questions suggested. (*Trenches? Road to Trenches?* Lushington, who?) Teacher and pupils arrive at meaning of title, conversationally, helped by picture.

Whole Extract Presented to Class.—After directions to pupils to note any word not understood, especially asking them to form a picture in their mind's eye of the scene, the teacher reads, with as good elocution and impressiveness as lie in her power, the *whole* extract. This gives a view of the scenes of the extract from beginning to end, no stops disturbing the perspective.

First Stanza.—Returning to first stanza, the teacher re-reads it, inquires what words are not understood, what expressions are obscure, explanations are given by pupils as teacher leads up to them, eliciting as much as possible from pupils, avoiding cut-and-dried meanings, seeking originality as much as possible.

Questions suited to Stanza I.—Teacher asks questions which may be answered orally or on paper:

Who speaks? What does he say? What is his reason for saying "Leave me?" Who is "Sir?" Can you think what the "comrades" say and do? (put down what you think they say). Why do you think this? (if their answers are to the effect that the soldiers wished to help or stay with the dying man). Write out lines five and six so as to make meaning clearer. Why is the "snow" mentioned again in last line? Kind of country? What were the comrades' feelings? Why? What lines do you like best? Which describes best? Which makes you saddest? Character of soldier (quotations to prove latter answer). Between what lines can you imagine some one else speaking? Recite stanza I.

Second Stanza and Questions.—Read silently by pupils. Who is now speaking? Read his speech aloud. What does he say that has already been said? Why does he say it? In what points does he agree with the soldier who fell? What was the "duty" they had to perform? What made it harder yet than it need have been? How many times the number of workers did they need for its right performance? Prove or disprove this statement, "The leader was a hard-hearted, selfish man," (story of similar unselfishness, such as "Sir Philip Sidney at Zutphen," may be told by teacher or pupils). What word explains the meaning of "this" in line five? What plan did the soldiers take to describe the place where their comrade lay? "Larch?" Which line sounds less pleasant to the ear than the others? Why was it a "*silent* march?" Try to imagine their feelings as they went on; how would you have felt under similar circumstances? What lines are the same in first and second stanzas? Difference in last lines of each? Why is this? Part of speech of *silent* in second last line, in each case; what different form for former one should be used? Why not put in here? What is your opinion of beauty of this line and the last one? What makes it so? Which line is most expressive? Most mournful? Most tender? (Ask for opinions and let pupils do the thinking).

Drill-work in Seats.—Sketch in words the story so far, and then make an outline drawing of the scene, representing the soldiers turning away. (This brings out wonderfully the child's thought and fixes a picture far transcending his own poor outline upon his mental retina. It has a great attraction for the child, and gives manual training and practice in original sketching).

Third Stanza.—As this will likely be the work for the second day, the class may be asked for volunteers to recite the first two stanzas, and thus bring the connection of the third stanzas with their previous day's work prominently before them. Teacher draws attention to the departure of the party of soldiers, their thoughts painfully turned to their comrade, their hearts full of fear as they hastily stumble on to send him help, all is distress. But, what a contrast when we come to look at that comrade! He is at rest, beautiful dreams are soothing him, he is not in any fear. Why not let him alone? Ah, he is no judge of his danger, he is freezing to death. (A great moral lesson is paralleled here, if the teacher wishes to touch on it).

Critical Examination.—Who is meant by "he?" Turn lines *one* and *two* so as to bring out meaning. Can you do that with *three* and *four*? What makes *five* sound as well? Have you noticed this in any other lines, which ones? "This body of soldiers were Frenchmen." Prove or disprove? The soldier lay sweetly dreaming. What line, especially, shows the great danger he was in? Notice ending of stanza, compare with previous one, why altered each time? Sketch of soldier's boyhood, as indicated by lines five and seven.

Fourth Stanza.—Where have the party of soldiers gone? imagine scene when they relieve the guards, haste is enjoined, place described, restoratives are called for, and the relieved guard hasten off. Teacher reads stanza with eager emphasis and graphic gesture — Class, probably, inquire meaning of "stark."

When they found him how did they know the place? Why *growing?* Opinions regarding life in person under snow. (Snow sometimes is a heat-conserver). Draw attention to consonants in line *three*, and effect of the distribution, notice repetition of words and effect of it, also rythm and rhyme.

Fifth Stanza.—"Strong hands—voices strong," picture, (afterwards position of the word "strong" may be noticed). Did he like to be disturbed? Why? What is meant by "neither?" What is meant by "one?" Why do men endure such distress and difficulty? (Lesson of patriotism here; boys are frequently fired as much by hardships of a soldier's life as by its brighter side). Which is harder, to die in battle or as this soldier died?

Last Stanza.—Why does the poet say, "*Simply* done his soldier's part?" What tribute is paid to soldiers in this stanza? What does "all" include? What seems saddest in this stanza to you? Why nameless, did his comrades not know his name? What climax has been reached, in which the "snow" is again mentioned?

Review.—Glance back over the poem, and ask for opinions on such points as *moral lesson* (if any), *effective parts, defective construction* (not for idle criticism, but to develop taste), *comparative beauty of stanzas.* Finish up oral part of work by a recitation, first by best reciter in class, then, if time permit, by others. To assist in fixing in the memory have the poem written out as beautifully as each pupil can as an exercise in writing. The examination for special review may consist of such questions as will embrace in their scope the principal points gone over.

CORRESPONDENCE.

ENQUIRER.—In the sentence "Like summer tempest came her tears," "like" is a preposition; "came like tempest" shows the relation.

SUBSCRIBER.—(1) The possessive case of "me" is no longer in the language. It gave rise to the *possessive adjective* forms "mine" or "my," the former being used almost entirely pronominally, the latter adjectively. (2) In the sentence "You may have mine," "mine" is in the objective case. There is no contradiction with what is said in (1); for while according to *meaning* "mine" is the possessive form, it may be theoretically—and in fully inflected languages (cf German or Latin), is in the case of the noun qualified. In English "mine" is used pronominally and consequently is as much objective case as "her" in "You may have her." (3) "His breast was all but shot in two." This idiom grows out of the following grammatical construction. All was an adjective pronoun, pred. nom.; "but" was a preposition—except, governing a noun clause "that it was shot in two." The frequent use of the construction has resulted in the reduction of "all but" to an adverbial phrase—almost modifying "shot." It may so be treated. (4) It would be unsatisfactory to discuss your long list of synonyms except at greater length than we can afford. Why not consult a good dictionary, such as Webster's, or a book of synonyms, such as Crabbe's, where you will get quotations by which alone the distinction of meaning can be made clear.

P.G.—"Let the messenger set out at once." The sentence is principal imperative. The subject is the vague general "ye," understood; the verb is "let" (imperative mood, having "messenger" as its direct noun-object; "set" is the infinitive depending on "let"—forming with let the imperative verb-phrase (2nd per., pl. imperative); "out" is an adverb (of place), modifying "set"; "at once" is an adverbial phrase (of time), modifying the verb "let set." "Once" is strictly an adverb. But the noun force of the meaning—one time, as in "I did it once, not twice," makes possible a new adverbial phrase "at once" (cf. "from abroad," etc.) These idiomatic constructions must not be parsed closely, as they can be explained only from the history of the language.

W.J.B.—(1) The subjects of composition from the "Talisman" would naturally embrace those features of the novel which have anything like a unity—*e.g.* the various characters, the incidents of special importance, the scenes, etc. You will find a list of subjects in these lines in the Copp, Clark edition of the "Sketch Book." (2) In the sentence "He is but a King," "but" has come to have only an adverbial force. The full discussion of "but" was given in THE JOURNAL of last year, (No. for March 15th, page 681.) (3) The prevailing sentiment of "The Water-fowl" (3rd R.), is the poet's steadfast trust in God to guide and direct him, just as he guides the water-fowl. The essentially religious tone of the poem should be sufficient hint in the treatment.

E R.E.—"He wept bitterly, he was so vexed." As you give the sentence we have only two independent principal statements, with a logical (grammar and logic do not always reflect each other fully), subordination of the second principal clause to the first. This co-ordinate construction of a (logically), dependent clause (parataxis), is generally thought to be a relic of an early stage of language. Complete the reflex of the thought in the words by "because," and you have the common form of the complex sentence.

T.S.P.—Shall try to publish a list such as you ask for in next issue.

PERPLEXED.—(1) I do not think the personal

pronouns have any inflection for person—as the different persons are not formed by changes from the same root word. (2) Count, countess does not represent inflection, but derivation. (The P.S.G. is not quite strict enough in this respect desiring as it does simplicity). Both are subject to the same inflections, count's, countess's, counts, countesses. (3) In the sentence "The man, struck by the tree, died this morning," "struck by the tree" is an adjective phrase qualifying "man;" while *in the phrase itself* "by the tree" is a prepositional phrase (adverbial force, showing the manner, instrument), modifying "struck." (4) The P.S.G. means by note page 140 that the first four Subjunctive tenses and the first four Indicative tenses have the same names and in the main the same forms. That is Indic. pres., I give; Subj. pres., I give. Indic. past, I gave; Subj. past, I gave. Indic. perfect (simple), I have given; Subj. perfect (simple), I have given. Indic. pluperf., I had given; Subj. pluperf., I had given. There is a difference in form since in the Indic. 2nd person we have —st, which does not appear in the Subj. See page 120 and elsewhere. (5) Subj. perf., act. is "I (thou, he, we, you, they), have given." Subj. perf. pas., "I (thou, he, we, you, they), have been given." (6) "I shall get ready if I may go." "May go" is usually called the Potential form of "go." There is really no such mood or modal form, "may" is (here) really a principal verb, = "am allowed," in the Indic. mood, present tense. "Go" is the infinitive depending on "may" (logically an adverbial limitation of the verb "may").

A.L.B.—

"Wherever he dream, under mountain or stream,
The spirit he loves remains;
And I all the while bask in heaven's blue smile,
Whilst he is dissolving in rains."

The passage is obscure. The meaning is (I believe), that lightning guides the Cloud over hills, lakes, and plains, in short everywhere where he (the pilot), fancies that the spirit (*i.e.* electrical forces of the earth, poetically represented as a spirit beneath the mountain or stream), that he (the pilot), loves, has her dwelling. And while heaven-ward of "we" (the cloud), there is the blue sky, below "we," lightning is passing away in rain (*i.e.* the electricity of the cloud is passing into the earth, accompanied by showers of rain). "Wherever he dream" is adverbial clause of place to "This pilot is guiding me."

TEACHER.—In Wordsworth's lines:

"The father raised his hook
And snapped a fagot-band,"

The reference is to the father going on with his work after his word to the child. His hook is a sharp curved knife, with which he cuts the band (made of pliable twig), of the fagot, which apparently he is weaving into rough baskets.

ENQUIRER.—The locality of Caldon Low in Mary Howitt's poem, "The Fairies of Caldon Low," we are able to determine with almost absolute certainity. It is interesting at the outset to note that "Low" means "hill," being derived from the Anglo-Saxon "hlāw," hill, mound. The word is now only in provincial use, but is well preserved in such place-names as Ludlow. The poetess belonged to one of the Midland Counties of England; her parents lived in Uttoxeter, Staffordshire, where she married and spent almost forty years of her life. In the north of Staffordshire, about ten miles north of Uttoxeter, the village of Caldon lies among the Weaver Hills. The scene of the poem is then undoubtedly a hill in the neighborhood of the village of Caldon.

THE English editor is in receipt of an interesting letter from Mr. W. Houston, in which he strongly opposes the view expressed in a recent number of THE JOURNAL that "here" in the sentence "He is here," is an adverb. Mr. Houston holds that (1) as "is" in the sentence is a mere copula it is incapable of modification; (2) that "here" consequently has a purely adjectival relation to "he," just as "then" has in the phrase "the then minister." If we put aside the historical view, he thinks, there would be a great clearing up of grammatical difficulties.

The editor's view is in no way changed by Mr. Houston's criticism. It is rather curious that our correspondent, who so clearly sees the value of evolution in the study of the history of the present, should not recognize its value in the study of language. It is scarcely necessary, while the unanimous voice of scholars is for more light in the present by the study of the past, to take Mr. Houston's disregard of the history of our language seriously. What that history and the history of other languages say about "here" and corresponding words is quite plain. Adjectives and adverbs have in all Aryan languages a clear-cut distinction in form—adjectives are declinable, while adverbs are indeclinable. "Here" has always been indeclinable. But even if we could disregard this testimony of the language itself, we should still find grounds in the character of the word itself for regarding "here" as essentially an adverb. If "here" is an adjective, then "where," in the sentence "Where is he?" must be an interrogative adjective; so also "whence" in "Whence is he?" But "Whence is he?" means "Whence comes he?" in which everyone regards "whence" as an adverb.

There is, therefore, no more difficulty to our mind in treating "here" as an adverb modifying "is," than "now" in the "England is now, but to-morrow will have been." That "is" in the first case has a weaker content than in the second is true; yet it has not become a copula—for the synthesis of thought "He is here" is not true in the sense of "is" in "He is faithful," or "John is the man."

H.A.S.—The following books will help you in your studies of the constitution of England and Canada. Walter Bagehot, "English Constitution," etc. Kegan Paul, Trench & Co., London. Bourinot's "Constitutional History of Canada," Dawson, Montreal, or J. E. C. Munro's "Constitution of Canada," Cambridge Press, will be found satisfactory. The former is the cheaper.

Educational Notes.

FOOTBALL has a great deal to answer for. It breaks voices as well as limbs. We have often reflected that this noble and virile exercise has ruined thousands of voices, more especially of those in the teams made up from the upper forms of grammar schools and other schools for boys. The curious thing is that it often happens that parents—considerate mothers generally—of boys will request that singing lessons may be discontinued for fear of voice straining, whereas they cheerfully encourage the football exercise, in the course of which the screeching and hoarse yelling inflicts more vocal injury in an hour than the most reckless singing master could inflict in a month.—*School Music Review.*

FOLLOWING is the *Globe's* brief account of the Thursday evening meeting of the Educational Association, which was omitted from our report in last number: The evening meeting was held in the theatre of the biological building of Toronto University. There was a large attendance, and the programme was a most interesting one. President Loudon, of the University, read a paper on "Aids to Teaching Elementary Physics." It was full of practical and helpful hints to the teachers to whom it was delivered, and its illustrations by lantern projections and apparatus made it interesting to every one present. The lecture will likely bear fruit in many schools over the Province, because, as a mover of a vote of thanks remarked, it suggested methods, which in a modified form, might be made use of in the school room. A paper on "Normal Schools," by Inspector Ballard, of Hamilton, made up the evening's proceedings, except for some closing routine.

A NOTABLE array of English women will appear as representatives of English thought and work in the May congress at Chicago. The Countess of Aberdeen, whose interesting paper in the *Nineteenth Century* has recently aroused wide attention, is a delegate from the London Society for the Promotion of Women to Local Governing Bodies, and will speak on "Women in Municipal Politics." Mrs. Cobden Unwin, of the Liberal Federation, represents the general suffrage work. Lady Harberton, of the National Dress Society, will give her views on rational dress. Miss Helen Taylor, a step-daughter of John Stuart Mill, is to speak on "Social Morals." Mrs. Ormiston Chant, the Hon. Mrs. Waller, Mrs. Alice Cliff Scatcherd, Florence Fenwick Miller, Helen McKerlie, Mrs. Parkhurst, Miss Margaret Windeyer, and Lady Henry Somerset are also included in the programme. Societies,—medical, political, literary, religious, moral, educational, and purely philanthropic—have already signified their intention of sending either delegates or written reports.—*N.E. Journal of Education.*

For Friday Afternoon.

I MEANT TO.

"I DID not rise at the breakfast bell,
But was so sleepy—I can't tell—
I meant to.

"The wood's not carried in, I know;
But there's the school-bell, I must go—
I meant to.

"My lessons I forgot to write,
But nuts and raisins were so nice—
I meant to.

"I forgot to walk on tiptoe;
O how the baby cries! O! O!
I meant to.

"There, I forgot to shut the gate,
And put away my book and slate—
I meant to.

"The cattle trampled down the corn,
My slate is broken, my book is torn—
I meant to."

Thus drawls poor idle Jimmy Hite,
From morn till noon, from noon till night:
"I meant to."

And when he grows to be a man,
He heedlessly mars every plan
With that poor plea,
"I meant to."

—*Home and School Visitor.*

THE STREAM.

BY MITTIE M. ELLIS, RALEIGH, N.C.

BRIGHTLY dancing, slyly glancing,
Over rocks and roots of trees;
Sparkling, darkling, flowers refreshing,
Rippling gently to the seas—
Happy stream!

Flowers are bending, birds descending,
Dipping beaks in thy clear flow;
Tilting, jilting, tumbling, gurgling,
Where the summer breezes blow—
Joyous stream!

Run on stream, run on forever,
Gladdening little children's hearts,
Refreshing cattle, sleek and rounded,
Where the sunshine streams and darts—
Welcome stream!

When the day is closing round us,
And the birds have ceased their song,
We, like they, grow tired and weary,
But the stream still leaps along—
Ceaseless stream!

—*North Carolina Teacher.*

CONQUER YOURSELF.

IT'S no use to grumble and sigh,
It's no use to worry and fret,
It is useless to groan or to cry,
Or fling yourself down in a pet.
You'll never be wise or be great,
If you bluster like bees when they swarm;
'Tis folly your woes to berate,
And pitch like a ship in a storm.

Don't get in a tantrum and shout
When obstacles rise in your path,
And don't—let me beg of you—pout,
By way of displaying your wrath.
Don't butt out your brains just to spite
Some fancied injustice of Fate,
For time will set everything right,
If you only have patience to wait.

The blustering wind cannot chill
The lake, though he ruffles its face,
But the frost, with its presence so still,
Locks it fast in a silent embrace.
So you may win fame beyond price,
And conquer the world with its pelf,
If you will only heed this advice,
And first learn to conquer yourself.

—*Golden Days.*

Primary Department.

A SONG OF SPRING.

BY HELEN C. BACON.

(Recitation for three little girls.)

I HEARD the bluebird singing
To robin in the tree,
"Cold winter now is over
And spring has come," said he,
"'Tis time for flowers to rouse from sleep,
And from their downy blankets peep,
So wake, wake, little flowers,
Wake, for winter is o'er,
Wake, wake, wake,
The spring has come once more."

Said Robin to the bluebird,
"My nest I now must build,
And shortly you shall see it
With pretty blue eggs filled.
Then let us join once more and sing,
So wake, wake, little flowers,
That all the flowers may know 'tis spring;
Wake, for winter is o'er,
Wake, wake, wake,
The spring has come once more."

The robin and the bluebird
Soon after flew away,
But as they left the treetop,
I think I heard them say,
"If birds and flowers have work to do,
Why, so have little children too
So work, work, little children,
Work for winter is o'er,
Work, work, work,
The spring has come once more."

—*Selected.*

A TALK WITH PRIMARY TEACHERS.

RHODA LEE.

THERE never seems to be any scarcity of topics for discussion in a meeting of primary teachers. The enthusiasm and interest rarely flag. Principles old and familiar to most of us since our earliest teaching days are uprooted, examined and re-examined. The ever-increasing light of experience is thrown upon them, and treasures we little thought of are brought to view.

Some such thoughts occurred to me, when, during the Easter vacation, a few of us met in an informal way to talk over our work. "There is a single, all-embracing principle for the guidance of the primary teacher,' said one of our number, "and that is 'study the child.'" This saying may have grown old as a precept, but not as it has been practised. We must study the individuality of the child and know something of his home surroundings, if we would really do our best for him. Without such knowledge school cannot be the happy, helpful place it ought to be.

WHAT DO WE MEAN WHEN WE SPEAK OF ORDER IN A PRIMARY CLASS?

Was a question asked. It does not mean perfect quiet, although that is what some teachers vainly strive after. On the contrary there may be perfect order in the room, and at the same time considerable noise. Noise does not necessarily mean confusion. Perfect order results only when every child is doing his very best work, and the order should be that of joyous activity, not listness idleness. Obedience must, of course, be implicit, prompt and unquestioning; not from any sense of fear, but by reason of the perfect confidence that the teacher with large sympathy, strength of character and wisdom, produces in her pupils. Nevertheless, it is true that people will still continue to uphold and laud the order of Miss R———, in which the children sit like so many small statues, with power to move and think only as the teacher directs, and deplore the rational, true, child-like order of Miss C———. But that should not disturb us.

"O'er wayward children would'st thou hold firm rule,
And sun thee in the light of happy faces?
Love, Hope and Patience; these must be thy graces,
And in thine own heart let them first keep school."

"DO'S" ARE BETTER THAN "DON'TS."

Every primary teacher will admit the truth of this statement. If instead of saying "do not lounge so, Fred," you said in a cheerful voice, "A little straighter, my boy," how much more readily would he respond. Or if for the words "not so much noise, children," you substituted a remark to the effect that you thought the work might be done a little more quietly, you would realize the difference. Suppose a child has done his work carelessly; telling him so will not help matters much. Tell him, however, that you believe he "can do better work than that," and he is ready at that moment to start again and show you that your belief is well founded.

Do you ever

PLACE A CHILD'S NAME ON THE BLACKBOARD

For any little misdemeanor? Have you thought about it? Consider for a moment the feelings of a child who sees his name confronting him all day long, and greeting him morning after morning as he enters the school-room with, perhaps, a resolution in his heart to do better. But the old page is still there, and "what is the use." he says. The disgrace is at first keenly felt. Repetition tends to harden the child, and gradually the "don't care" spirit that tells him he might as well be what the blackboard says he is, takes possession of him; this spirit is not easily eradicated.

Reproof or punishment should, as a general thing, be given in private. There are exceptions to this rule but they are few in number. Far more is gained by one quiet talk after school is dismissed than a dozen before the class.

"I HAVE NO TIME,"

Some one says, "for all the language and observation lessons educationists say we should have during spring." If not *all* surely some. Make time; take it from some other subject in which the class has made rapid progress. If, by so doing, you can teach some one or two of your flock to love and revere Nature a little more, and can open their eyes to see something of the beauty in the every-day world about them, will the time be wasted? To let the newcomers pass by unnoticed—the tree buds, the birds, and the dainty little spring flowers—were almost a crime. Make each season a greater delight than the last.

"Robins in the tree-top, blossoms in the grass:
Green things a-growing everywhere you pass;
Sudden little breezes; showers of silver dew;
Black bough and bent twig budding out a-new!
Pine tree and willow tree, fringed elm and larch,
Don't you think that May-time's pleasanter than March?"

HOW THE BUDS WERE SAVED.

"I WILL drown your babies everyone," roared the cold storm wind to the brave horse-chestnut tree. "We will see if you will," said the tree to herself when the wind had gone by. In a few days the storm wind came again; but what do you suppose the good mother tree had done meantime? She had covered her babies' cradles all over with a shiny pitch so thick that not a drop of rain could get through. "Woo-ooo-oo," roared the angry storm wind. And the babies all peeped out of their cradles and laughed and nodded to each other to hear the wind roar.—*Primary Educator.*

THE following poem is from the Third Reader of the Normal Course in Reading. Published by Silver, Burdett & Co.

THE LITTLE LAZY CLOUD.

(Class recitation.)

A PRETTY little cloud away up in the sky,
Said it didn't care if the earth was dry;
'Twas having such a nice time sailing all around,
It wouldn't, no, it wouldn't, tumble on the ground.

So the pretty lilies hung their aching heads,
And the golden pansies cuddled in their beds;
The cherries wouldn't grow a bit—you would have pitied them
They'd hardly strength to hold to the little slender stem.

By and by, the little cloud felt a dreadful shock,
Just as does a boat when it hits upon a rock,
Something ran all through it, burning like a flame,
And the little cloud began to cry as down it came.

Then old Grandpa Thunder, as he growled away,
Said, "I thought I'd make you mind 'fore another day;
Little clouds were meant to fall when the earth is dry;
And not go sailing round away up in the sky."

And old Grandma Lightning, flitting to and fro,
Said, "What were you made for, I would like to know,
That you spend your precious time sailing all around,
When you know you ought to be buried in the ground."

Then lilies dear, and panies, all began to bloom,
And the cherries grew and grew till they took up all the room,
Then, by and by, the little cloud, with all its duty done,
Was caught up by a rainbow, and allowed a little fun.

SCHOOLS are uniformizing the knowledge and the sentiments of the world; men of all creeds, races, ranks, those who differ in anything else, unite in believing in the efficacy of the schools. The modern school is thus in a sense a church universal, and has all that deep consecration of a belief—a love now well-nigh universal.—*G. Stanley Hall.*

REAL teachers are of various magnitude, and the humblest mistress of a country school who manages to inspire her pupils with a thirst for knowledge and an inspiration for veracity in character is in the class of real teachers as truly as Socrates. Blessed be the humble teacher who, without any chance for the great rewards of fame or money, renders noble service and leaves the impress of a genuine and generous character in one little corner of the world.—*Edward Eggleston.*

Hints and Helps.

THE PLAYHOUR IN A COUNTRY SCHOOL.

FRED. BROWNSCOMBE, PETROLIA.

V.—INDOOR GAMES.

PROVERBS.—Two players (one only if you choose), leave the room, while the others select a proverb and arrange that each person in order shall have a word. The two then enter and one of them interrogates the seated players singly in turn, on any subject he chooses, the questioned person having to embody his portion of the proverb in his answer. When the two have guessed correctly they choose two others out.

Example—A rolling stone gathers no moss.
Question—How do you like this game?
Answer—I think it *a* very good game.
Q. (to next)—Why were you not at school yesterday?
A.—We were *rolling* our lawn.
Q.—Why were you late this morning?
A.—I fell on a *stone* and hurt myself.
Q.—Are you going to the concert?
A.—An unfortunate like me who *gathers* no money can not attend concerts.
Q.—How old are you.
A.—Oh, *no!* I will not tell you that.
Q.—Where would you like to spend your vacation?
A.—At some old castle overgrown with *moss* and ivy.

In the above if more than six play, the seventh takes the first word *a*, the eighth *rolling*, and so on till the proverb is completed again. If the guessers cannot discover the proverb in one round they may try again with other questions. This game may also be played with sides under the same rules as Animal, Vegetable and Mineral. In playing it another way, the players at a given signal shout their words in unison, the listener endeavoring in the babel of sound to catch a clue to the proverb.

CUPID'S COMING.—Sit in a circle. The leader says to his neighbor to the left, "Cupids coming," and is met by the question, "How is he coming?" He replies, "Begging." The questioner then turns to the person at his left and states that Cupid is coming, answering when questioned by some word beginning with "b" and ending in "ing." This continues round the circle till the pupils' vocabulary in "b" is exhausted, when a new letter is selected and the game proceeds as before.

HANDLE FOR THE PUMP.—A pump without a handle is drawn on the blackboard and several pupils are blindfolded, turned round two or three times, given a crayon and requested to supply the missing handle. Each after drawing one somewhere names a person to take his place. He is then allowed to remove the bandage, see his work, and laugh at the other pump-repairers.

RHYMING GAME.—One player steps aside while the others, after choosing a captain, seat themselves in a circle. The first player then comes forward, and standing before them, says: "I have thought of a word that rhymes with *last*." The Captain first, and the others in turn, question him as below:

Captain—Does it mean quick?
First Player—No, it is not *fast*.
Maud—Does it mean gone by?
F. P.—No, it is not *past*.
Mabel—Does it mean to throw?
F. P.—No, it is not *cast*?
Harvey—Is it part of a ship?
F. P.—It is not a *mast*.
James—Does it mean large?
F. P.—Yes, it is *vast*.

Any player not ready with an answer must take a place on the floor behind the first player. The person who guesses correctly may retake any one of these. When the word is guessed the first player and his followers select a new word and announce as before. Should the first player fail to interpret any question; he is deposed and a new game begun, the two principals having the privilege of naming their successors. The captured players may advise their chief in answering any of the questions, but each questioner depends on himself alone.

HIDDEN WORDS.—The players sit in a circle. Each whispers to the player at his left, any single word he pleases, only the more difficult to use in an ordinary sentence the better. When all have received their words the leader asks some questions, sober or frivolous, of the player at his right and this player must make his answer contain his given word, striving, however, to use it in such a way that his interrogator may not guess it. Thus it goes round the circle, each being in turn questioned and questioner. Any player who cannot use his given word, or guess his neighbor's, must place his name on the blackboard. When a name appears there three times, the bearer must leave the game or suffer some penalty.

CAPPING NAMES.—Sit as in "Hidden Words." The leader mentions a geographical name, say Canada; the next player must use the final letter of this as the initial of some other, say Amazon; the next gives Norway, the next Yucatan, etc. For failure to answer, rules as in "Hidden Words." May also be played with two sides.

VOWELS.—Sides are chosen who stand at opposite sides of the school-room. One captain then asks the other a question, requiring an answer which shall not contain the vowel he names. This captain after answering interrogates the second player of the other party, who in turn questions his opponent, and so on till each has asked and answered a question. If any player fail to answer before his opponent has slowly counted ten he must sit down. Continue as in a spelling match. Or, at the termination of each round, allow the side which has the least number of seated members to choose one of the opposite party. Any pupil seated three times may be ruled out of the game. The answers must be in sentence form, "Yes," or "No," not being sufficient.

Jessie—Are you going to the picnic? Answer without an *o*.
Lizzie—Yes, if it be a fine day. (To opponent)—What do you think of our school-house? Answer without an *i*.
Will—People say the schoolhouse looks well.

CITIES.—Sides stand as in Vowels. The leader of one side names a city which the other leader must locate before his opponent has finished counting twenty. He then mentions a city which the second player of the first side must locate. Should a player fail to give the location of a place before the count is up, the other side may choose him, or any other player of his side except the captain.

FINE ART.—A pupil stepping to the blackboard draws a heavy irregular line, at the same time naming another pupil. The person called must draw some picture whose outline shall include the given line. Or the first player may place five dots on blackboard requiring the designated player to draw a man the position of whose head, feet, and hands shall be denoted by the five dots. A player who fails in either case to make the required drawing must allow a black mark to be made on his face by the person who named him, who then calls upon some other person to complete the figure.

ANIMALS.—Sides are chosen whose members stand closely grouped by their respective leaders, X and Y. X calls out an animal whose name begins with A and counts ten. If Y can respond with another before X has finished counting ten, he does so and begins counting, and X has to name an animal in A. This is repeated till no more names in A are forthcoming, when another letter is taken. If Y cannot give a name before the ten counts have expired X chooses one of Y's followers, and *vice versa*. When one side confess their inability to name any more animals, their opponents are entitled to choose as many members of that side as they can give new names beginning with the given letter. The only duty of the other players is to suggest new names for their respective captains.

RHYMES.—The leader repeats any metrical line. quoted or original, say "The sun was sinking in the West," and each player in turn must compose or quote a line of the proper metre to rhyme with it. No. 2 says: "And nature calmly sank to rest;" No. 3, "'Twas then appeared our recent guest;" No. 4, "But wearing neither coat nor vest," etc. Failures as in Hidden Words.

QUESTIONS AND ANSWERS.—Players take slates and sit in two rows facing each other. One party then write any questions on their slates while the others write haphazard answers. When this is completed the two end players collect their own side's slates and distribute to the other side. In turn each person reads a question and the opposite player reads an answer from the slates held. As the answerers did not know what questions were to be asked their statements are not likely to fit and the resulting combinations may be quite absurd and ludicrous.

MARCHING GAME.—Pupils seat themselves and all unoccupied seats are turned up. A suitable tune is begun on the organ, and all rise and march in time to the music, the last couple turning up their seats as they rise. Suddenly the music stops. In the scramble for seats two are left out who are out of the game. Repeat till only two are left. If you have no organ a tune whistled or played on a mouth organ will do.

MAGIC MUSIC.—Each procures a stick. One player is sent from the room while the others arrange some simple task for him to perform on his return. Suppose it to be for him to remove from the room the teacher's chair. Having entered, the out-player is saluted by the "Magic Music" of the sticks, being tapped upon the floor, the unmeaning clatter of which only confuses him. Walking forward, he notices that the noise decreases as he approaches the chair; this informs him that he is on the right path. He touches the chair, and the noise ceases, and he knows that he is expected to do something with this particular chair. Naturally he sits down but gets up quickly as all the sticks clatter on the floor. He does various things with the chair but cannot stop the "music" till he carries it out. When he does this the noise ceases, and he chooses some other player to take his place. The music of an organ or piano, if you have one, takes the place of the sticks.

Anyone who can do so will confer a very great favor upon the writer by sending to the above address other suitable indoor games. Games so received, and approved, will be inserted in THE JOURNAL with due credit to the sender.

NATURE AND THE CHILDREN.

BY JOHN BURROUGHS.

I CONFESS I am a little skeptical about the good of any direct attempt to teach children to "see nature." The question with me would be rather how to treat them or lead them so that they would not lose the love of nature which, as children, they already have. Every girl and every boy up to a certain age loves nature and has a quick eye for the curious and interesting things in the fields and woods. But as they grow older and the worldly habit of mind grows upon them, they lose this love; this interest in nature becomes only so much inert matter to them. The boy may keep up his love of fishing and of sport, and thus keep in touch with certain phases of nature, but the girl gradually loses all interest in out-door things.

I would never think of inspiring a child with an abiding love of flowers by teaching him or her botany from a book. I think if there is anything that is calculated to make the whole subject hateful to a child, it is the cold-blooded technical study of it. The child is a poet, and it is not mere mechanical knowledge of the flower that he wants, but what the flower stands for, the delight of finding it, and the many things with which it is associated. Whet the curiosity of the child if possible; let the interest keep ahead of the knowledge.

If I were a teacher I would make excursions into the country with my children; we would picnic together under the trees and I would contrive some way to give them a little live botany. They should see how much a flower meant to me. What we find out ourselves tastes so good! I would, so far as possible, let the child be his own teacher. The spirit of inquiry—awaken that in him if you can—if you cannot the case is about hopeless.

I think that love of nature which becomes a precious boon and solace in life, does not, as a rule, show itself in the youth. The youth is a poet in feeling, and yet, generally, he does not care for poetry; He is like a bulb—rich in those substances that are to make the future flower and fruit of the plant.

As he becomes less a poet in his unconscious life, he will take more and more to poetry as embodied in literary forms. In the same way as he recedes from nature, as from his condition of youthful savagery, he is likely to find more and more interest

in the wild life about him. Do not force a knowledge of natural things upon him too young.

A series of school readers which I have seen, called "Seaside and Wayside," seem to me to fail just where they appear to be successful. They are a bald, undisguised attempt to convey to children exact knowledge about the creatures of which they treat. A passage from one of them is like a mouthful of sawdust. It is not dead knowledge of these things that children want, it is the things themselves. The pictures may help, but the bare facts are as uninteresting as they can be; yet if the life of the least of these creatures could be told as it really is, as it transpires from hour to hour and from day to day, it would be of perennial interest.

Why is such a paper as Charles Dudley Warner's "Hunting the Deer," of such keen interest to boys and girls as well as older people? It is because, as I heard a boy say in the Berkeley School, N. Y.—"it is true." We are enabled to put ourselves in the place of the deer. The tables are suddenly turned, and from being the hunters we become the hunted.

I would encourage the children to bring me whatever, to them, seemed curious and interesting from their walks in the fields and woods. I would give them a half-holiday to hunt me up some parasitical plant, or some rare flower in its season, or a specimen of the wolf spider, or the box tortoise or an Indian arrow head. I would ask them to find out how the bulb of the dog-tooth violet got so deeply in the ground since everyone starts from a seed at the top, but rests not till it plants itself eight or ten inches in the soil. When it gets to this depth it sends up two leaves instead of one, and begins blooming. A new name, by the way, has been suggested for this plant, namely "trout lily," which is a good one as the leaf is mottled somewhat like a trout's back and as it blooms along the stream about the opening of the trout season.

One throb of love of nature which you can awaken in the child's heart is worth any number of dry facts which you can put into his head.—*Popular Educator*.

A SCRAP OF CONVERSATION.

BY E. D. K.

Two teachers were walking in one of the principal streets of a large city, one Saturday morning. They passed a flower window, it was a scene of enchantment.

A brilliant rainbow seemed to have dropped into that window taking the shapes of roses, camelias, violets, jonquils and tulips, and condensing into one purely white light in the fragrant lilies of the valley.

"Oh," said One, quickly, as she caught her breath in the surprise of ecstasy, as the vision flashed on her. She stood silently before that window drinking in a beauty that brought wet eyes.

"What would I not give if I could take that window to my schoolroom; I believe it would make every one of my children good, just to live in such an atmosphere.

"Oh; yes, it is all very pretty," said the Other, "but I guess you'd find it would take more than that to make angels of some of them. But see here, when you get ready come into 'Smith & Blodgett's'; I've got to see about a bonnet and I'll wait there for you."

One teacher joined the Other soon, with a suspicious little tiny parcel of white paper in her hand.

"Oh," exclaimed the Other, "Can you afford flowers?" The Other gave an order for a bonnet.

Thirty minutes later. "Let's drop into this book-store a moment," said One. "I hear the price of that book for the children is reduced, and I must try to get it."

"Yes, I'd like to have it too," answered the Other, "but if our committee don't buy my children books, they will have to go without." One bought the book.

Fifteen minutes later. "Can you step in here with me?" asked the Other. "I'll hurry and not keep you two minutes. But I am going to get a ticket for matinee this afternoon. They say the play is delightful, and I must have a little recreation once in a while; I never step out of the house during the week." The Other bought the ticket.

Certainly, teachers must have new bonnets; certainly, "committees" should buy the supplementary books for the children; certainly, teachers need recreation; but—but, the schoolrooms of these two teachers, were the perfect reproduction of themselves. Both were called "good teachers," both worked hard; but if you were a mother, teachers, in which room would you rather have your child go?—*Primary Education.*

Literary Notes.

THE *Magazine of American History* for April contains, besides much other interesting and valuable matter, an illustrated article on "What Support Did John Brown Rely Upon?" by Robert Shackleton, jr., which is full of interest. The frontispiece is a portrait of John Brown in 1854. "The First Attempt to Found an American College," by Wm. Armitage Beardslee, will also be interesting reading to many. This is a valuable magazine for American teachers.

Our Little Men and Women for May contains not only May Day with the May Queen and her retinue, but it offers a loving tribute to the "soldier old and gray." It has stories to instruct, stories to entertain, and bits of history and physiology told in a way best suited to the beginner. It has poems just right to "speak in school," and pictures good and many. The number is an especially fine one. Price, $1 a year, ten cents a number. D. Lothrop Company, publishers, Boston.

THE May number of *The Chautauquan* presents a broad range of subjects. Besides the scholarly articles written for students of the Chautauqua Literary and Scientific Circle, there are many papers discussing topics of the time, literary subjects, and home life. The article by Prof. Wm. E. Waters, on "In and About Modern Athens," is illustrated from photographs collected by the author in Greece during recent months; Edward Arden discusses "Organized Labor and the Law;" Dr. A. B. Hyde writes entertainingly of "The Religion of the Greeks;" Lieutenant Guy Howard, U.S.A., tells of "The Standing Army of the United States;" a very timely article is by C. R. Hammerton, on "Sanitary Science and the Coming Cholera;" George A. Rich gives "A History of the Fisheries." These are but a few of the many interesting articles which make up the number.

THE May *Popular Science Monthly* opens with a charming account of "Japanese Home Life," by Dr. W. Delano Eastlake, which has many characteristic illustrations. There is also a description of "The Oswego State Normal School," one of the best institutions of its class, by Prof. William M. Aber, with views of class-rooms and laboratories, and portraits of instructors. This will be of special interest to teachers. Prof. Byron D. Halsted contributes an illustrated article on the practical subject, "Decay in the Apple Barrel," and Prof. G. F. Wright defends his recently attacked book in an article under the title, "Evidences of Glacial Man in Ohio," also with many illustrations. The able argument by Herbert Spencer on "The Inadequacy of Natural Selection," is continued in this number, which contains half a dozen other articles of scientific and general interest. New York: D. Appleton & Company. Fifty cents a number, $5 a year.

THE complete novel in the May number of *Lippincott's* is from the facile and well-tried pen of Rosa Nouchette Carey. Its title is "Mrs. Romney." "A Pastel," by Cornelia Kane Rathbone, is a delicate and touching sketch of wasted loyalty and disappointed hope. It is illustrated throughout. James Cox furnishes a full and glowing account of "New St. Louis," illustrated with cuts of a dozen of its fine buildings. John Bunting traces the origin and history of "The Society of the Cincinnati." This article also is illustrated. Mrs. Gertrude Atherton supplies a short but appreciative account of the American sculptress, Kühne Beveridge, with a cut of her most notable work, "The Sprinter." Professor L. M. Haupt has a brief article on "Colonel Pope and Good Roads." M. Crofton, in "Men of the Day," gives sketches of William Morris, the poet, Arch bishop Satolli, and Secretary of War Lamont. The poetry of the number is by Louise Chandler Moulton, Dora Read Goodale, Charlotte Pendleton, and Arthur D. F. Randolph.

Book Notices, etc.

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Logarithmic Tables. By Prof. G. W. Jones, of Cornell University. Macmillan & Co., London, G. W. Jones, Ithaca, N.Y. Fourth Edition. Size, $10\frac{1}{2} \times 6\frac{1}{2}$. Pp. 160. By mail, $1.

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See ad. of the Summer Session in Atlantic City, N.J., in another column.

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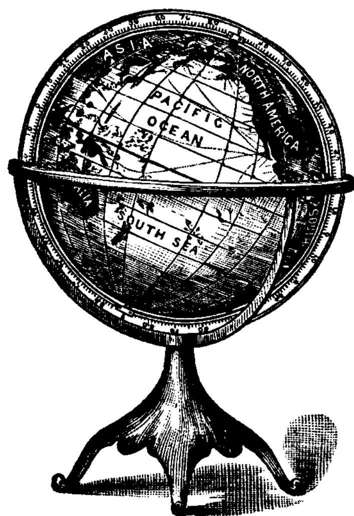

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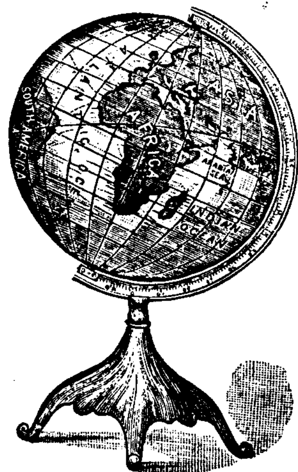

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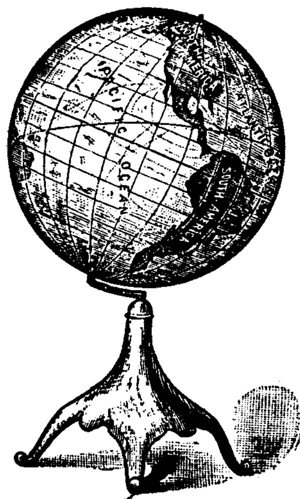

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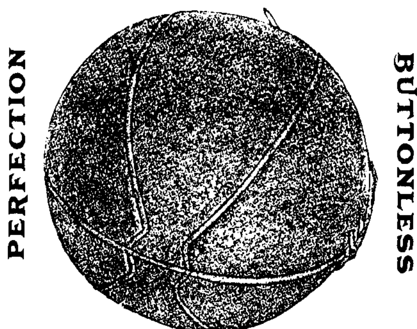
PERFECTION  BUTTONLESS

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