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The Educational Journal.

Consolidating "THE EDUCATIONAL WEEKLY" and "THE CANADA SCHOOL JOURNAL."

VOL. II.

TORONTO, JANUARY 1, 1889.

No. 16.

The Educational Journal.

Published Semi-monthly.

A JOURNAL DEVOTED TO LITERATURE, SCIENCE, ART, AND THE
ADVANCEMENT OF THE TEACHING PROFESSION IN CANADA.

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

H. HOUGH, M.A. Manager Educational Dep't

Terms:—One dollar and fifty cents per annum. Clubs of three, \$4.25; clubs of five, \$6.75. Larger clubs, in associations, sent through association officials, \$1.25 each.

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Rates of advertising will be sent on application.

Business communications should be addressed to the publishers; those relating to matter for insertion in the paper, to the editor. These distinct matters should always be treated on separate sheets of paper.

PUBLISHED BY

THE GRIP PRINTING AND PUBLISHING CO.

TORONTO, CANADA.

JAMES V. WRIGHT

General Manager.

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Editorial Notes.

SEE the advt. of *School Work and Play*, on the 12th page of this paper. The special attention of teachers is called to the premium offers in the circular recently sent with the sample.

WE beg to say to those who take advantage of our clubbing and premium proposals, in advt. on 13th page, that we shall shortly send the first order for books, when those who have up to that time taken advantage of the offer will receive their supplies. As the books have to be ordered from New York, our friends will see that each lot could not be sent for separately. Please read the announcements. The offers will remain open till the end of January.

IN another place will be found a report of the meeting held at the Educational Department on the 19th ult., to consider the question of Technical Education. The speech of the Minister of Education bristles with facts, which are, or should be, of interest to all classes, and of especial interest to members of the teaching profession. The movement about to be inaugurated will, there is good reason to hope, mark an important epoch in the educational and industrial history of the Province. Every teacher should mark its progress, and be prepared, as occasion requires, to turn the footsteps of pupils in the right direction.

MISS JESSIE ALEXANDER, the lady elocutionist of Toronto who made so high a reputation for herself in that and other Canadian cities a year ago, is to give a dramatic and humorous recital under the auspices of the Y. M. C. A., in the Association Hall, on the evening of the 3rd inst. The opportunity will be no doubt a favorable one for teachers who wish to improve themselves, and to learn how best to improve their pupils, in the highly useful art of good reading. Miss Alexander is a pupil of the Philadelphia School of Oratory, and has, moreover, been for some months past studying the methods of the most talented elocutionists in the United States, with a view to perfecting herself in her chosen profession.

DR. CHALMERS' grand sermon on "The Expulsive Power of a New Affection," embodied a principle which underlies all reform in church or state. In one of its many possible applications this principle furnishes the answer, and so far as we can see the only answer, to the burning question, "How can the young people of the day be saved from the influence of the dime

novel?" The answer was well put by Mr. Henry Tate, J. P., the founder of the Tate Free Library at South Lambeth-road in England. The taste for reading was, he said, "being created by compulsory education, and if pure streams of literature were not provided, impure would be sought. When a youth had once enjoyed access to noble literature, and once acquired a taste for rich reading, it would not be possible for him to touch this vile rubbish." These are wise words. There is no better aim which teachers of every grade, from primary school to university, can set before them than to instil this taste for rich reading.

MR. OAKELEY, some of whose clever criticisms on the mistakes made by student-teachers in giving lessons before him, are given in another paragraph, says further that many young teachers have a sort of fetish worship for the word "elicit." "They may collect and bring into distinct consciousness scattered knowledge only vaguely retained in the memory; they may get their pupils to draw conclusions from premises, or to generalize from particular cases; but all the questioning in the world would never "elicit" from a child the date of the Norman Conquest if he had never been taught it, or the composition of water if he had never seen experiments illustrating the analysis or synthesis of water." All which is very true, and the young teachers will do well to take the hint. At the same time these young teachers are on the right track, and will come out some day far ahead of those who adhere to the old highways of didactic teaching and text-book memorizing.

THE publishers make the following announcement: "The first number of *School Work and Play* was prepared rather too late for our friends to do much with it in the schools before the holidays. The offers of premiums will remain open, however, and on re-assembling the clubs may be formed, as we shall be able to supply the first number to later subscribers. We intend to let every teacher, whose address we may have, see No. 2, with an extra copy or two for canvassing. The best plan for securing a club may be followed, whether by the assistance of active pupils or otherwise; and teachers may depend upon our liberality in the rewarding of all such efforts. No. 1 was issued in great haste, so as to be in hands before Christmas. No. 2 will be found to be much better in every way. We are highly gratified, however, with the appreciative words of numerous teachers respecting No. 1. The paper will be made a great help in school operations—that is a part of our programme.

We rely upon our friends of the teaching profession to see that it gets a circulation, so that the boys and girls may have a good paper of their own, produced in their own country.

THE *Montreal Witness* is making a praiseworthy attempt to stimulate literary effort on the part of the school children of Canada, and at the same time to rescue from oblivion good Canadian stories and incidents of pioneer life, hundreds of which are no doubt being told to children and grand-children by gray-haired sires. With this end in view the *Witness* offers as a prize Macaulay's "History of England," in five volumes, for the best true story of adventure, or pioneer life, by school children in each of the 180 counties, districts, or electoral divisions into which the provinces of Canada and Newfoundland are divided, and in each of the twenty-two cities of the Dominion and Newfoundland—202 prizes in all. In addition to these the *Witness* will also give Provincial prizes, eight in number, for the best of the stories from each province, as decided by a commission. These provincial prizes are to consist of copies of Parkman's works, ten vols. in all. Still further, the writer of the story adjudged absolutely the best, will receive a Remington No. 2 type-writer, which sells for \$125. The enterprise and liberality of the *Witness* are well directed and highly commendable.

A WRITER in the December number of the *Atlantic Monthly*, describing the *regime* which he considers right for the academy, as distinct from the college, says :

"When a boy enters the academy, his morals are the product of heredity, home influence, and early associations. He has not formed principles of his own, and, as a rule, is not capable of forming them independently. Consequently the academy must enforce right conduct by sheer authority. It must watch the boys day and night, in school and on the street. Its rules must be rigid and arbitrary. Its punishment must be swift and sure. It can enter into no argument with pupil or parent. The parent who wrote to a large fitting-school, demanding an explanation of his son's unexpected return home, received all the satisfaction the academy could afford to give in the laconic reply: 'Dear Sir,—Your letter is received. Your son is a loafer. Yours truly.'"

We quote to dissent. We do not believe that there is any stage in the life of a child or youth, after the first dawn of intelligence, when right conduct should be enforced by "sheer authority" or governed by "arbitrary" rules, and without reason or "argument." That would be to deal with a human being as if he were destitute of both rational and moral faculties. The first and constant appeal should be, in every case, to reason and conscience. Otherwise there is no education. The academy which cannot "afford" to give a civil explanation to the parent who asks it, is such an academy as no parent should "afford" to patronize.

THE *Educational Times*, of London (Eng.), gives the following amusing and instructive ex-

tract from Inspector Oakeley's notes on the lessons given before him by students:—"The faults which he condemns are: (1) The echo lesson, in which the pupils are expected to reproduce the information imparted to them in precisely the same form as that in which it was doled out; (2) the lecture lesson, which soon exhausts the children's power of attention, and not infrequently sends them to sleep; (3) the disproportionate introduction, either direct but too long, or indirect, and too tedious; (4) the desultory lesson, in which the teacher is constantly passing from one topic to another having no connection with it; (5) the discursive lesson, in which the teacher is constantly going off at a tangent and forgetting to return; (6) the wrongly directed lesson, which is given to the Inspector instead of to the pupils; (7) the disproportionate lesson, where a want of due relation magnifies the unimportant and glosses over the essential; (8) the unorganized lesson, which is given without due regard to the previous knowledge of the children; (9) the inelastic lesson, in which no answer is accepted that is not in exact verbal accord with the answer already in the teacher's head; (10) the mechanical lesson, in which the questions leave no room for the exercise of the intelligence; (11) the irrational lesson, in which attempts are made to 'elicit' from the children matters of fact of which they have never heard."

In connection with the subject of Teachers' Salaries now being discussed in the *Journal*, it may not be amiss to note that while Ontario has, manifestly, a surplus of certificated teachers, the sister Province of Manitoba seems to be suffering from a dearth. We had the pleasure of a call, a week or two since, from Mr. J. D. Hunt, Inspector of Schools for the Brandon district. Mr. Hunt informs us that many of the school sections in his inspectorate have had, and still have, much difficulty in securing the services of competent teachers. He thinks that there are places for forty or fifty in the Brandon district alone. Most of the county schools in Manitoba and the North-west are of necessity closed during the winter months. They remain open for but seven or eight months in the year. Salaries range from \$30 to \$45 per month. Good board in comfortable quarters can be had for from \$10 to \$12 per month. Ontario first and second-class professional certificates are accepted and endorsed without examination. Thirds are received until the next forthcoming examination. The schools open from 1st to 15th April. Mr. Hunt thinks the same scarcity of teachers prevails, though to a more limited extent, in other inspectorates. He himself will be glad to give any information at his disposal to those who may wish to write for it, and he feels sure other inspectors will do the same. Following is a list of the Inspectors with their addresses:—J. M. Wellwood, Minnedosa; J. H. Sparling, Beulah; E. Best, Moden; J. H. McAlmon, Emerson; J. D. Hunt, Brandon.

Educational Thought.

MY conclusion is, that unless we wish to keep manual labor in a position of degradation, to close an important field of activity against our own citizens, and to belie our democratic principles, we must elevate mechanical art to the level of the liberal arts, by establishing in every city and town in the United States schools for the imparting of manual training to every boy and girl, and technical schools for thorough instruction in all the industrial arts.—*Prof. Thomas Davidson in the Dec. Forum.*

IT is useless pumping on a kettle with the lid on. Pump, pump, pump. The pump-handle goes vigorously, the water pours, a virtuous glow of righteous satisfaction and sweat beams on the countenance of the pumper; but—the kettle remains empty; and will remain empty till the end of time, barring a drop or two, which finds its way in unwillingly through the spout. This is no unfair picture of what is going on in the school-world to a great extent. The whole theory and practice amounts to nothing more than a pouring out of knowledge on to the heads underneath.—*Thring.*

THE profoundly wise do not declaim against superficial knowledge in others, so much as the profoundly ignorant; on the contrary, they would rather assist it with their advice than overwhelm it with their contempt, for they know that there was a period when even a Bacon or a Newton was superficial, and that he who has a little knowledge is far more likely to get more than he that has none. When the great Harvey was whipped at school for an experiment upon a cat, his *Orbilius* could not foresee in the little urchin that he was flagellating the future discoverer of the circulation of the blood. And the progress of the mind in science is not very unlike the progress of science herself in experiment. When the air balloon was first discovered, some one flippantly asked Dr. Franklin what was the use of it? The doctor answered this question by asking another: "What is the use of a new-born infant? It may become a man."—*Lacon.*

"ONE of our distinguished teachers says that in the cases of two thousand or more boys who have passed under his care, few parents have ever forgiven him if he said, 'Your boy is not quick or bright; but he is thoroughly pure and true and good.' They took it for granted that the goodness could be attained in any odd hour or so; but the brightness or quickness seemed of much larger importance. On the other hand—if the teacher said, 'Your boy learns every lesson, and recites it well; he is at the head of his class, and will take any place he chooses in any school,'—nine parents, he says, out of ten are satisfied, though he should have to add, 'I wish I were as sure that he was honest, pure, and unselfish. But in truth the other boys do not like him, and I am afraid there is something wrong.' To that warning, he says, people reply, 'Ah, well, I was a little wild myself when I was a boy. That will all come right in time. 'Will come right!' As if that were the one line of life which took care of itself, which needed no training; the truth being that this is the only thing which does not come right in time. It is the one thing which requires Eternity for its correction, if the work of Time have not been eagerly, carefully, and with prayer wrought through."—*Edward Everett Hale.*

THE heroes of mankind are the mountains, the highlands of the moral world. They diversity its monotony, they furnish the watershed of its history, as the Grampians, or the Alps, or the Andes, which tower over the lowlands and fertilize the plains and divide the basin of the world of nature. They are the "full-welling fountain heads of change," as well as the serene heights of repose.—*Dean Stanley.*

ONE of Herbert Spencer's definitions of evolution is as follows:—"Evolution is a change from an indefinite incoherent homogeneity to a definite coherent heterogeneity, through continuous differentiations and integrations." Translated as follows:—"Evolution is a change from a nohowish, untalkaboutable all-alike-ness, to a somehowish and in-general-talkaboutable not-all-alikeness, by continuous something-seifications and sticktogetherations."

Special Papers.

HOW CAN WE MAKE OUR TEACHERS' INSTITUTE OF MOST BENEFIT?*

BY MISS MAGGIE MACDONALD.

In ordinary school work it is supposed that the trustees provide the most competent teacher and the best equipment their means will allow. So in our institute work, we must have for standing officers and committee the very best material within our reach.

Very much depends upon *the president*, just as very much depends upon the Principal of the school. He is the moving spirit of the whole. He will have ideas of his own gleaned here and there, tried and proved until they have become recognized principles, and valuable aids to his own success. And if valuable to the individual, why might they not become so to us all? The wise president will be quick to perceive and to apply whatever of worth he may find in suggestions from his counsellors, the executive committee.

This *committee* should be composed of live, progressive teachers. There are honest, faithful teachers, who take "Institute Days," and who attend promptly and throughout every session. They are the ones to appoint for a committee. Perhaps they will say, "Why, we could do nothing on a committee—we come regularly because *we feel the need of help.*" Then be sure they are the ones who can best *ask* for the "help." Members of a committee who have no special need in any subject, and who are so very wise that we are afraid to say to them, "discuss this," or "have the methods of treating that illustrated," are *not* the ones to sympathize with our needs, and, consequently, are not the ones to draft *helpful* programmes. They may choose good subjects, and these may be handled most excellently, but, if they do not meet the demand, where will the relative amount of profit come in?

Let us look at this matter of the preparing of the programmes. As a rule we like those subjects least which we have the smallest degree of success in teaching. What then? Let them quietly slip by? Never! Take them up bravely, study them intelligently, seek to find out the principles which naturally underlie a pleasant and profitable presentation of them to our pupils. But how is our committee to find out our needs? Chiefly in two ways, (1) by looking at results; (2) by having teachers ask for help. Some of our committees would say, "Oh, yes! Now, how often do you suppose teachers have asked for help since *we* were placed on the committee? NOT ONCE!" What! Wasn't it worth the while of *even one* to ask? Were your systems looked down upon, or were they too good to be made common property? Or if the fault was not in your systems, was it in yourselves? Did you see that, in *even one little* case, you knew of a plan better than that which a younger teacher was working upon, and yet you refused to call out his or her confidential questionings?

And did *we teachers* ever think of this? Perhaps we do not even know ourselves which subjects we handle least successfully. Let us then look up the results of our last written examinations, and see wherein our pupils took lowest percentage. Let us give ourselves in greater measure to study the principles of teaching that subject, and if still we fail (comparatively speaking), it becomes our duty no less than it is our privilege to call for the help of our fellow-teachers.

So much for the relative parts. But what of us as a whole? How can *we* take most benefit out of our meetings? One way is to have more interchange of thought—more discussion. A good plan to bring this about (and I say "good" advisedly, having seen it tried and proved) is the following:—The committee appoint, for each subject of their choosing, a leader and two critics. The duty of a critic is to prepare the subject just as thoroughly as though he were the leader, so that he can give to us his own peculiar methods of handling it. This plan has advantages for all parties concerned. The teachers convened listen to *the best* that those dealing with the subject know. If their best is better than what we practice now, let us take it up, put it to the test for ourselves. If, on

the other hand, we feel convinced that *we* have ways that are better, then it becomes our duty to present the methods we use for *their* consideration; those appointed to the subject by the committee having the first hearing—the open discussion in all cases following.

A way in which I think we might improve our programmes (and this I offer simply as a suggestion), is to state upon them the *limits* of the work assigned; e.g. "Arithmetic—outline of sketch of first lessons in subtraction;" "Analysis of problems based on the simple rules;" or "Geography—how to teach the motions of the earth, with their corresponding effects;" or "Reading—with class in Third Book," etc.

Again: We might discuss educational books; by looking at the list in our registers we can readily see what ones are to be studied during the year. Let us, say at this meeting, fix upon at least one of these, and agree to discuss its matter, or any definite portion thereof, at our next regular meeting.

One other thought: Let us touch upon matters that interest our ratepayers. I was glad to see upon our programme for the present meeting an invitation to delegates and all friends of education. Now what should be our object in having these attend? Not surely to see a president and a lot of teachers; nor even simply to encourage and strengthen us by so much sympathy as their presence amongst us expresses. The invitation means that there is something upon the programme of live interest to *them*. There is School Discipline. In what measure do our trustees appreciate the help they can give us here, or the benefit they can render the community they represent? "Would they allow talking in school, or eating, or the running in and out of the children at playtime, or their leaving school before dismissal?" "Well, they hardly know—they hadn't thought of it. What does the teacher think about it?" There is also on the programme before us the question of Uniform Promotion Examinations. This is something our ratepayers are interested in at the present time—more especially so on account of the November Examination just pending. They would like to hear the matter discussed—they want to be intelligent in their decisions, and they are glad of an opportunity of listening to reasons on both sides of the argument.

Yet, after all, our Institute will (comparatively) fail in attaining its object, unless each teacher or trustee *turns to account* what he has heard.

Let teachers come with note-books and pencils, not trusting wholly to memory. I have heard it said, "I don't count much on this note-taking—I want any ideas I give to go into brains, not into books." Well, there is no objection to having them in both, is there? I speak for myself, that I have gone home from Conventions and immediately begun practising ideas that I judged were valuable, and as these began to lose their freshness to the children, I have taken my note-book and found something else that could be brought in with new and inviting force.

But PRACTICE is what we need—our judgment is clear on this, but we must "put conscience into it" if we wish ever to become intensely practical. So, step by step shall we proceed, ever onward, ever upward, ever choosing the good and refusing all else with the utmost deliberation. Thus shall we make our schools, our institute, our profession itself the gainers, in just the proportion we ourselves become better.

THE TEACHER AS A READER.

THE teacher must be more and more a reader. He must not only read much, but he must read well. He cannot expect to read everything any more than any other busy worker, but the public is coming to expect the teacher who takes first rank to be intelligent upon all subjects of general interest, and unreasonable as this is when carried to the extreme, it is not unreasonable in the general application. The teacher is quite apt to speak of himself as too much occupied to read, and while we would be the last to discount the draft which school work makes upon a faithful teacher, we know of no profession, except the ministerial, that makes perceptibly less draft. There is no busy

professional man who finds any way to read without special vigorous effort.

The doctor can never call an hour his own, and it is not conducive to intensity of attention and ease in reading to have one ear on the door-bell.

The lawyer does not find it natural for him to seclude himself for literary indulgence after a hard day's work.

Every profession, every man's social and home life, tempts him away from his books, and yet doctors, lawyers, preachers, artists, merchants, teachers, who wish to read, do read.

One must train himself persistently to make every sacrifice required in order to do a reasonable amount of good reading.

It will never be easy until the habit is formed, until neighbors, friends, family, understand that it is as impracticable for him to leave his books on the evenings or hours assigned to them as it would be to leave his regular business. The world is full of idle people, who loaf away the time not spent in professional or mercantile employment, and men who would be indignant to be robbed of ten minutes from a busy day will rob you of two hours without a thought of its value, if only you are away from business.

We readily grant that a man owes much to home, something to church and society, and yet, no man who values his future, no man who realizes what life means, can afford to dissipate the hours away from business-office or school in the name of home, church, or social duties.

He will be more to home, church, society, if he is sparing of the time he gives them and does it as though it were a luxury, if he makes the most of his ability and opportunity to read.

It is not easily demonstrable that the teacher, as committee and society are now constituted, will not be as likely to be popular, will not cultivate his reputation as successfully, who never reads, but devotes himself to miscellaneous, social or religious luxuries.

It is clear, however, that no man is the wisest, most efficient leader of children, who is not himself constantly acquiring knowledge, who has not the ability to read a book that requires brains to read it, who cannot relish the reading of it, who cannot discipline himself to set aside other things regularly for the reading of such a work.

The teacher who loves to read the best things, and knows how to find the time for such reading, will leave an impression upon his pupils that will be sufficient reward for any earnest man or woman.—*Journal of Education.*

CANON FARRAR says:—"A life spent in brushing clothes, and washing crockery, and sweeping floors—a life which the proud of the earth would have treated as the dust under their feet; a life spent at the clerk's desk; a life spent in the narrow shop; a life spent in the laborer's hut, may yet be a life so ennobled that for the sake of it a king might gladly yield his crown." A writer referring to this speaks of the well-known picture of Murillo, in the Louvre, representing the interior of a convent kitchen, in which not mortals, but white-winged angels appear at the lowly work. One is putting the kettle on the fire, one is bearing a pail of water, another is taking down plates from the kitchen dresser. A teacher, full of enthusiasm in her work, recently undertook to teach in an out-of-the-way district in New York State. Her school-house had no ornament on it, no trees near it, no conveniences in it; right by the side of a dusty road, in reality, no better than an old red barn. Could she teach a good school in such a place? And the pupils! Just like the old school house; uncombed hair, unwashed faces, soiled clothes. What *could* she do with them? But she did something with them, and in doing this something she secured *success*. Teachers, do not think that success needs expensive surroundings, or a good salary; but it does mean knowledge of the means by which it is got, and a determination to use these means.—*N. Y. School Journal.*

THE tender words and loving deeds which we scatter for the hearts which are nearest to us are immortal seed that will spring up in everlasting beauty, not only in our own lives, but in the lives of those born after us.—*Spurgeon.*

* Read at the Peterboro' Teachers' Institute.

English.

All communications intended for this column should be sent to W. H. Huston, M.A., care of THE EDUCATIONAL JOURNAL, Toronto, not later than the 5th of each month.

GENERIC QUESTIONS

ON THE "LAY OF THE LAST MINSTREL."

NOTE:—We publish below the first instalment of a series of questions prepared by M. F. Libby, Esq., Modern Language Master of Napanee High School. As will be seen, they deal with the poetical literature required for second-class certificates. We think the questions will be more or less helpful to all of our teachers. Mr. Libby informs us that it will give him pleasure to give an explanation of any matter connected with the questions to any one that may communicate with him.

1. What is poetry?
2. What is fine art?
3. What is the relation of poetry to the other fine arts?
4. Make a system or scheme for the critical consideration of a poem.
5. What is the use of the word *didactic* in criticism? What is its misuse?
6. What constitutes the "poetic charm" of a poet? Is there an invariable answer?
7. What constitutes the great pleasure of metre?
8. What constitutes dramatic force, in an incident or in a scene?
9. What are the great desiderata in the study of poetry?
10. A poem like a man, has a triple nature. What is the body, the mind, the soul?
11. Every emotion has its proper metrical medium. Illustrate from the Lay.
12. In what respect has the Victorian Age surpassed other ages in poetry?
13. Show the appropriateness of the closing verses of the cantos, in *feeling*.
14. Show by quotations the manner of the Countess and her little court toward the Minstrel.
15. Show how the author heightens the effect of the picture of Melrose by appealing to sentimental associations.
16. What effect did the second canto of this poem produce upon English Art?
17. This poem was more wonderful to the readers of 1805 than to us. Why? How should this consideration effect our estimate of Scott's fame?
18. What motives induced Scott to make so many and marked digressions—like ornamental pendant links of a chain—in the form of incidents, in the Lay?
19. Illustrate and comment upon Scott's use of high-sounding names.
20. By quotation, illustrate Scott's use of contrast.
21. Show Scott's influence upon Macaulay by comparing the Lay of the last Minstrel with the Lay of Horatius.
22. Show to what extent Scott is indebted to Coleridge and write a *parallel* with these two poets as subjects.
23. Show Scott's debt to heredity, circumstance, and environment; try to show his original and personal qualities by illustration.
24. Show Scott's debt to Percy's Reliques and to other books of that ilk.
25. To what extent does the history of that Annus Mirabilis 1805 appear in the Lay?
26. What is the poet's (or the Minstrel's) attitude toward the Wizard in the last moments of Michael Scott's career? Does he sincerely intimate a change of character?
27. Can a fiction-writer effectively describe what he has not experienced?
28. Many words have *commonplace* associations. How does a poet express his thoughts and feelings without suggesting such associations? Illustrate.

29. Do all poets agree in a desire to shun the commonplace? Illustrate.

30. Mark every word in Canto III. that you think Goldsmith would not use as of prose diction. Classify the words just marked on some useful basis.

31. Describe the dwarf as a physical, intellectual, and moral and social creature.

32. How do the passages in which the dwarf appears seem to you to be affected by his appearance?

33. How does the third canto as a military epic suffer or gain in dignity by the appearance of the dwarf?

34. Indicate the supernatural—so-called—parts of the machinery of the Lay. Pass what you consider just strictures on the poet's use of the inexplicable and mention the compensations he gives us for the objectionable effects.

35. Criticize the artistic truth of endowing Michel Scott's ghost with pugilistic powers.

36. Is there one standard of comparison for the diction of the whole Lay? By what standards should we judge the archaisms of the different poets?

37. Discuss the justifiability of Scott's anachronisms and compare them with those of the perfect artists.

38. In what proportions do realism and idealism combine in Scott's fiction?

39. What justifies a periphrasis?

40. In criticizing a work of art, should you consider the artist's intention or only the work of art as it affects you?

41. If the Lay had been published recently would it have received high place?

42. When is a poet subjective in style? Objective? When is a poet subjective in treatment of material? When objective?

To be continued.

LITERATURE IN PUBLIC SCHOOLS.

NOTE:—We commend the following to the attention of our Public School teachers. It shows the possibilities of school work. We feel certain that a teacher who will take the pains to prepare his work in the way indicated by the article will make his classes interesting, and at the same time do systematic, thorough work—work that will last.

MEMORY WORK.

BY MONA.

THE most pleasant hour to a teacher is the memory hour. Every tiny tot that toddles to your school loves to have his little say. Impressions are easily made and they last. It is the best subject on the curriculum. Some are in difficulty in regard to a method. Before beginning, dot down the following on your mental black-board:—I. Give short lessons. II. Let pupils choose their own lessons. III. Gently lead the way.

Memory work was begun in a school three years ago. The first exercise consisted of four lines. The amount continually increased till now second-class scholars have thousands of lines. This seems incredible, but try it—"The proof of the pudding," etc.

The short extracts on page 8, Fourth Reader, are admirable. The following is the method used in school aforementioned. Order is the secret of success:

SUBJECT:—"LIFE."

I. EXAMPLES:—Take a number of examples from history to show shortness of life.

QUOTATION:—"Length of Life." Psalm 90, page 60.

II. EXAMPLE:—(a.) Wycliff, Caxton, Shakespeare.

(b.) William I., Wolsey, Marlborough.

Two splendid recipes:—

QUOTATIONS:—"How to be happy."—Scott, page 59.

"How to be miserable."—Kingsley, page 220.

III. Impress upon the class the sin of tattling, back-biting and undermining.

EXAMPLES:—Thos. Cromwell, Richard II.

QUOTATIONS:—"Good Name."—Shakespeare, 330.

IV. Try to show your class that they should all perform some specified work.

EXAMPLES:—Alfred (The Great)—Wycliff, Caxton Edward I., Shakespeare, Champlain, Ryerson

QUOTATIONS:—"Do something."—Chalmers, page 32. "True worth."—Alice Carey, page 211.

V. Sowing and reaping, spring and harvest time always come. There will be no difficulty in teaching the subject.

QUOTATIONS:—"Sowing and Reaping."—Bonar, pages 34 and 127. "Labors and Words."—Herrick, page 50.

How careful also we should be to preserve the valuable or the beautiful in its state of excellence.

QUOTATION:—"Steady Truth."—Houghton, page 90.

What is truth? Why should it be spoken?

QUOTATION:—The answer by Hale, page 163. "Truth shall triumph."—Bryant, page 170.

VI. Children love to help:

QUOTATIONS—"Small service."—Wordsworth, page 86. "Your work."—Pope, page 206. "Noble deeds."—Holland, page 320.

VII. Life is sure to have its difficulties. They will begin in school. Watch your opportunity:

QUOTATION:—"Life's crosses."—Quarles, page 154.

VIII. There are many beauties in nature and much that is unnecessary. The wide-awake teacher will also find a fitting time:

QUOTATION:—"Waste of time."—Shakespeare, page 114.

This is about half the memory work prescribed, and it may, as all will see, be profitably worked in with the other subjects. Two things are principally worthy of consideration in such work:—(1) Take advantage of opportunities in other classes for applying it. (2) Have a definite outline or plan; in other words, see the end from the beginning.

QUESTIONS AND ANSWERS.

A correspondent sends us the following:

"KINDLY give analysis of "Logs are cut, notched at the ends, and dovetailed together so as to form a quadrangular enclosure." Also parse the words "so" and "as" separately.

SUBSCRIBER.

ANSWERS.

I. The comma after *cut* indicates that there are three sentences. First sentence:—Subject, *logs*; Pred., *are cut*; Adv. adjunct, *so as*—*quadrangular enclosure*. Second sentence:—Sub., *logs*; Pred., *are notched*; Adv. adj., *at the end*, *so as*—*enclosure*. Third sentence:—Sub., *logs*; Pred., *are dovetailed*; Adv. adj., *together*, *so as*—*enclosure*. Subordinate adverbial sentence, *As . . . enclosure*:—Subj., *they*; Pred., *would be cut, etc.*; Adv. adj., *to form a quadrangular enclosure*.

"So." Adverb of manner relating to each of the three predicates, *are cut, notched and dovetailed*.

As. Adverb of manner modifying *would be cut or notched or dovetailed, understood*.

DEAR SIR,—A short time since the foregoing questions and answers appeared in the English column of the EDUCATIONAL JOURNAL. Permit me to take exception to your explanation of Subscriber's difficulty.

I object to supplying words. Grammar is defined as the science of the sentence. But the grammarian, to be scientific, must take only the passage given him. If the provisions of his text-book do not meet the case as it stands, why, the text-book should be altered to suit the facts, not the facts to suit the text-book. It does not matter whether we call the above collocation of words one sentence or not, it certainly is not "three sentences." I think, however, that the ordinary definition of a sentence quite covers this case. The word "logs," then, is the single and only subject. The predicate complement is compound, consisting of the three participles "cut," "notched," and "dovetailed." "So as to form a quadrangular en-

closure" is an adverbial adjunct, but certainly modifies only the last predicate complement, "dovetailed," with its accompanying adverb "together." Even granting the privilege of supplying words generally, the sense would not bear to supply this adverbial phrase after "cut" and "notched." At the very most the phrase is adjunct to the three complements taken together. The same correction is necessary to your parsing of the word "so" considered as an adverb of manner. But the question arises here whether "so" is really an adverb according to the definition of that term. By itself it does not express any modification of the actions stated. It does not appear that it can be classed under any of the received eight parts of speech. Perhaps such a name as pro-adverb would meet the case. Your parsing of "as" is also objectionable from my point of view. It throws no light on the construction. If any one were really to supply the words which you assert to be understood, the absurdity would be manifest. There would be a pretence at elucidation by expansion, but the result would be only repetition, not elucidation. This construction is an exceedingly difficult one to explain. I doubt whether it can be explained on any of the received principles of grammar. Certainly it seems arbitrary to dismiss the matter simply by calling "as" an adverb of manner modifying something that is not here at all. Nor does etymology help us here, "as" being simply a worn down form of "also." It looks almost as if the construction "so as" is one of those mixed and confused forms that cannot be analyzed. Can you or any of your readers throw more light on the point? Yours,

SIGMA.

THE foregoing communication demands more consideration than the editor can give, owing to the fact that it is received as the printers are making up the forms. With the general tone of the article we can quite agree. We trust we are not inclined to idolize any grammar yet written. Yet grammars are good in their place. As *Sigma* admits, the sentence is of some little difficulty, and we feel that even after consideration considerable difference of opinion may exist as to its exact meaning and therefore as to its exact analysis.

With reference to *Sigma's* first point, the number of sentences, the whole question hinges on what a sentence is. To us it appears that there are three statements made about "logs," and that there are therefore three verbs, not three complements of one verb. Whether or not these three verbs may be called one predicate under the term "compound" is a matter of taste. We think ourselves that it is perfectly correct to treat them in this way, as *Sigma* probably would. Mason, however, in his grammar, does not, we think, admit the term "compound predicate," though he does use "compound subject" and "compound object." It was in order to accord with what we considered the usual system of analysis used in our schools that we adopted Mason's mode.

We cannot positively agree with *Sigma* that "so as to form a quadrangular enclosure" certainly modifies the last predicate complement "dovetailed." This may be so and it may not be so. Did we know the context we might speak with certainty.

The third point—that of the grammatical connection of "so"—is akin to the second.

The fourth point, as to "so" being a "pro-adverb," is a difficult one to decide. We see no objection to the term, though we consider it just as legitimate—and just as useless—as the term "pronoun."

With reference to supplying words in analysis, we wish to say that this is a matter about which no hard and fast rule can be safely made. In such sentences as "John is not so tall as I," there can surely be no objection to supplying the ellipsis. At any rate, it is well in analyzing to supply an ellipsis that will show whence originated the abbreviated or idiomatic form. This, too, even if, as *Sigma* thinks in this case, the meaning has slightly changed.

With reference to the question of origin of the "so as," we have only to say that the expression as it stands is, in our opinion, an abbreviation of the sentence given by us in our analysis.

Music Department.

All communications for this department may, until further notice, be addressed to A. T. Cringan, 23 Avenue St., Toronto.

INTRODUCTION OF SECOND STEP.

TEACHER—How many tones have we now learnt in music? Class—Three; *doh*, *me* and *soh*. T.—And how many tones have we in the scale? C.—Seven. T.—Now that you have studied the three named, and can sing them readily, we will study some of the others, and then we will be able to have even prettier tunes than we have been singing recently.

Listen while I sing four tones EAR EXERCISES. and tell me whether you hear any new ones. While I sing, I will point to each of my four fingers, and if you should hear a new tone you will be able to tell me on which number it is sung. (Sings to *laa*, after giving key-tone, s m s d; s m s m; questioning whether new tone has been heard after singing each phrase. The next phrase will have the first three tones same as before, but the fourth will be *ray*, which is a fourth below *doh*.) Did you hear any new tone? C.—Yes, the fourth one. T.—Quite right. I will repeat the phrase, and you will sing it after me. (Class imitate as desired.) Can you tell me where to put the new tone, whether above *doh* or *me*? C.—Between *doh* and *me*. T.—That is its right place. The name of the new tone is *ray*, and I will now write it on our modulator. It is spelt r-a-y, but as we only use the initial in our notation, we will write r only. (Writes r between d and m on modulator.) You will now practice this new tone from my pointing. (Points to the tones in the following order, s m s d s r r s r m r d r. You seem to have some difficulty with the new tone, but I think you will find it as easy as the others when you have studied its character. Listen while I sing, and tell me what kind of a tone you think *ray* is. (Sings s m s r r s r m d r, emphasizing r.) Can anyone describe its character? C.—Loud; noisy. T.—Yes, I did sing it rather louder than any of the others, but any tone can be sung loudly equally well. Let me try and help you with a little illustration. One day last summer, while passing a nice lawn, I saw two boys. One was running around playing with his ball, but the other was lying asleep. The boy who was playing did not seem to care about playing alone, so he went up to the other and tried to rouse him up, but the other boy was too lazy, and just rubbed his eyes a little and said, "Just leave me alone, will you, I want to sleep." Here we have two boys, one dull and lazy, the other lively and rousing. Which of the two do you think *ray* is most like? C.—The rousing boy. T.—Yes, *ray* is a rousing tone, and if you think of it as such you will find little difficulty in singing it when required. (Writes the word rousing opposite r, and drills on the modulator, giving prominence to the new tone.) The next tone to be introduced is *te*, which is immediately below *doh*. Adopt same method as in introducing *ray*, being careful to approach it from *soh*. The mental effect of *te* is sharp and piercing, and may be illustrated by a steam whistle, a pen, or a scream. When pupils can sing the chord of *soh*, i.e., s t r' easily, the modulator drill must have a direct bearing on the new tones in order to impress their character more clearly. The following will guide the teacher in preparing the modulator drill exercises for *ray*: d m d s r m r s r d r s r m r d. For *te*: d m d s r t, t, d t, d s t, d r m r s t t d' t d' s t r' t d'.

MENTAL EFFECT OF RAY. but I think you will find it as easy as the others when you have studied its character. Listen while I sing, and tell me what kind of a tone you think *ray* is. (Sings s m s r r s r m d r, emphasizing r.) Can anyone describe its character? C.—Loud; noisy. T.—Yes, I did sing it rather louder than any of the others, but any tone can be sung loudly equally well. Let me try and help you with a little illustration. One day last summer, while passing a nice lawn, I saw two boys. One was running around playing with his ball, but the other was lying asleep. The boy who was playing did not seem to care about playing alone, so he went up to the other and tried to rouse him up, but the other boy was too lazy, and just rubbed his eyes a little and said, "Just leave me alone, will you, I want to sleep." Here we have two boys, one dull and lazy, the other lively and rousing. Which of the two do you think *ray* is most like? C.—The rousing boy. T.—Yes, *ray* is a rousing tone, and if you think of it as such you will find little difficulty in singing it when required. (Writes the word rousing opposite r, and drills on the modulator, giving prominence to the new tone.) The next tone to be introduced is *te*, which is immediately below *doh*. Adopt same method as in introducing *ray*, being careful to approach it from *soh*. The mental effect of *te* is sharp and piercing, and may be illustrated by a steam whistle, a pen, or a scream. When pupils can sing the chord of *soh*, i.e., s t r' easily, the modulator drill must have a direct bearing on the new tones in order to impress their character more clearly. The following will guide the teacher in preparing the modulator drill exercises for *ray*: d m d s r m r s r d r s r m r d. For *te*: d m d s r t, t, d t, d s t, d r m r s t t d' t d' s t r' t d'.

When this and similar exercises have been given, the pupils will be prepared to take up the exercises in second step on p. 7, Book I, as far as No. 49, and songs Nos. 57 to 63.

NOTE.—To the teacher unfamiliar with the Tonic Sol-Fa methods, it will seem strange that the tones are introduced in the order and manner indicated above, as the common practice is to in-

*On comparing the tones d' s with s r it will be found that the intervals are exactly similar.

roduce the tones in stepwise succession, and in some cases the whole scale is introduced in the first lesson. Such methods are only to be compared with the old-fashioned methods of teaching reading by teaching the letters of the alphabet consecutively, rather than selecting the more common and easily taught letters, and teaching their sound, or power, as is done in the Phonic methods. It will be found by practical tests that a chord, *d m s*, for example, is much more easily sung in tune than any three tones in stepwise succession, as *d r m*. In singing real tunes we do not meet with stepwise progressions only, but with skips or leaps of wider intervals, hence the necessity of preparing our pupils to recognize the tones as individual things, irrespective of the interval by which they are approached. There will be little difficulty experienced in teaching *te* and *ray* if the teacher will study carefully the relation between the chords *d m s* and *s t r'*. These two chords are in structure exactly similar, and by dwelling on and repeating *soh* until its effect has been firmly established, the pupils will sing a t r' or their octaves almost as readily as d m s. The teacher should not on any account be tempted into teaching by step, but should persevere in drilling from the modulator until the pupils can sing any intervals formed by the five tones of the first and second steps.

QUERIES.

I am very much pleased and encouraged by the progress my pupils are making with the Tonic Sol-Fa system, and wish to introduce the books. Has the Education Department authorized the Canadian Music Course?—TEACHER.

[The text-books have not yet been officially authorized, but are being freely used by pupils throughout the Province without restriction. In Toronto and Hamilton they are used exclusively. They are published by the same firm as the authorized text-book, which prevents any friction of opposing interests. I am informed that during the few months they have been on sale the demand has largely exceeded that of the authorized series for the four years during which it has been authorized.]

Book Reviews, Notices, Etc.

Laboratory Manual of General Chemistry, by R. P. Williams, A.M. Ginn & Co., Boston.

This is a list of 100 progressive sets of experiments for beginners, with blank pages for recording results. Where the inductive method of teaching is followed this manual will be found convenient and useful. Many of our best teachers, however, consider that anything beyond a brief introductory course on the inductive plan is a waste of time.

The Elements of Euclid, by Horace Deighton, M.A.: George Bell & Co., London; pp. 419. Key, pp. 156.

This is a thoroughgoing edition of Euclid. If any one wishes to have a complete text of the old Greek master, newly translated, with many supplementary propositions, chapters on modern geometry, and several thousands of exercises, then this is the best book to purchase. *The Key* will be of immense service to teachers and private students. The chapters on Radical Axis, Poles and Polars, Harmonic Proportion, Centres of Similitude, Transversals, and Loci, are fuller than those in the authorized text-book. A complete manual of high class.

A Text-Book of Geometry (Revised Edition), by G. A. Wentworth, A.M. Ginn & Co., Boston. 386 pp.

It is to be regretted that the Education Department did not authorize this book at the last revision. It proceeds by a scientific method as contrasted with the confused method of the Euclidean writers. The straight line, parallel lines, perpendicular and oblique lines, triangles, quadrilaterals, polygons—these are the topics of Bk. I. Taken along with the author's *Exercise Manual*, there is no superior course of geometry in the language. At one or two points Chauvenet is perhaps better, but on the whole these are the best books we have up to date.

Mathematics.

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

PROBLEMS FOR SOLUTION.

1. A man bought a quantity of pearl shells. By paying \$1.35 a lb. and multiplying the square of the sum he laid out by $\frac{1}{5}$ of itself, it gives a product of 59049. How many lbs. did he get?

2. How much must a man pay @ 55c. a lb. for a number of bales of wool, each bale 145 lbs., the number of bales being such that in multiplying together $\frac{3}{5}$, $\frac{5}{8}$ and $\frac{1}{4}$, the product will be 8460?

3. A man has a plank 1 ft. wide, $22\frac{3}{4}$ ft. long and $2\frac{1}{2}$ inches thick; he wishes to make a box whose width shall be twice its height and whose length shall be twice its width. How many cubic inches in the box?

4. How much must be paid for a certain number of lbs. of linseed @ 35c. a lb., knowing that $\frac{2}{3}$ of the cube of the number equals 26509168?

5. A mattress maker purchased 84 lbs. hair, for which he gave a sum such that $\frac{1}{2}$ of the cube of the price, diminished by $\frac{1}{4}$ of the same cube, equals 0.6591. How much did the 84 lbs. cost?

6. A reservoir whose length is to its breadth as 13 is to 5 and depth as 13 is to 3, contains 99840 cub. ft. of water. What are the dimensions?

7. T. Simpson bought of H. Murray bills of merchandise as follows:—Mar. 3, \$47.30 @ 60 days; Mar. 13, \$195.86 @ 90 days; Mar. 27, \$235.07 @ 90 days; Ap. 12, \$3.30 @ 30 days; Ap. 20, \$78.65 @ 45 days. Find the date of the equated time of payment, and make out a statement of the account.

8. What is the least number of soldiers that can be drawn up 2, 3, 4, 5 or 6 deep, and also in solid squares?

9. How many times does the 29th day of the month occur in 400 consecutive years?

10. Find the L.C.M. of 1 sq. link and 1 sq. foot.

11. A market woman who has an exact number of dozens of eggs finds that if she counts them by 8, or by 10, or by 20, there are always 4 eggs left. What is the least number of dozens she can have?

12. Four men, A, B, C and D, jointly own a heap of mangoes and a monkey. They agree to divide the heap equally among themselves, any odd mangoes to be thrown to the monkey. A mistrusts the others and comes privately, divides the heap equitably, taking his own share and throwing the *one* odd mango to the monkey. Afterwards B, C, D come in succession and divide the remainder in the same way, each ignorant of what the others have done. Each divides the heap into four parts and finds an odd mango for the monkey. At last they all come together and divide the remaining heap equitably and give a fifth mango to his monkey-ship. Find the least possible number of mangoes in the original heap.

13. If n be any prime number greater than 3, prove that $n^2 - 1$ is a multiple of 24.

14. A gentleman sent his servant to buy 20 animals for \$20, viz., sheep at \$4 a head, lambs at \$0.50 and kids at \$0.25 a head. How many of each kind did the servant buy?

15. One of the diagonals of a parallelogram is 75 feet long, and the angles which it makes with lines drawn from either of its extremities to the middle points of the opposite sides are $20^\circ 14'$ and $25^\circ 38'$ respectively. Calculate the lengths of the sides, and of the other diagonal.

Answer:—70.23 ft., 52.12 ft., and 98.34 ft.

16. The product of four consecutive numbers is 73440; find the numbers.

17. A can dig 24 post holes in a day;
B " " 25 " " " "
C " " 30 " " " "

What is the smallest number which will furnish exact days' labor either for all working together or for each working alone?

18. John McCromb rents a house, the cash value of which is \$2,400, and which is kept in repair by the owner at an annual outlay of \$20, paid at the end of the year. He pays in advance an annual rent of \$200. How much a year would he save by buying the house and paying for it in cash, money being worth 7% per annum?

Answer given to 16 is 15, 16, 17, 18.

" " " 17 is 47400.
" " " 18 is \$26.

19. A compound of tin and lead weighs 10.43 times as much as an equal bulk of water, while tin weighs 7.44 times, and lead 11.35 times as much as equal bulks of

water. Find the number of pounds of each metal of the compound.

20. A man has a plank 1 ft. wide, $22\frac{3}{4}$ ft. long, and $2\frac{1}{2}$ inches thick. He wishes to make a box whose width shall be twice its height and its length twice its width. How many cubic inches in the box?

Answer:—5719 cubic inches.

21. Hamblin Smith's Arithmetic, p. 146, Paper I., No. 4.

22. Hamblin Smith's Arithmetic, p. 146, Paper II., No. 1. "Give reasons for its not reducing back exactly as it was before."

23. Same book, p. 270, No. 96.

N.B.—These problems have been sent by correspondents from three different Provinces. An accident to our correspondence pigeon-hole compels us to omit the names of the proposers. We trust this will not prevent our friends from sending in good solutions at an early date. Use only one side of the paper.

SOLUTIONS.

No. 1. Nov. No., p. 184, by E. RICHMOND, MARNOC.

$\frac{1}{3}$ less is cancelled by $\frac{1}{3}$ more.

\therefore two men do $\frac{1}{3} \times \frac{1}{7}$ or $\frac{1}{21}$ less, and one man $\frac{1}{7}$ more in 1 day, which = $(\frac{1}{3} - \frac{1}{7}) = \frac{4}{21}$ in 1 day, or $\frac{4}{21} \times 84$ in 84 days.

\therefore 17 men do $\frac{1}{7}$ of $\frac{44 \times 84}{210} = \frac{88}{5}$, or they do $\frac{88}{5}$

more than an average day's work. Good solutions were also sent by BELLA KING and LIZZIE FOX, pupils of Dresden Public School, THOS. COTTINGHAM, Commanda, and BLANCHE WOOD, pupil of No. 5, Windham.

No 3, by E. RICHMOND.

The int. = principal \times rate. Now the products are as 180 : 245; i.e., 36 : 49; or $6^2 : 7^2$. Thus when the products are to be equal they must be each represented by 6×7 and 7×6 . In other words, the principals must be as 6 : 7 and the rates as 7 : 6; i.e., the principals are \$3000 and \$3500, and the rates 7% and 6%. Solution by J. B. REYNOLDS, Enfield. Let S and S be the sums and r and r the rates per unit. Then we get $Sr = 180$, $Sr = 245$, whence $S : S = 6 : 7$, and the rates are 7% and 6%.

No. 4 by MR. RICHMOND. Area of iron cylinder = $2\pi(5+3)(5-3) = 2\pi \cdot 2 \cdot 2 = 8\pi$; Area of wooden cylinder = $2\pi(6+5)(6-5) = 2\pi \cdot 1 \cdot 1 = 2\pi$. Hence their weights are as $2\pi \cdot 2 \cdot 11 : 2\pi \cdot 2 \cdot 2$, or as 8 : 1.

Solution by MR. REYNOLDS:—Area of iron = 16π ; of wood = 11π , \therefore weight of iron : weight of wood = $16\pi \times 11 : 11\pi \times 2$; or as 8 : 1.

No. 5 by J.B.R. Factoring we get given quantity = $(x+1)(x-1)^2(x^2+3x+1) = 0$, whence $x = -1, \pm 1$, or $\frac{1}{2}(-3 \pm \sqrt{5})$.

No. 6, by the same. Given $2^{2x} + 2 + 4^{1-x} = 17$, which transforms into

$$4^{2x} + \frac{4}{2^{2x}} = 17, \text{ or}$$

$4^{2x} + 4 = 17 \cdot 2^{2x}$, an ordinary quadratic of the form $4y^2 - 17y + 4 = 0 = (4y-1)(y-4)$
 $\therefore 2^{2x} = 2^2$ or $x = 1$; or $2^{2x} = 2$, $\therefore x = -1$.

MR. E. MOSGROVE, Kirkfield, sends the following interesting solution of No. 3, solved in Dec. number, p. 218:—

252 lbs. at the average rate of $6\frac{3}{8}$, amts. to \$16.06 $\frac{1}{2}$ + 17 $\frac{1}{2}$ cts. gives \$16.24 actual cost. If both were bought @ 5 $\frac{1}{2}$ cts., they would cost $252 \times 5\frac{1}{2} = \13.86 , or \$2.38 less than the actual cost. If both were bought @ 7 $\frac{1}{2}$ cts. they would cost $252 \times 7\frac{1}{2} = \18.90 , or \$2.66 more than the actual cost. The loss on one quarter has the same relation to the gain on the other as their weights have to each other.

$\therefore 238 : 266 :: \text{wt. of 2nd} : \text{wt. of 1st}$,
or 238 : 266

119 : 133 \therefore 119 lbs. @ 7 $\frac{1}{2}$ cts
and 133 " " 5 $\frac{1}{2}$ cts.

To all our readers and correspondents, A Happy New Year! Let us work heartily to make the JOURNAL worthily represent the teaching profession of Ontario.

NOTE.—Please write on one side only; arrange all questions and solutions separately, so that they will not need to be re-written; condense as much as possible. Send all letters direct to the MATHEMATICAL EDITOR. Attention to these small matters will save much time and trouble.

BETTER death when work is done than Earth's most favoured birth;

Better a child in God's great house than the king of all the Earth.

—George Macdonald.

Examination Papers.

UNIVERSITY OF TORONTO.—ANNUAL EXAMINATIONS, 1888.

JUNIOR MATRICULATION.

PHYSICS.

Examiner—THOMAS MULVEY, B.A.

NOTE.—Candidates must answer at least three questions on each part of the paper, including the first and second on the first part and the third and ninth on the second part, and not more than seven questions.

Candidates for Scholarships will omit the fourth and seventh questions on the first part and the first and seventh on the second part.

MECHANICS.

1. Define mass, weight, velocity, acceleration, moment, couple, equilibrium, energy, work and *vis viva*.

2. Describe an experiment for determining the acceleration of gravity.

3. A body begins to move from a height of 200 feet with a velocity of 30 yards per minute; in what time will it reach the ground?

4. Explain the principle of the composition of velocities and give two examples.

5. A mass of 4 lbs. moving with a velocity of 10 feet per second, comes in contact with a mass of 6 lbs. moving in the same direction with a velocity of 4 feet per second; determine the subsequent motion and explain the principle involved.

6. Find the resultant of two parallel forces acting in the same direction.

7. Define the centre of gravity of a body and give an example.

8. In an ordinary derrick, with a double pulley, the axle being 6 inches in diameter, determine what weight can be just sustained by a pressure of 100 lbs. on the end of the windlass, which is 3 feet long.

9. Find the magnitude and direction of the resultant of three forces of 1, 5 and 9 lbs., acting in directions mutually including an angle 120° .

HYDROSTATICS.

1. What is the pressure at a point in a liquid?

2. Prove that the pressure is the same at every point in a horizontal plane in a liquid.

3. Describe an experiment for determining the pressure at any point of a liquid.

4. Find the pressure on the base of a vessel 6 inches in diameter and 2 ft. 6 inches deep, filled with water, when the barometer stands at 29.045 inches—Sp. G. Mercury 13.568.

5. State and explain the conditions under which a body floats in a liquid, and distinguish the total pressure and the resultant pressure on the submerged portions of the body.

6. What is the Specific Gravity of a body?

Describe Nicholson's Hydrometer, and explain how the specific gravity of a body lighter than water can be determined with it.

7. A body floats in water with $\frac{1}{5}$ of its volume submerged, and in a certain liquid with $\frac{3}{8}$ of its volume submerged, determine the Specific Gravity of the liquid.

8. State and explain Boyle's Law.

9. Describe, illustrating by diagrams, three of the following:—Bramah's Press, the Common Pump, the Barometer, the Air Pump, and the Syphon.

EDUCATION DEPARTMENT, ONTARIO.—MIDSUMMER EXAMINATIONS, 1888.

THIRD CLASS TEACHERS.

LATIN GRAMMAR AND COMPOSITION.

Examiners: { M. J. KELLY, M.D., LL.B.
J. E. HODGSON, M.A.

NOTE.—Not more than 8 questions to be attempted, of which the 4th, 5th, 7th, 8th and 10th must be five.

1. Decline, in sing.: *Aeneas, Cybele, deus, respublica, filius, pelagus, jusjurandum*; in plur.: *dea, Atrides, faber, sestertius*.

2. Give the gender, meaning, and gen. sing. of *recur, plebs, femur, sidus, mas, tus*.
3. Give the fem. forms of *equus, asinus, leo*.
4. Distinguish:—*castrum, castra; avis, aves; res, reus; gener, genus, genu; mores, morae; fēminis, fēminis; decōris, decōris; clavis, clava, clavus*.
5. Translate: (1) *O terque quaterque beatus!* (2) *Martius caelebs quid agam Kalendis?* (3) *Par nobile fratrum.* (4) *Unus et alter adest.* Put into Latin: (1) Half as large again; (2) We have three horses each; (3) He was made dictator for three months.
6. Distinguish between the meanings of *is, ille* and *iste*. What older form is there of *ille*? What is its adverb, meaning "at that time"? What other meanings has this adverb?
7. Give in pres. inf. act. the frequentatives of *dico, rogo, minor*; the desideratives of *edo, pario, scuteo*; and the force of the prefixes in *reitero, religo, invideo, ambio, amitto, secerno*.
8. What constructions follow *dignus, impleo, careo, potior, egeo*? Distinguish *sic* and *tam, num* and *nonne, non numquam* and *non unquam*.
9. Re-write in *oratio obliqua* (depending on *respondit*)—*Haec nequeo facere: namque, ea, quae rogavisti, monitus sum ne faciam*; and give the rules for the moods therein.
20. Translate into Latin:—All Gaul was divided into three parts, one of which the Belgae inhabited, another the Aquitani, and the third a people who, in their own tongue, were called Celts, in ours, Gauls. All these differed from one another in languages, customs and laws. The river Garumna separated the Galli from the Aquitani, the Matrona and Sequana divided them from the Belgae. Of all these the Belgae were the bravest, because they were farthest from the civilization and intellectual refinement of the Province, and merchants resorted to them less frequently and bore with them those things which tend to enervate the mind, and because they were nearest to the Germans who lived beyond the Rhine, and with whom they were continually at war.

BOOK-KEEPING.

Examiners: { J. J. TILLEY.
C. DONOVAN, M.A.

NOTE.—Only 6 questions are to be answered, but of these the 4th, 5th and 7th must be three.

1. (a) Mention the advantages that Double Entry possesses over Single Entry as a system of Book-keeping.
(b) Explain how a set of Single Entry Books may be changed to Double Entry.
2. Give the meaning of the following commercial terms:—Blank Credit, Way Bill, Balance of Trade, Lien, Tariff, Trade Discount, Assignment, Bill of Lading.
3. (a) When are Interest and Discount debited? when credited?
(b) When will the excess in an account be placed on the debit side? when on the credit side?
(c) To what extent are the shareholders of a chartered bank liable in this country?
(d) Explain the meaning of *limited* in the following:
"THE AUXILIARY PRINTING COMPANY,"
(Limited.)
4. Give both A's and B's Journal entries for the following transactions:
(a) A bought from B \$800 worth of goods, giving in payment his note for 3 months, bearing interest at 8 per cent. per annum, for \$500, and a check on the bank for the balance.
(b) B bought from A \$600 worth of goods, giving a sight draft on C of Hamilton for \$400, cash \$100, balance to remain on account.
(c) A has this day paid his note in favor of B, giving him \$300 worth of goods and cash for the balance. Face of note \$500. Discount allowed, \$20.
5. (a) A shipped to B, to be sold in joint account, 975 bbls. apples, invoiced at \$1.80 per bbl. 450 bbls were taken from his warehouse and the rest were bought from C and paid for by check on the bank. On sending the apples away he paid charges in cash \$45.

- (b) B, on receiving the apples, paid freight, \$120, and cartage, \$15, by check on the bank.
- (c) B sold the whole assignment to D at \$2.60 per bbl, and received in payment F's note in favor of D due in 3 months (discount at the rate of 8 per cent. per annum) for \$300, and a check on the bank for the balance.
- (d) B charged \$40 for selling the apples, 2 cents per bbl. for storage, and \$7.50 for insurance. He then rendered A the Account Sales and settled with him in full by a sight draft on K.
- (e) A received the Account Sales and remittance.
(1) Give A's journal entries for (a) and (e).
(2) " B's " " " (b), (c) and (d).
6. J. M. Henry settled his account of \$170 with McIvor & Co., giving them his note for \$100, and \$70 in cash. In his Journal entry Henry made the following entry of the transaction:
McIvor & Co., Dr. \$170
 To Bills Receivable..... \$100
 " Cash..... 70
Make the cross entry necessary to correct this.
7. Give Day Book entries requiring the following Journal entries:
(a) John Carson, Dr. \$800
 To Bank..... \$600
 " Cash..... 200
(b) Bank, Dr. \$1000
 To Bills Receivable..... \$600
 " John Carson..... 400
(c) John Carson, Dr. \$700
 Bills Payable 300
 To Bills Receivable..... \$700
 " Interest..... 50
 " Cash..... 250
8. Post the entries in No. 7.

Hints and Helps.

NOTES.

ON TALKING.

RECENTLY I asked a child the meaning of the word *teach*. He said, "Oh, it means to stand up and talk." The definition doubtless came from sad experience.

The pupil's learning and the teacher's talking really bear but little relation to each other.

Teacher, if you believe your frequent talks have a lasting effect, search for the traces a month after delivery. We come to know chiefly by our own exertions.

It makes some people feel good to talk, and some of this class teach school. Children, you see, are helpless. Some talk all the time without saying too much.

The maximum of talking should be done by the class.

ON ORIGINALITY.

In recent years teachers have often been told to seek originality. They are urged, with all the eloquence the institute orator commands, to use their own methods. "Make everything good your own; adapt, but never adopt, any man's method. You can succeed only when you are true to yourself." That depends largely upon the kind of self. The lesson intended is, "Be a man and think for yourself." The impression made is often far different. The old fogy and the young ignoramus, both satisfied with their own attainments, become more fixed in their ideas of self-sufficiency.

The advice, "Be original," is easily followed when given to an original fool, but to devise methods and invent devices of which man hath never heard, and for which hungry humanity looks with eager eyes, is no easy task.

Be original? Indeed! If a man can be he will need no urging—he couldn't well help it.

Even if in his power to be original, it would be well that a man acquaint himself with what humanity has already done, that he may have a good foundation upon which to rest his originality.

When you find one of your own bright original ideas on the pages of standard literature, don't your feathers fall?—*Prof. D. L. Earnest, in S. W. Journal of Education.*

WHAT CONSTITUTES A TEACHER.

1. PHYSICAL and mental vigor.
2. A well disciplined mind.
3. A disposition to look for shortcomings in ourselves instead of in our pupils.
4. A determination to know more every day; to know more than we are required to teach; to know more than our fathers knew; and to be abreast of the advanced thought of the day.
5. Real genuine love for the work, a thorough knowledge of mental growth, a hearty sympathy with children.
6. Tact.—*Exchange.*

SUGGESTIONS TO TEACHERS OF GRAMMAR.

THE teacher should make constant use of the school reader and other text-books in teaching grammar.

Let the teacher watch the every-day speech of his pupils, and allow them to use no improper contractions or wrong pronunciations.

Exercises in supplying omitted words are of great value. Dwell upon such exercises until pupils can readily supply the words necessary to complete the sense.

Pupils should be trained from the beginning to prepare the written work neatly. They will soon form the habit of doing so if they are properly taught, and their work will become a pleasure.

The blackboard can be used as freely and as advantageously in the grammar class as in the arithmetic class.—*North Carolina Teacher.*

Correspondence.

TEACHERS' SALARIES.

APROPOS of your correspondent's article on the above subject, in the JOURNAL of the 15th inst., and your editorial remarks on the same, I wish to give my experience.

Last year I passed the "Second Class Non-Professional Examination," and during the model term engaged in a good country school at a salary of \$350 per annum. The inspector used his influence, however, to break the engagement on the plea that so large a school needed an experienced teacher. I was offered another school shortly afterwards at a salary of \$325, and I foolishly accepted for fear I should not get one, being led to do so also by the hope of an advance next year. Now, although I gave good satisfaction to trustees and inspector, raised the standing of the school considerably, and won the confidence of both parents and children, I was refused an advance on the ground that "we can get lots for a smaller salary." I told them to advertise. They did so, and received about twenty applications. I heard them read and can bear out all your correspondent has to say about their composition. Some of them were simply abominable.

The trustees were all in favor of one young lady, but because another was willing to engage for \$25 less, the latter received the appointment. She enters on the noble work of teaching for the paltry sum of \$275 a year—far less than is given to an ordinary farm labourer. Who is responsible for this?

One of the trustees said to me afterwards: "You teachers have yourselves to blame for the small salaries that are paid. You cannot blame us for getting a teacher as cheaply as possible. Now most of the applicants here were pupils of the Model School. Had they all agreed to apply for a certain sum, one of them would have got it anyway. All their testimonials were good. It was only the toss of a copper who would get it, and the one who did might as well have had a reasonable salary as not. I got applications naming a certain sum and cards in a few days afterwards, offering to take \$25 or \$50 less. Thus you cut one another's throats."

I am out of a school because I refused to take less than my services were worth and I would chop cordwood for a living all winter rather than resort to such tactics.

A MALE TEACHER.

BUSINESS NOTICES.

WE direct attention to the advertisement, 14th page, of the "Concise Imperial Dictionary." It is our intention to handle this Dictionary in connection with the JOURNAL, and we offer it in the best binding, and the EDUCATIONAL JOURNAL for one year, both for \$5.50, plus 14 cents for postage. Subscribers who are paid in advance may deduct the amount they paid for one year, send the balance, and have the book at once.

WE offer, to-day, a chance for clubbing with this paper, whereby our subscribers may secure certain desirable publications below the ordinary prices. We also offer certain premiums as an inducement for new subscriptions or prompt payment of old ones. We have taxed our generosity pretty severely in some of these expensive offers, but we do it for the general good of the cause, of course. Please give the announcement a careful perusal and write early.

TO MODEL SCHOOL STUDENTS.

WE are frequently asked for special rates for the JOURNAL to the teacher-students at the Model Schools. In consideration of their position, not being yet in the active work, we have decided to grant them the special rate of \$1.00 a year, provided they subscribe while they are in such institutions. Model School students, therefore, who would like the JOURNAL for 1889 for \$1.00, may take advantage of this offer before the coming Christmas vacation, when they will be entered for the balance of this year and the whole of the next. Perhaps it would be desirable for all such subscriptions from any school to be sent in one order; and if the Principals of Model Schools throughout the Province will take a kind interest in this matter, and act for their students, they will do both them and us a favor.

Editorial.

TORONTO, JANUARY 1, 1889.

THE PROVINCIAL TEACHERS' ASSOCIATION.

THE decision as to the place of meeting of this body in 1888 having been left to the Board of Directors, they have, wisely in our opinion, selected the grounds of the Niagara Assembly at Niagara-on-the-Lake. There was, of course, a great deal to be said in favor of continuing to meet in this city, but no city is quite so pleasant in August as a country place is, and the spot selected is that. It is on the lake shore, near the mouth of the Niagara river, within easy reach of Toronto by steamer, and within equally easy reach of Hamilton and Buffalo by rail, while Niagara Falls and St. Catharines are in the immediate vicinity. It would be hard to find another spot at once so accessible and so secluded.

If we may take the liberty to offer the management of the Association a few words of advice, it will be to modify their usual programme to suit the circumstances under which they are to meet. Heretofore they have crowded all their business and discussions into three days, a large part of the first and third being inevitably lost. If the constitution of the Association permits it, why should not the whole week be given up to the convention by those who attend it? The Board of Directors might be called for Monday night, instead of Tuesday morning. The meetings of sections might be postponed from the mornings to the afternoons, and the business meetings of the Association from the afternoons to the evenings, leaving the forenoons free for indulgence in boating, bathing, excursions to historical points in which the peninsula abounds,

or rambles in the neighborhood, which is one of the most picturesque and otherwise interesting in the Province. The evening lectures, which have a value of their own, but are not indispensable, might be omitted for one year, in order that ample time might be found for thoroughly discussing all the subjects of the programme. One great defect in the Association's manner of doing its work has always been the hurried way in which it rushes through the order paper. For a place so agreeable to spend a week in, let the meetings occupy four full days, and let all who wish to take part in the discussion of topics have a chance.

We congratulate the management of the Niagara Assembly on its good fortune in securing the holding of the Provincial educational parliament on its grounds. This will give such an impetus to its educational work as nothing else could have given to it. There is plenty of room for educational effort of the kind made by the Assembly, and especially for regular institute work in the training of teachers. Many public school teachers, who are desirous of keeping themselves abreast of the times, find a difficulty in doing so. Their county institutes, held for the most part only two days in each year, hardly suffice to break the monotony of complete isolation. To be effective an institute should continue for not less than two weeks, instead of two days, and if it could be prolonged to three weeks so much the better. Private school teachers are still more in need of such help as only a well conducted institute can give, for they have in general had no normal training of any kind before entering on the practice of teaching. If the Assembly will carry on institute work for the fortnight preceding the meeting of the Association, and will provide a competent staff of directors, there seems to be good ground for the belief that a fair attendance of students might be secured. Last year no fee was charged for attendance on the regular classes except the ordinary admission fee to the grounds, and if similar liberality is shown this year by the management no one can have any reason to complain.

CHARACTER-BUILDING.

THE address delivered by Dr. Rand, of McMaster Hall, to the students of the Toronto Normal School, in connection with the closing exercises on the 20th ult., lays stress upon what is undoubtedly the prime requisite of the schools in these days, the formation of right character.

Developing the thought that "will is the chief factor of personal character," Dr. Rand says:—

"Earnest and honest effort in behalf of this thorough-going training of the self will disclose to you what as teachers you can best do by way of helping those committed to your charge. That help will have been wisely given if it stimulates them to self-effort. The teacher is first and chiefly a stimulator of his pupils' energies, and then an inspector and director of their work. It is never to be forgotten that it is what we do by and for ourselves that educates us, and the teacher's duty is not discharged unless he secures real activity, actual mental and moral doing, on

the part of his pupils. The training of the will through mental work is the great opportunity ever awaiting the teacher. He must 'moralize' as well as 'mentalize' children. The danger to be guarded against is that the child will give assent, but will not do. Obedience is the basis of all ethical culture, but it is to be remembered that as the child unfolds he should pass from a state of dependence on the will of another to that of dependence on his own will. Education may be very practically defined as working against the chance influences of life. Will is educated and character formed by effort, not by acquisition. The consciousness of effort, the outputting of overcoming energy, develops the will and counts for character. Hence the unspeakable service rendered by the teacher in stimulating children in the use of their own powers, for it is this steady, energetic use that develops the will-quality of mind. Through habit there must be woven a plexus which shall serve as the very web of character."

Inseparably connected with all right training of the will, is the recognition of the supremacy of conscience. Conscience must be educated, strengthened and enthroned as the supreme lord of conduct.

"The education of the conscience is central in all character-making, and no greater service is possible to you than can be thus rendered to the pupils themselves and thereby to society. The power to feel ethical emotions in view of right is one to be sacredly cherished. 'Find out the right!' 'Choose the right!' 'Do the right!' are the great imperatives of the soul and cannot safely be disregarded in the development of a life. Conscience is the one imperative energy of the soul. Obedience to the dictates of conscience is the condition of its becoming the controlling energy in the life."

Dr. Rand's address closed with these truthful words, full of encouragement for all true teachers:

"It is indeed a great and high service to which you are giving yourselves. May I suggest that you should make character first in your lives and first in your teaching, in order that your boys and girls shall be first in all manly and womanly virtues. Our distinctive greatness as a people is not going to depend upon our vast territory, material resources, miles of railways and canals, great commercial fleets, or even the price of land per foot in Toronto, but upon the sterling character of our men and women. There is room in the world for a grander people than any which a Christian civilization has yet produced, and why should we not seek our greatness by earnest and unwearied efforts in the making of such a people? Let it be our great obligation to teach our Canadian boys and girls, both by example and precept, that conscience is a sacred thing and is authoritative in conduct; that moral law reigns both in the individual life and in society, and that its requirements are disregarded to-day only to be repeated with avenging emphasis to-morrow. Let us by example and precept teach them that a Canadian reverences truth and speaks it; that he is honest, courteous, generous, and brave, and that he ever holds by his honor and the fear of God. And that all this shall be true, indeed, let us inflame the young lives in our charge with the recital of the heroic deeds of those who have gone before us; their deeds of courage, self-sacrifice, patriotism, and benevolence; their efforts to resist the evil and to maintain the good. Let us be enamored ourselves of excellence, and let our eyes rest on the sunlit summits of character, as exhibited in the life of that Divine One who

'was made flesh and dwelt among us.' And now,

'So close is glory to our dust,
So near is God to man;
When Duty whispers low, Thou must,
The youth replies, I can.'

THE EXAMINATION QUESTION.

WE have received the following from Dr. McLellan:

In the JOURNAL of 15th Dec., there is a clipping from a "local report" of a lecture of mine, with some comments thereon. I have to say:

1. I am not Government Inspector of Model schools.

2. I never attacked the Departmental Examinations; it is not likely that I would attack what I have for twenty years had a hand in sustaining. You must know this.

3. I am in favour of examinations, notwithstanding all that has appeared in your columns against them.

4. I have no doubt you are in a "pit of perplexity" on the literature question—and a good many others—but I must reluctantly refuse your request to construct an Archimedean lever for your rescue."

This is terribly crushing, but we must summon strength for a few observations.

I. The clipping was taken in good faith from a "local paper" whose name we unfortunately omitted to note. Possibly some reader may kindly enable us to identify it, that the fabrication may be traced to its source. We inserted the extract just as we found it, deeming it unnecessary to correct for our readers the slip in substituting "Model" for "Normal."

II. The first sentence of Dr. McLellan's No. "2" contains three statements. To which or how many of these, does the "this" in the last sentence refer? To the first? We unhappily did not know that Dr. McLellan "never attacked our Departmental Examinations," until now that he has told us. We have great faith in free speech, and did not deem it impossible that a fearless critic, even though Inspector of Normal Schools and Director of Teachers' Institutes, might have criticised for the benefit of teachers, the character and style of the papers sometimes set by Departmental Examiners. Even had we known the fact, it could have had no effect upon our note, as neither we, nor the quotation we made, asserted that Dr. McLellan attacked "our Departmental Examinations." If the ambiguous "this" refers to the second fact, we plead guilty, as we did know that Dr. McLellan has for a long time had a hand in sustaining those examinations. If to the third, we do not claim to be wise enough to know what he would be likely to do in such a matter.

No. "3" implies a misstatement or misrepresentation so glaring that we must repel it in the plainest language. We are, indeed, astonished that a writer of the accurate and logical habits with which we have always credited Dr. McLellan, could assert even by implication that the EDUCATIONAL JOURNAL is opposed to examinations. Until Dr. McLellan refers us to a single article that has ever appeared in our columns, with editorial sanction, "against" ex-

aminations, we must content ourselves with saying that we are not, we never have been, and we never expect to be against examinations. We should have supposed that Dr. McLellan "must know this," so far as the past is concerned.

No. "4" alas! lands us in another pit of perplexity. It must be due to our stupidity, of course, but we cannot for the life of us tell whether we are, in Dr. McLellan's opinion, in a pit of perplexity "on the literature question," and on a good many other questions, or in company with a good many other persons. Hence we cannot plead to this count of the indictment, unless by confessing generally that we have not yet unravelled all the perplexities of the Cosmos, and find it hard to keep from envying those who have. We think it cruel of Dr. McLellan to refuse to deliver us from this particular one in which he has himself involved us. Nor can we help thinking that he does injustice either to himself or to Archimedes in the implied comparison, as the former mathematician must surely have the standing place and fulcrum, which were wanting to the latter.

Contributors' Department.

THE TEACHER'S STATUS.

BY S. CORNEIL, LINDSAY.

Is the teacher a public officer, or is the relation between trustees and teacher only that of master and servant?

Since the change in the school law, requiring all teachers to take a course of special training at which lectures on school law are delivered, those now entering the profession are well aware that the relation between the trustees and teacher is not that of master and servant, but that the teacher is a public officer, as certainly as is the inspector, or any other public official whose salary is provided for by legislative enactment, and whose duties and prerogatives are defined by law.

Not always so, however, with trustees. Owing to the frequent changes in the composition of school boards, their opportunities for becoming posted on questions of this nature are not good. We not infrequently find trustees who have no other idea than that their relation to the teachers of their staff is just the same as their relation to their hired servants. The circulation of the EDUCATIONAL JOURNAL amongst trustees generally would do much towards correcting the crude notions which often prevail regarding their own duties, and the rights and duties of teachers.

In the case of Joice and Anglin, J. P., page 197, vol. 19, Queen's Bench Reports, it was held that the Master and Servants Act, 10 and 11 Vict., Chap. 23, of Canada, does not apply to trustees and teachers. Where a trustee had been convicted under it the conviction was quashed. This case decides the second part of the question till it shall be overruled by a higher authority.

In August, 1850, only four years after the present school system was established, the Council of Public Instruction adopted a regulation in which the following passage occurs: "While it is the duty of the trustees to employ the teacher—agree with him as to the period during which he shall teach, and the amount of

his remuneration—the mode of teaching is at the option of the teacher, and the local superintendent and visitors alone have the right to advise him on the subject. The teacher is not a mere machine, and no trustee or parent should attempt to reduce him to that position."

The late Dr. Ryerson (in a letter published in the Toronto *Globe*, March 27th, 1886, and republished in the *Journal of Education* for the same month) says: "Of private schools and their teachers the law takes no note, but the legislature that provides by law funds for the support of the public schools, has the undoubted right of prescribing the conditions on which schools shall be entitled to public aid. A teacher is not employed to teach what subjects and books he pleases, but to teach those subjects and books prescribed by law. Teachers of public schools are public officers whose duties are defined by law as well as those of the chief superintendent."

Under the authority of the Act 37, Vict., Chap. 27, at a meeting of the Council of Public Instruction held Oct. 8th, 1874, the following regulation was adopted regarding the powers and duties of masters: "The master of every public school is a public officer, and as such shall have power, and it shall be his duty to observe and enforce the following rules, etc." The rules here referred to for enforcing discipline make the duties of the teacher judicial as well as executive. The members present at the above meeting were Rev. H. J. Grassett, chairman; Rev. E. Ryerson, D. D., chief superintendent; James McLellan, Esq., Q. C., M. P., Rev. J. Amberry, M. A., Rev. Bishop Carmen, D. D., and Daniel Wilson, Esq., LL. D.

If trustees and parents were always properly informed regarding the position of the teacher in the eyes of the law, they would no more think of acting towards him as they sometimes do than they would of treating with disrespect a magistrate or a judge while in the discharge of his public duties.

Literary Notes.

SCRIBNER'S MAGAZINE for January opens the third year of its successful existence with the promise for 1889 of an even greater variety in its contents than before. Groups of articles on Art, Literature and Criticism, Railways, Electricity, and Fishing, are promised among the interesting features. The richness and excellence of the illustrations will, it is announced, be maintained and advanced.

THE Christmas number of *Harper's Young People* is an exceptionally interesting number of this excellent young people's paper. The frontispiece, Lord I have nothing to offer," illustrates a charming little poem by Margart E. Sangster, with that title. The number is filled with Christmas stories and illustrations. No family should be without at least one of the charming children's papers and magazines which so abound in these days, always within reach of younger members.

AN extra number of the *Riverside Literature Series* (published monthly by Houghton, Mifflin & Co., Boston, at 15 cents a number) has just been issued, entitled "Scenes and Dialogues from the Writings of Harriet Beecher Stowe," by Emily Weaver. The number contains selections from "Uncle Tom's Cabin," "The Minister's Wooing," and "Old Town Folks." The dialogues are well adapted for private theatricals, and are also especially suited to take the place of readings or recitations in school exercises.

Educational Meetings.

TECHNICAL EDUCATION DISCUSSED BY THE MINISTER OF EDUCATION AND OTHERS.

AN important educational meeting, differing somewhat in kind from the ordinary, was held on Wednesday, Dec. 19th, in the theatre of the Normal School Buildings, Toronto. The meeting was composed of representatives of almost every kind of Canadian industry, and of university and college professors, commercial men, clergymen, educators, etc. These gentlemen came together on the invitation of the Minister of Education, to consider the question of Technical Education in Ontario.

The speech with which the Minister opened the proceedings was exceptionally able, and contained many facts and statistics bearing directly upon the object of the meeting.

Referring to the work which is being done by the great technical school at South Kensington, England, which he visited two years ago, Mr. Ross said that he had come to the conclusion that something similar would be exceedingly useful in the Province of Ontario. He then described more at length the operations of five or six of the largest technical schools in the United States, which he visited last summer. "I found" said he, "that the Americans were giving much attention to that department of education which is closely allied with the industries of their country. Not only are they particularly active in that respect, but at the present hour and for many years this education has been going on, and as they are in many respects our greatest competitors, while their system of public education is very like ours, it occurred to me that I might get better and more applicable hints from their schools of science than from the other country. Their schools of practical science are organized somewhat similarly to our School of Practical Science, and many of them are larger. They have about ninety of these schools, attended by about 10,000 students—10,532 is the exact number according to the States report—so that you can readily perceive what effect the addition of 10,000 skilled mechanics or artisans will have on the industries of the country, especially when the same number is being added year by year. The various schools are supported by the States in which they are located, but 42 out of the 90 are endowed by land grants from the States. Yet they are very well off, as they have buildings and appliances valued at \$2,004,758, and have an annual income of \$698,758. I mention these facts in order that we might impress upon the country the great interest taken in schools of this kind on this continent, and in order that Canadians might see that they are not falling behind in the race. Among the schools which do most work of this kind is Cornell University. This university has lately expended nearly half a million of money on buildings, and has expended \$141,558 on equipment, that is, in the departments of civil engineering, mechanical engineering and applied chemistry, and pays annually in the salaries of professors and lecturers a sum of \$61,500. Place that against the state of matters in Ontario, where we pay annually \$7,700 for the maintenance of our School of Practical Science, including expenditure in salaries, and you will see how much we have to do in the province in order to hold our own with only one of the institutions in the neighboring State of New York. Then there is the Lehigh University, Hoboken College of Engineering and the School of Practical Science in Boston, which all have buildings running up into the hundreds of thousands and bearing annual receipts amounting to about \$35,000 each, all going to indicate the deep interest taken in this subject on the other side of the lines."

The Minister then discussed at some length the question of the departments of industry in which the demand for skilled labor is most urgent in Canada. He gave a mass of statistics bearing on the question and showing that there is a wide range of articles now imported which should be manufactured in the country, and might be, if there were an adequate supply of skilled labor.

The Minister then announced the three following as the questions for consideration:

- (1) Is there a scarcity of skilled labor?
- (2) Where does our skilled labor come from? Do we produce or import it?
- (3) What is the best way to procure for us the right kind of skilled labor?

The result is tersely summed up by *The Mail* as follows:

"The whole discussion was eminently practical, the speakers carefully confining themselves to the matter in hand. The Minister, at the conclusion of each speaker's remarks, asked a series of questions intended to show more clearly how employers had to suffer loss for lack of men possessing a thorough technical knowledge of their trade, and how, when such men had to be secured, it was necessary to send to Britain or the United States for them. The members of the conference followed these questions with others as to the proportion of thoroughly trained workmen in their employ, and the desire amongst mechanics themselves for technical training. The result of these questionings and cross-questionings was to establish by the almost unanimous opinion of every speaker that a very small number of Canadian mechanics had received technical training, and that the introduction of a school such as was proposed would result in the greatest possible good to the country at large, and to the employers and employé: in particular."

School-Room Methods.

FIVE-MINUTE EXERCISES.

1. Write a note to a relative or a friend, returning thanks for a present which he has just sent to you.
2. Write a letter, renewing your subscription to "*Youth's Companion*," "*Wide Awake*," or "*St. Nicholas*." Tell how much money you enclose and in what form.
3. Write an informal note in the name of your mother, inviting your teacher to take tea at your home. Name the day and hour.
4. Write an informal note inviting a friend to take a ride with you. Appoint the time or leave it to your friend's convenience.
5. Write to a school friend who has met with an accident or an affliction. Express your sympathy and offer your help.
6. Write an informal note congratulating a friend on his having won a prize at school.
7. Write to Messrs. Houghton, Mifflin & Co., Boston, Mass., ordering one of the "*Atlantic*" Portraits for your school room.
8. Write a Christmas greeting to an absent friend.
9. Order from James Vick, Rochester, N.Y., flower seeds, bulbs, etc., making a list of the varieties which you wish to purchase.
10. Write to a bookseller, ordering a list of books.
11. Write a note requesting an interview. State clearly the time and place.
12. Write to the publisher of a daily or weekly newspaper, asking him to discontinue sending the paper to you.
13. Write to a merchant in another city, asking for samples and prices of goods.
14. Write a formal note inviting an acquaintance to a social gathering at your home.
15. Write a formal note accepting an invitation to dinner.
16. Decline an invitation to accompany a friend to a concert.
17. Write an informal note to a friend in a distant town, inviting him or her to make you a visit.
18. Write an informal note announcing some good news.
19. Write a note to accompany a Christmas gift which you send to a friend.
20. Write a note asking a person to contribute money to some good cause.
21. Write to some noted man, asking for his autograph.
22. Write a note of congratulation to some American author, on his birthday.
23. Write a note asking a stranger to exchange with you stamps, coins, or curiosities.
24. Write a note commending some book which you have recently read.

25. Apply for a situation as clerk, book-keeper, or teacher. State briefly your qualifications.

26. Write an informal note asking a school friend to join you in an excursion of some kind.

27. Write a note of apology to your teacher, for some thoughtless act.

28. Write a note from a father asking the teacher to excuse his son's absence from school.

NOTE:—Do not write:—

Please excuse my son's absence yesterday. He had the tooth-ache, and oblige
MR. BLANK.

29. Write a note to some person of influence, asking for a recommendation with a view to obtaining a situation.

30. Write a note to a business man, introducing a friend who is a stranger in the city.—*N. Y. School Journal*.

WRITING FOR PRIMARY PUPILS—FIRST SESSION AT SCHOOL.

BY A. S. H.

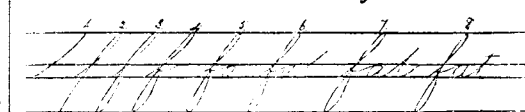
ANY teacher who has watched children make their first attempt at writing, who has seen the awkward way in which the little hands will begin to manufacture a letter or word, where he has no idea which is the first stroke and which the last, will understand something of the difficulty of the task he has set his pupil.

I have tried the following plan and have found it work admirably:

Have the slates ruled in lines, with a knife or any sharp instrument, so that the lines will not rub out, and once there are ready for any writing to be done on slates.

Rule the first line as near the top of the slate as possible; the next half an inch further down; the next a quarter of an inch, and so on all down the slate.

Rule the blackboard in the same way with lines enough to accommodate a letter that has a loop on each end, e. g. "t"; pupils take position for writing, teacher standing at black-board in side position so that all can see; counts *one*, for each pupil to look at back-board (B.B.); teacher places chalk on base line on B.B., pupils take same position on slates. Take for lesson the word *fat*.



Teacher slowly makes first stroke from base line to top line of space; pupils do same on slates. Teacher counts *two* for all to look at B.B., then continues letter, making stroke to bottom line of space—pupils copy; *three* directs all eyes to B.B. again, and teacher makes up stroke to middle of space between head line and base line; pupils reproduce on slates. Teacher counts *four* and pupils watch her make the little loop and carry chalk to head line; then they do the same. *Five* calls attention to B.B. and teacher makes body of "a," stopping at head line while pupils do their work. Teacher counts *six* and makes down stroke of "a" and stem of "t"; then allows pupils to copy. Count *seven* and repeat last line in downward direction to head line, then separate, going on down to base line, make curve and finish at head line; pupils do same on slates. Count *eight* and cross "t" with horizontal line. Examine slates and you will find the pupils have an almost exact representation on their slates of the work on the B.B.

To one who is not accustomed to it, the side position at the B.B. requires considerable practice, and great care must be taken to give the letter the correct slope.

The counting is intended merely as a signal for class to look at B.B.

A SHORT EXERCISE.

Use the following synonyms correctly in sentences:

Brutish, brutal; secure, safe; healthy, healthful; trustworthy, reliable; custom, habit; enough, sufficient; answer, reply; peaceful, peaceable; boyish, puerile; relations, relatives; hard, difficult; ability, capacity; contagion, infection; avoid, shun; coerce, compel; confute, refute; convince, persuade.—*S. W. Journal of Education*.

TEACHING TABLES.

It is well known that no subject in the curriculum is productive of more disastrous effects on "Examination Day" than arithmetic. To a large extent this is to be attributed to inaccurate tables. In the first Primary Grades certain errors occur year after year, and these, engendered at this early step, often destroy the work of the next grade.

To begin with, the same errors crop up in every school.

The writer, having a fondness for examination, has been asked to test dozens of teachers' classes, and having acquired a thorough knowledge of the errors likely to occur, which, by-the-by, is the preliminary step to their eradication, has invariably attacked them at these vulnerable points, and proved the theory true.

Let me give a few samples of these errors:—

8 × 3 = 27	6 × 9 = 72	5 × 0 = 5
8 × 4 = 36	8 × 5 = 45	5 × 5 = 10
	8 × 7 = 63	4 × 4 = 8
	7 × 6 = 46	6 × 2 = 8
	6 × 5 = 35	3 × 3 = 6
	9 × 4 = 32	4 × 2 = 6

Much harm is done by simultaneous repetition, at the early stage, being wholly adhered to, especially if the teacher be not enthusiastic and watchful. Now, as to the method of ensuring accuracy and readiness.

In the first place I find it an advantage to teach "o times" table, thus:—

0 × 1 = 0
0 × 2 = 0
0 × 3 = 0
0 × 4 = 0 and so on.

Such mistakes as 7 × 0 = 7 soon disappear.

We will take the errors in order. You will notice I have arranged them according to a certain plan, for blackboard explanation.

Take 8 × 3 = 27 as the type of the first six. We find that the product in every case (if units be added to tens) amounts to nine, e.g., 7 + 2 = 9; 6 + 3 = 9; 5 + 4 = 9.

Write down "nine times" table and call the attention of class to the fact that every product (if its figures be added) comes to nine. Thus:—

9 × 1 = 9	(8 + 1) = 9
9 × 2 = 18	(7 + 2) = 9
9 × 3 = 27	(6 + 3) = 9
9 × 4 = 36	(5 + 4) = 9
9 × 5 = 45	(4 + 5) = 9
9 × 6 = 54	(3 + 6) = 9
9 × 7 = 63	

"How then can 8 × 3 = 27; 8 × 5 = 45; 6 × 9 = 72, when these numbers come to "nine"? You are giving me 'nine times' table."

Every arithmetic lesson the teacher gives three or four of the above, cautioning the children not to let them amount to nine unless it be "nine times" table.

INDEFINITENESS OF THE ENGLISH PRONOUNS.

An illustration of the possible indefiniteness of pronouns is given in the following sentence. "A told B his horse had broken his leg." This may mean that A said to B:

- (1) My horse has broken his leg.
- (2) My " " my leg.
- (3) My " " your leg.
- (4) Your " " your leg.
- (5) Your " " my leg.
- (6) Your " " his leg.

—School Bulletin.

FRACTIONS.

TAKE two sticks about a half-inch or five-eighths in diameter and twelve inches long.

A fraction is not a broken number, nor a part of a broken number. It is the whole of one of the equal divisions of a number or quantity.

Take one of the sticks; divide one side into halves by painting one-half black or by pasting colored paper on it;—divide the next side into four parts in the same manner;—the next side into eight equal parts;—the next into sixteen.

Take the other stick; divide one side into three parts;—the next side into six parts;—the next side into twelve;—the next into twenty-four.

Children will thus see that an eighth is one-half of a fourth, a sixth is one-half of a third; and other relations of the sides. It can also be shown by laying one stick on the other that three-sixths are equal to one-half. And so on with other relations.—Solomon Sias.

For Friday Afternoon.

SPELL-BOUND SCHOLAR.

BY REV. JAMES ROGERS.

WITH fingers weary and cramped,
With eyelids of heavy weight,
A scholar sat on an oaken bench,
Plying his pencil and slate.
Spell, spell, spell.
In tedious ennui and ache,
And still with a voice of ominous swell,
He murmured, not sung, to his slate.

"Spell, spell, spell,
Till the brain begins to swim:
Aud spell, spell, spell,
Till the eyes are heavy and dim!
'Tis slay, and sley, and sleigh,
'Tis pare, and pair, and pear,
Till in the confusion I lose my way
And impatiently tear my hair.

"Oh, teachers, with ferule and strap,
Just think what you're about,
It is not wisdom you're driving in,
But reason you're driving out.
'Tis write, rite, right, wright;
'Tis waif, wave, waive;
Ambitiously longing to be a man,
I'm merely fashion's slave.

But why do I talk of longings?
Ambition for me is not well!
I'm barred from the temple of knowledge
Spell-bound—till I learn to spell.
In vain might I study nature,
And try to draw truth from her well,
No matter how much, or what else I know,
If I do not know how to spell.

'Tis 'dolt!' or 'blockhead!' or 'dunce!'
From a teacher deep flushed with passion,
If I do not arrange each letter at once
According to honored fashion.
I've studied, and wrote and thumbed,
Like the veriest drudge in the land,
Till the heart is sick and the brain benumbed
As well as the weary hand.

Spell, spell, spell,
As if it were really a treat,
To busy one's self with the shell,
While longing the oyster to eat.
'Tis mark, marque, marc,
Like my great grandfather's marks,
As if we ought to value the thought
A thousand times less than the marks.

Before men learned to write,
The thoughts of the wise were conned,
And pondered, and treasured, and handed down
As a precious gift to his son.
But now the marks—the marks!
Must occupy most of my time,
As if lack of knowledge of little marks
Were little less than a crime!

The men have their lightning express,
And talk through a telephone;
But the children must go with the old ox-cart,
In the way that grandfather has gone;
Must make just as many marks;
Must spell as he did in his day—
They are surely afraid we will get ahead,
Or they'd show us an easier way.

I lead the school in Numbers,
Geography; Grammar as well;
Excel them all in writing,
But do not learn to spell.
In figures there's always reason,
In Grammar good judgment will tell;
But neither taste, judgment, nor reason,
In the style we are taught to spell.

It might have been well in olden rhymes
To be playing with silent letters;
But there's too much to learn these modern times
To be hampered with any such fetters.
Then away with deceit and lyes!
Aweigh with ambiguous marks!
Show the shortest road to the thro'ts of the wise,
If you'd gladden our weary hearts.

Next term I must leave the school,
With a thousand things not learned!
Must I yield forever that high endeavor,
For which my soul has yearned?
A little weeping would ease my heart,
But in their briny well
My tears must stop, for every drop
Hinders my learning to spell."

With fingers weary and cramped,
With eyelids of heavy weight,
The scholar sat on an oaken bench,
Plying his pencil and slate.
Witch, wich, which?
In tedious ennui and ache,
And still with a voice of ominous pitch,
Would that its tone could reach the ritch,
He murmured this song to his slate.

—Alabama Teachers' Journal.

A LESSON IN GRAMMAR.

ONE night, an owl was prowling round
Looking for mice, when on the ground
He spied a cat, and straightway flew
Quite close to it. "Tu whit, tu whoo!"
Quoth he, "may I again ne'er stir,
I here, dressed in a coat of fur,
I do not see a four-legged owl.
Oh, what a very funny fowl!
It makes me laugh, so croll—Ha! ha!
Ha! ha!—it are—ha! ha! ha! ha!
It are, it are, it really are
The drollest thing I've seen by far!"

"You're much mistaken, scornful sir,"
The cat said, as she ceased to purr;
"For though, like one, I often prow
About at night, I am no owl.
And if I were, why, still would you
Be queerer creature of the two;
For you look, there's no doubt of that,
Extremely like a two-legged cat.
As for your grammar, 'pon my word
(Excuse this giggle), he-he-he-he,
It be, it be, it really be
The very worst I ever heard."

—Margaret Eytinge, in St. Nicholas.

WHAT BECAME OF A LIE.

FIRST somebody told it
Then the room wouldn't hold it;
So the busy tongues rolled it
Till they got it outside;
When the crowd came across it,
And it grew long and wide.

From a very small lie, sir,
It grew deep and high, sir,
Till it reached the sky, sir,
And it frightened the moon;
For she hid her sweet face, sir,
At the dreaded disgrace, sir,
That had happened at noon.

This lie brought forth others,
Dark sisters and brothers,
And fathers and mothers—
A terrible crew;
And while headlong they hurried,
The people they flurried,
And troubled, and worried,
As lies always do.

And so evil-bodied,
This monstrous lie goaded.
Till at last it exploded
In smoke and in shame;
While from mud and from mire,
The pieces flew higher,
And hit the sad liar,
And killed his good name.

—Christian Statesman.

TEACHERS!

Look over your sample copy of *School Work and Play*. Read the circular, with offers for clubs, and do what you can to secure a club for your schools.

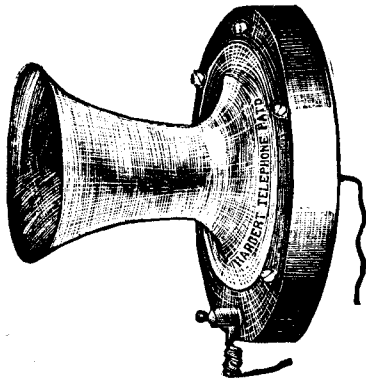
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Sufferers from catarrhal troubles should carefully read the above.

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J. L. MORRISON,
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MR. RICHARD LEWIS, author of works on Reading and Elocution, and professor of Elocution in Ontario Colleges, etc., desires to announce that having resigned his position as Principal of the Dufferin School, Toronto, he is prepared to resume his LECTURES to TEACHERS' INSTITUTES on ELOCUTION and READING as an ART, and also to lecture on

How to Read and to Teach the Reading of the Authorized School Readers of Ontario.

These Lectures will be PRACTICAL LESSONS in the art of Reading, with illustrations from the entire series of Readers.

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3. It contains all the words and letters in the first 13 lessons of 1st Part 1st Book, Ontario Readers. Experience has shown that by its use, at the end of 30 weeks, the child can write the above 13 lessons correctly to dictation, can read them in either script or print, and can finish the book in 10 more weeks.

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Samples of No. 2 will be forwarded as soon as out—about January 10.

The paper will contain eight pages, 10x15, and will be filled with matter at once entertaining to the pupil and of advantage to the teacher in its relation to school operations. It will always be abundantly illustrated in high style of art. The following will be among the departments:—

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- "Puzzlewits."
- "Some Famous Boys and Girls."
- "Editorial"
- "Jest Phor Phun."
- "For the Little Ones."
- "Light on the Lessons."
- "Games and How to Play them."

The paper will be carefully edited by W. H. HUSTON, M.A., English Master Toronto Collegiate Institute. The distribution will be in school clubs only, as described in the circular, outside subscribers being allowed to connect themselves with the club. The active co-operation of Teachers will thus be necessary to success. Please send Club Orders as soon as possible after re-assembly of schools, as we can always supply the back numbers. Address,

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Covers Only, McKechine's Best Make—No. 1, \$1.00, No. 2, \$1.15, No. 3, \$1.30, No. 4, \$1.60, No. 5, \$1.85. Special Black End, \$2.35. Perfection Chrome, \$2.60.

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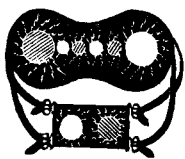
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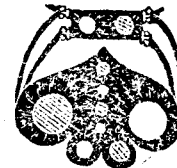
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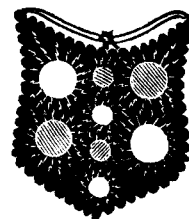
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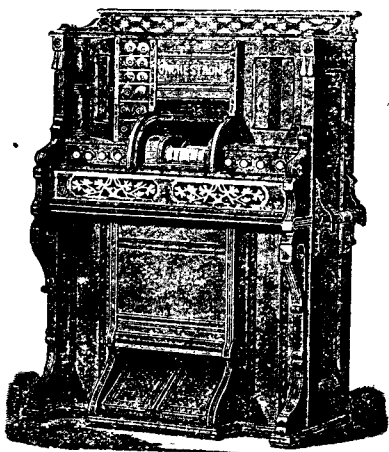
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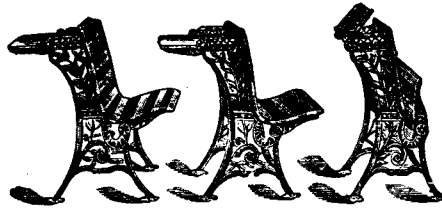
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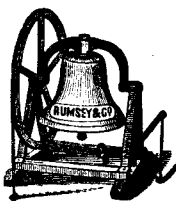
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