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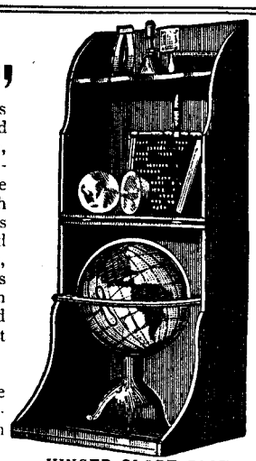

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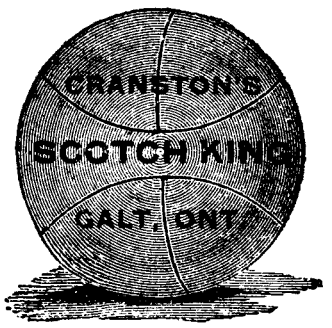

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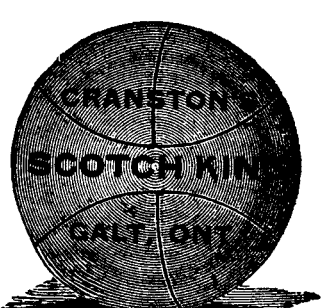

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TORONTO, MARCH 16, 1896.

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Editorial Notes.

THE *Congregationalist* remarks that the Jews at last have their revenge on Babylon. Nearly 2,500 years ago Babylon took the whole nation into captivity, but two Jews of Bagdad have now bought all that is left of Babylon. The Jew may be conquered in war and enslaved, but give him a chance to trade, and time enough, and he will own his owners.

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THE Science Department is, in its turn, crowded out of this number. If we continue branching out in every direction in order to meet the wants of all our subscribers, we shall find ourselves forced into enlarging the paper, or making it a weekly, before we know where we are. Well, "the liberal soul deviseth liberal things." Our new company has a large ambition. But, unfortunately, the paper-makers, the compositors, the pressmen, cannot afford to work without remuneration. Even editors, however much against their inclinations, are obliged to stipulate for the wherewithal to enable them to remember the butcher and the tailor occasionally. But let the subscriptions pour in from the east and the west, and who knows what may happen ? We shall see what we shall see, some day.

IN another column will be found the announcement of the annual April meeting of the Ontario Educational Association. We regret that, though the announcement was, we believe, sent to us in good time, owing to some accident or oversight it did not come into our hands in time for an earlier number. The programme is, as usual, of great variety. The teacher must be hard to please who cannot find some topic in which he or she is specially interested under discussion in some one or other of the departments, at any hour of the day or evening. If the teachers of Ontario are wise, they will rally in the largest possible number to the ranks of this association, and make it, as they can if they will, one of the strongest forces in shaping the educational character and policy of the future. The association is already powerful, but its influence may be greatly increased if the teachers will but come enthusiastically to its support from all parts of the country.

THE proposal that the governments of Great Britain and of the United States should, by formal treaty, establish arbitration as the method of concluding all differences which may fail of settlement by the ordinary diplomatic methods between the two powers is being freely, and, we are glad to see, to a large extent favorably, discussed by the thoughtful and Christian people of the two nations. The idea is as reasonable and sensible as it is noble and Christian. What an example to all professedly Christian countries, what a boon to humanity, what a foreshadowing of the era of universal peace among civilized nations, would the ratification of such a treaty be! Who knows that the year 1896 may not see it a fact accomplished ? But whether it is possible of accomplishment in this generation or not, there is no reason to doubt that, if teachers of the young in the two countries would but do their duty by discussing it in their schools, and enlisting the nobler feelings of the children in its favor, the thing could be triumphantly carried out by the next generation. What grand possibilities for the uplifting of the next generation to a higher moral plane are in the hands of the teachers of to-day !

IN one of the Public Schools of Chicago an experiment has been tried, with, it is said, gratifying success, which is certainly worth considering elsewhere. The children of the school have been entrusted with the care of the school garden. In summer the garden was a thing of beauty under their cultivation, and now, in winter, over a thousand bulbs of narcissus, hyacinths, crocuses, and tulips lie beneath the snow, where they were placed by the hands of the little gardeners. Almost before the disappearance of the snow the garden will be an expanse of flowers. The effect of this pleasant exercise in cultivating a love of flowers can easily be imagined. Better still, hand in hand with the development of that taste, which will make the lives of the future men and women richer and more refined, a spirit of charity or practical benevolence is fostered, not only by the free distribution of flowers in the hospitals and among the poor elsewhere within reach, but also by bestowment of loads of clothing and provisions, which can usually be collected with ease by the children at their homes and elsewhere, and which the little ones will delight in distributing among the needy.

English.

All articles and communications intended for this department should be addressed to the ENGLISH EDITOR EDUCATIONAL JOURNAL, Room 5, 11½ Richmond Street West, Toronto.

ANSWERS TO CORRESPONDENTS.

W.D.H.—

"Who sees with equal eye, as God of all,
A hero perish, or a sparrow fall,
Atoms or systems into ruin hurled,
And now a bubble burst, and now a world."
—*H.S.R., p. 96.*

Explain fully the meaning, and give a grammatical analysis.

ANS.—These four lines or verses constitute a description of God, who has just been spoken of as Heaven (metonymy), as hiding the future from the eyes of men, who can no more foresee what is to come than the brutes. We are told in a preceding line that this is done in order that "each may fill the circle marked by Heaven"; in other words, fulfil his allotted destiny, which fulfilment might be interfered with could he knew beforehand the events which were destined to befall him. Pope, it will be seen, was a strong predestinarian, or, as some would say, fatalist. In order to show that there is no possibility of variation from the prescribed order, he goes on in these lines to characterize the God who rules over all, and fixes the destinies of all, as utterly unmoved by any considerations arising from the character, or the place, or the comparative importance of the individual. He is Lord alike of all created things. He sees with "equal eye," *i.e.*, He is no more moved from His steadfast purpose by, the death of a hero than by that of a sparrow; by the bursting of a world, such as the earth or one of the planets, than by that of a bubble on the surface of a pool. Whatever we may think of the philosophy, we are forced to admire the smooth flow of the language and the brilliancy of the antitheses which sparkle in nearly every line, until we almost tire of the perpetual succession. It is a good exercise to let the pupil run over a page, and set over against each other the antithetic or contrasted words or thoughts, *e.g.*, hero, sparrow; atom, system; bubble, world; never is, always to be, etc.

The sentence contained in these four lines is subordinate and of the relative order. "Who" is the grammatical subject; "sees" the grammatical predicate. Modifier of subject, by apposition, "God of all." (Some may prefer to regard "as God of all" as adverbial modifier of "sees," but the former is, we think, simpler.) The difference in meaning is slight; who, being God of all, sees, or who sees, as the Being who is God of all must see. All the infinitive or noun sentences which follow: "hero (to) perish," "sparrow (to) fall," "an atom (to be) hurled (into ruin)," "a bubble (to) burst," etc., are objective modifiers of "sees." The simple nouns, "hero," "sparrow," "atoms," etc., are each in the objective case, subject of the following infinitive. We see no other grammatical difficulties, but the teacher should see that the logical relation of this whole relative clause to the preceding principal sentence is clearly understood.

R.B.G.—(*a*) Part III., 1, of "The Bard," first three lines:

"Edward, lo! to sudden fate," etc.,
.....we consecrate."

(*b*) Page 260, stanza 11, "The Raven":

"Some unhappy master.....
.....one burden bore."

(*c*) Page 340, sixth prelude:

"And now, like.....alone remain."

Especially "the magician's scroll."

ANS.—(*a*) The key to these somewhat obscure lines is given in the following note made by Gray himself on the phrase, "Half of my heart."

"Eleanor of Castile died a few years after the conquest of Wales. The heroic proof she gave of her affection for her lord is well known The monuments of his regret and sorrow are still to be seen at Northampton, Gaddington, Waltham, and other places."

In the "heroic proof" Gray refers to the story, which may possibly be true, that when Edward was wounded at Jaffa with a poisoned weapon by a treacherous Saracen, Eleanor sucked the poison from the wound at the risk of her own life.

(*b*) "The unhappy master" is merely the supposed former owner of the raven, whose perpetual, despairing refrain of "Nevermore" the poet supposed to have been imitated from him by the bird, and to be the only word which it could articulate.

(*c*) The reference is to the legend of the discontented man who was given by a magician a magic scroll, through the possession of which he was promised that each of a given number of wishes would be granted him in the order in which they were made. The scroll was to become powerless as soon as the specified number of wishes had been made. The man, who had acquired a persistent habit of making foolish wishes, went on inadvertently uttering one wish after another, each of them bringing upon him some inconvenient or baneful response which he would have to use another wish to get rid of, until the whole were exhausted, and he found himself in a much worse position than at the outset. The table, in the poet's vision, dwindles until it disappears like the scroll in the legend.

CONSTANT READER.—1. How would you dispose, grammatically, of the following words:

Say first, *for* Heaven hides nothing from thy view,
Nor the deep tract of Hell—say first *what* cause
Moved our grandparents in that happy state,
Favored of Heaven so highly, *to fall* off
From their Creator, and transgress His will
For one restraint, *lords* of the world *besides*.

2. Make an analysis of this extract so as to show clearly the several clauses, and their relationships to one another.

3. Do "the" and "an" differ so widely from adjectives as to justify us in regarding them as a separate part of speech?

And still at evenings *on* before his horse
The flickering fairy-circle wheel'd and broke
Flying, and linked again, and wheel'd and broke
Flying, *for* all the land was full of life.

4. Please parse the words underlined in the above extract.

ANS.—1. *For* is a conjunction, casual, connecting, grammatically, "hides" with "say"—"Heaven hides, etc., with." It would be more strictly logical, and perhaps better grammatically, to say that "for" connects an implied "I ask it," for that is evidently the thought-connection.

For is a conjunction—disjunctive, if you use the old but rather contradictory qualifier—connecting the sentence of which "Heaven" is the subject with the condensed one following, of which "deep tract," etc., is the subject, and an implied "does hide" the predicate. *What*, adjective, interrogative, belonging to "cause." "Favored," part. perf., modifying "grandparents." *To fall*, more properly, *to fall off*, intransitive verb, inf., having "grandparents" for its subject, and constituting with that subject the grammatical object of "moved." *For* (because of), preposition, governing "restraint." *Lords*. Some might regard this word as in the objective, in apposition with "grandparents," but the logical connection seems rather to require its construction as the nominative absolute, with an ellipsis of the part. "being," or some such word. *Besides*. So used, "besides" is generally regarded by the grammarians as an adverb. If so regarded, it must, so far as we can see, still be taken as modifying the noun "world." Why not call it an adjective at once, seeing it performs the office of one; or a preposition governing "it" (the world) understood.

(2) Probably a transposition with slight paraphrase will best serve your purpose: "Say, first—I ask because I know that Heaven hides nothing from thy view, nor does the deep tract of Hell—what caused our grandparents, seeing that they were in that happy state, and were so highly favored by Heaven, to fall off from their Creator, and transgress His will, simply on account of a single restraint imposed upon them, though they were lords of the whole world besides?"

(3) We do not think so.

(4) *Still*. As before, continuously, modifying "wheeled" and "broke" and "linked." *On*, adverb. Its meaning here is, in the same direction. It is best taken, we think, as modifying the adverbial phrase "before his horse."

(N.B.—Inquirers will please give name of author, and poem from which the extract is taken, as well as quote the passage in full.)

M.P.—The "Reef of Norman's Woe" is a reef on the west of Gloucester harbor, Mass.

Correspondence

WHAT DO THEY MEAN?

A new magazine has appeared in Toronto, *Tarot* by name. I have puzzled my brains over the first sentence of the introduction to this end-of-the-century production. Can you or any of your readers, or any of the pupils in our schools, tell what it means?

"The Public—Tarot: the juggler introduces:—the juggler, as who is better known to the public?"

There it is, punctuation and all!

Let me also add a short paragraph taken from the editorial note columns of *The Mail and Empire* of March 3rd. What do you think of it?

"In all the world there is but one man that can read the translation of the Bible into the language of the aborigines which was made by a Mr. Eliot in what is now Paxton, in 1649. That man is the well-known antiquarian and scholar, Trumbull, of Hartford, Conn." Yours,

K.

THE STATUS OF THE TEACHER.

To the Editor of THE EDUCATIONAL JOURNAL:

SIR,—As you state in your editorial of January 15th, there is a tendency for salaries to become lower than they previously were, and competition has become very keen. I believe that the reason this state of affairs is noticeable in rural sections more especially is that the farmers, of late years, are suffering from hard times, and are economizing in every possible way, and prefer a teacher with not so good a reputation at a low salary to one of first-class ability at a high salary.

I think our educational system is, to a certain extent, to blame for the present state of affairs. Students are rushed through the Public Schools, then through the High Schools, and are encouraged to write for certificates by both parents and teachers, until in the end they find themselves fitted for nothing but teaching, and so overcrowd the teaching profession.

I do not agree with you that the age limit should be raised to twenty-one years, for I know many successful teachers who started in the profession at eighteen years of age, and it is usually those best fitted to teach who are ready to do so before they are twenty-one years of age.

It is not fair, either, that the standard should be raised for the purpose of keeping others out of the profession, unless those already in are forced to qualify by passing the same examinations. Your idea of township boards is a good one, and I think that it would help, in many cases, to do away with the penuriousness which exists in some sections. Still, it destroys the independence of the section, and it is not likely it will be adopted.

I think the right way to destroy the competition is for teachers in both Public and High Schools to discourage the many from entering the profession. If the same inducement to be farmers were held out to the pupils of our Public Schools as are offered for them to become teachers, it would be better not only for the members of the teaching profession, but for those in other professions as well. If there is anything that could be improved by the advancement of the coming generation in education, it is farming, and it is to that, of all occupations, that the education obtained in our Public Schools should tend.

I believe that this overcrowding of the teaching profession will right itself in time, for people will not enter an occupation which is unprofitable, and teaching is certainly so at the present time. Teachers should, however, discourage others from entering an occupation which can but prove unprofitable to those entering, as well as to those now engaged in it.

FRANK MOFFET.

Jordan, Ont., Jan. 27th, 1896.

Primary Department.

THE MORNING TALK.

RHODA LEE.

I have been asked frequently if I thought this "moralizing" in the morning talk had any really beneficial influence upon the character of children. I always object to the term "moralizing." We don't do that—we simply present facts in as interesting and attractive a way as possible, generally in a story, and hope to give the children something to think about that will be an inspiration through the day. I firmly believe, even though I cannot always see positive proof of it, that some good must result from honest teaching of ethical truths. I heard one of the best teachers I ever knew remark once that she could not teach without her ten minutes' talk in the opening exercises. She went on to say that she did not know how much good the children gained, but she realized the benefit it was to herself. However, I can testify that no one can be in her class room half an hour without seeing evidences of her training.

The kindergarten fashion of presenting truths in stories is one we cannot do better than follow, provided we sufficiently impress the particular teaching. In addition to the story and consequent talk, Bible selections and quotations should be read and memorized.

It is not desirable to take a new subject every day. For such topics as *truthfulness*, *honesty*, *kindness to animals*, *courage*, and *obedience*, we can easily find material enough to last three or four days or longer. It is not difficult to find good stories illustrating these traits of character. Quotations bearing on these subjects are frequently met with in ordinary reading, and if entered, as found, in a book for the purpose they would soon form a good collection. While any one subject is the topic for the morning talk it is well to let the quotation remain on the blackboard.

The rule that should guide us in deciding the order of topics is that of the need of the class. If there is a want of punctuality, begin there; that will lead to faithfulness, honesty, industry, etc. When a beginning is once made there will be no lack of subjects, as one suggests and leads to another.

Some years ago I was appointed to take charge of a class that needed, more than anything else, an understanding of the word *honor*. They were industrious, truthful, and well-behaved as long as I was in the room and watching them, but there were not more than two in the class who did not think it perfectly right to prepare for a "jollification" the moment their teacher was out of sight. As I left them for the first time I put them "on their honor" to do the work I had assigned, but I discovered on my return that my appeal was but "empty words"—they did not understand. When engaged with a class at the board or with a visitor, the result was the same. "Prompt treatment needed here," was what I thought, and therewith the battle commenced. It waged for some weeks before we obtained a victory. After a series of talks on honesty, faithfulness, self-control, and kindred subjects there was a decided improvement, but considerable training was required before the lax habits of former times had been overcome. It was some time before I could leave my room and feel certain that every pupil would be true to the trust I placed in him, but that time came, and I never had more trustworthy scholars. As is generally the case, there were some who did not respond readily, but the children themselves had more to do with influencing them than I had. Class pride stepped in and helped on the work.

I may say that the severest punishment I could inflict upon a pupil who was untrustworthy was to take him with me when I had occasion to leave the class, or, if engaged at the board, have him sit beside me.

This part of the morning exercises may be varied by the teaching of a concert recitation, a hymn or song, or by asking the children to find stories or illustrations of a subject assigned. They may tell the story or bring a clipping to be read. The work is most important, do not neglect it. Don't think too much about results; sow the seed, and trust for the harvest.

Quotations on *honor*:

(1) "An honest man is the noblest work of God."—*Burns.*

(2) "There is nothing so kingly as kindness,
And nothing so royal as truth."
—*A. Carey.*

(3) "To thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."—*Shakespeare.*

(4) "Not gold, but only men can make
A people great and strong;
Men who, for Truth and Honor's sake,
Stand fast and suffer long."
—*Emerson.*

STORIES FOR REPRODUCTION.

THE WIND AND THE SUN.

A dispute once arose between the wind and the sun as to which was the stronger of the two. They at length agreed on a plan to settle the question. Whichever first made a traveller take off his cloak was to be accounted the more powerful. The wind began with all his might to blow a cold and piercing blast; but the stronger he blew, the closer the traveller wrapped his cloak around him. The sun then broke out, and with his welcome beams dispersed the cold. The traveller felt the genial warmth, and as the sun shone brighter and brighter he sat down, overpowered with the heat, and threw off his cloak. The sun was, therefore, declared the winner. From this fable we learn that kindness isbetter than harshness. Gentleness often effects what force and violence fail to accomplish.

THE KING AND THE JESTER.

A king of the olden time had among his attendants a jester, whose business it was to amuse his royal master and his guests. Great liberty was allowed to the fool in the making of his jokes, in which he often took occasion to attack the foibles of the courtiers, and even of the king himself. One day, however, he went beyond all bounds, and said something which gave the king mortal offence. He was condemned to death, but as a last mark of favor the monarch allowed him to name the mode of dying which he would prefer. Bowing humbly before the king, he replied: "Since you have deigned to leave me the choice, if it please your majesty, *I'll die of old age.*" The king could not but grant the request, and the fool's life was spared. The incident taught him, however, to be more cautious not to give offence by his jokes.

SAVED BY A SPIDER.

A king who had been defeated in battle fled from the field pursued by his enemies. Happening in his flight to pass a cave with a very narrow entrance, he went in and lay down to rest for the night. Meanwhile, a spider wove her web across the mouth of the cave. Next morning the enemy continued the chase, and on reaching the cave it struck one of the soldiers that the king might have taken refuge there, and he proposed to search it. "It is of no use," replied his companion, "for if he had gone in there, he would have swept away that spider's web which covers the entrance." They accordingly passed on, and, after their departure, the king left the cave and continued his flight in another direction. He thus owed his escape to the apparently trivial circumstance of a spider having woven her web over the entrance of his hiding-place.—*Pop. Educ.*

LANGUAGE BUSY-WORK.

BY RHODA LEE.

I.

Go shopping, and buy
A pint of ———.
A yard of ———.
A pound of———.
A dozen of———.
A barrel of———.
A bushel of———.
An ounce of———.
A package of———.
A stone of———.
A bottle of———.
A gallon of———.
A pair of———.

II.

A ——— of apples.
A ——— of vinegar.
A ——— of tea.
A ——— of castor oil.
A ——— of turnips.
A ——— of corn starch.
A ——— of oranges.
A ——— of ribbon.
An ——— of ginger.
A ——— of stockings.
A ——— of oatmeal.
A ——— of milk.

The Educational Journal

SEMI-MONTHLY.

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

PUBLISHED BY THE

Educational Journal Publishing Company,

11½ RICHMOND ST. W., TORONTO.

J. E. WELLS, M.A., EDITOR.

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Editorials.

ANNUAL MEETING OF THE ONTARIO EDUCATIONAL ASSOCIATION.

THE programme of the thirty-fifth annual meeting of the Ontario Educational Association, to be held on April 7, 8, and 9, has just been issued. On the first evening a public reception will be held in the chemical and biological buildings of the University, when Hon. G. W. Ross, Minister of Education, and President Loudon will be present and deliver addresses of welcome, to which Professor Baker will reply on behalf of the association. After the reception a conversazione will be held. At the second day's meeting, which will be held in the Normal School, Dr. Bourinot, Ottawa, will read a paper on "How Canada is Governed," and general business will be gone on with. The last day's meeting will also be held in the Normal School, when two interesting addresses will be delivered: (1) "Some Considerations on the Advantages we may Hope to Derive from Education," by William Kingsford, LL.D., F.R.C.S., Ottawa; and (2) "Canadian Schools in their Relation to National Sentiment and National Character," by G. R. Parkin, M.A., LL.D., Toronto.

TRAVELLING ARRANGEMENTS.

Reduced rates on the railways will be granted to anyone attending the convention and *becoming a member of the association*, at one first-class fare and one-third fare for the round trip, if more than fifty attend; or at one first-class fare, if 300 or more attend.

Those travelling to the meeting must purchase first-class full rate one-way tickets, and obtain a receipt on the Standard Certificate for purchase of tickets from agent at starting point, within three days of the date of meeting (Sunday not included). The secretary of the association will fill in the said certificate, and the ticket for the return trip will be issued at the above rate. The Standard Certificate will be supplied free by the agent from whom the ticket to Toronto is purchased, and no other form will be recognized by the railway companies. In order that the members of the association may have the full benefit of the reduced rates granted to the association by the Canadian Pacific and Grand Trunk Railways, the Board of Directors especially request all who attend the convention *to purchase tickets as above indicated.*

Persons wishing to become members of the Ontario Educational Association will enroll their names either with any of the secretaries of the various departments (or associations), or with the general secretary, Mr. R. W. Doan, 216 Carlton street, who will be in attendance for this purpose at 9 a.m. Tuesday, April 7th, in the Examiners' Room, Education Department. The membership fee in the general association is fifty cents.

AN IMPORTANT STUDY.

WITH commendable enterprise and public spirit, *The Atlantic Monthly* has undertaken an inquiry, the results of which can scarcely fail to prove of value as well as interest, in connection with the work of the Public Schools of the United States. Circulars have been widely distributed among school superintendents and teachers, asking for information within the knowledge of the persons addressed on seven distinct points. These points are: (1) The average number of pupils per teacher in the several grades of the Public Schools; (2) the proportion of teachers who have left the profession within a decade; (3) what proportion of them are over thirty-five years of age; (4) the freedom of teachers from political or other improper influences affecting their appointment or removal; (5) the salaries of teachers of the several grades, whether they have been increased within five or six years, whether they are regarded as sufficient, and whether higher salaries would attract to the profession men and women of greater ability and of more stable purpose; (6) the requirements for appointment, whether they are rigid and uniform, and whether a certificate is required from some Normal or training school of higher grade; (7) teachers' chances for promotion from lower to higher grades, etc.

Accompanying the circular containing these questions was a letter, in which *The Atlantic Monthly* announced its intention to "take up for discussion the status of the teacher, and consider how the profession may be made a calling of greater dignity and of more suitable reward; for, clearly," added the letter, "teaching is not held in as high honor as it ought to be. It is doubtful, indeed, if the Public School system will reach its proper efficiency until in every community the teacher's status is as high as the status of any other profession. To lift the teacher into the highest esteem, two things are necessary:

"(1) To give efficient teachers security in their positions and freedom to do their best work.

"(2) To pay them salaries large enough to make the profession attractive to the very ablest men and women, not as a makeshift, but as a life career."

Numerous and full replies were received to the foregoing questions. These were placed in the hands of Dr. Stanley Hall, than whom few educators, if any, are more competent to analyze such a mass of educational facts and statistics and arrive at the most instructive conclusions. The article now before us is over his signature. Though in some respects, such as the prevalence of political influence and manipulation in many States, and less rigid systems of examinations for certificates, etc., the schools of our own country are, to some extent, free from the more glaring defects which mar those of our neighbors, yet the ideas and circumstances of the two peoples are so much alike in other localities, and in so many respects, that the lessons elicited by Dr. Hall for the benefit of the schools of the United States are scarcely less applicable in our own country.

The answers to the first question show that the serious evil of unwieldy classes, which we have often deplored in our own country, has reached equal or greater dimensions among our neighbors. Averaging the grades when they are specified, which is seldom, Dr. Hall finds, on examination of nearly 1,200 replies received from all quarters, that Maine reports the

smallest average number (35) of pupils in the classes, and Montana the largest (58). In regard to these, Dr. Hall observes:

"These numbers, despite occasional laws that permit even more, are far too large, it need not be said, for any teacher to do good work with. A crude young teacher is constrained, and embarrassed even, in the presence of so many pairs of eyes, and a large share of her energy goes to keep order. To watch the mischievous pupils during every recitation is a constant distraction from the subject in hand. The flitting of the attention from one pupil to another, even for a woman, the periphery of whose retina is more sensitive for the indirect field of vision than a man's, is a steady strain. Moreover, what knowledge can the average teacher of such a large number have of individual pupils? And how little can she do to bring out that individuality wherein lies the power of teaching, and the unfolding of which makes or mars the later career of the pupil! No wonder the complaint of machine methods in our schools is so often heard. Both attention and love were made to have an individual focus, while mass-education has limitations in exact proportion to the size of classes. Every step, therefore, toward reduction in numbers is a great gain."

In regard to the second question, the answers show that thirty per cent. of the teachers of New England have left the profession within a decade. In the Middle States the percentage is forty; in all the Western States it is sixty-five. "Other statistics have shown," says Dr. Hall, "that nearly one-third of the teachers in many sections of the country change their vocation every year. . . No business could ever succeed, or was ever conducted, on such principles, and when we reflect that the 'prentice hand' is here tried upon human flesh, blood, and souls, the waste in all these respects is appalling."

In answer to the question, "What proportion of teachers are over thirty-five years of age?" the estimate regarding the Middle States, twenty-seven per cent., is the highest; while that for the Western States, seventeen per cent., is the lowest. "It would be an interesting question," says Dr. Hall, "how many of this large percentage of teachers more than thirty-five years of age"—would it be considered large in any other profession or occupation?—"have remained in the vocation because they succeeded as teachers, and how many are there because they could do no better in other callings?" "We have been told that the young make the best teachers for children; but, if so, why not reinstate the monitorial system of pupil-teachers? Again, we are sometimes told that older teachers are unprogressive; but this is not true of the best, who are also often needed as a conservative element against rash innovations. Nothing is more demanded in our teaching force at present than leadership of maturity and ability." How is it with us in Canada?

Remarkable, indeed, and discouraging, is the record touching teachers' tenure of their positions and immunity from improper influences. The cases in which these influences are potent, especially in appointments, are variously given as ranging from eight and ten up to forty and even fifty per cent. "These bad influences are prominent in the following order: Church, politics, personal favor, and whims of citizens and committees."

Appointments in Canada are, as we have reason to believe, less subjected to political or party influence, but it can hardly be doubted that the other sinister incentives to favoritism are at work, too often with deplorable results. Accurate information along this line would be a statistical boon. Even in Pennsylvania "one teacher tells of an applicant who was asked, not as to his qualifications, but the number of voters in his family. Another writes that the friends of a school book publishing house would drive out any teacher who would not favor their books." It is, perhaps, one of the redeeming features of our system of Government book-making that our schools are free from the direct operation of the last-named class of influences; but from private communications which from time to time find their way to our office, we fear that the desire to find places for relatives and personal favorites of trustees plays a considerable and injurious part in the field of appointments and dismissals in many parts of Canada. An inquiry along this line would probably bring not a few interesting facts to light. The cold figures given by Dr. Hall are: 9 per cent. in New Jersey, 33 per cent. in New York, 40 per cent. in Delaware, and 50 per cent. in Pennsylvania, of cases in which improper influences have been at work. The case is even worse in the Southern and Western States, where the percentages go as high as 60 and 70, and, in one case, 100.

The other subjects of inquiry, though some of them of equal importance, must be dismissed with a word. The opinion is overwhelmingly, almost unanimously, in favor of the view that an increase of salaries and greater security of tenure would greatly improve the status of teachers and the efficiency of the schools. That this is really the first and great desideratum in Canada also can hardly be doubted by any intelligent person who has given thought to the subject. Dr. Hall sums up the impressions left upon his own mind by the investigation, in two closing paragraphs. The gist of the first is a trenchant and crushing arraignment of the system which subjects the schools of the country to the baneful sway of party politics. The effects of this system are bad in every respect, and particularly bad morally.

The second paragraph deals specially with the Normal Schools, and seriously questions whether their fruits, as at present managed, are so valuable as is generally supposed. It is not that Dr. Hall undervalues professional training, but that, in his opinion, most of the American Normal Schools—not, however, without a good number of exceptions—have become institutions where form is exalted above substance, and often to the lasting detriment of the latter. No part of the entire educational system, he thinks, so needs regeneration as the Normal Schools. To this end he recommends the appointment of a commission of experts, familiar with systems in other lands, to investigate and report.

MAY we make a suggestion, which, if acted upon, would save us some trouble, and at the same time be a help to many subscribers? We like to be asked questions all along the line of the teacher's work, and take pleasure in answering them when we can. But it so happens that there are certain questions of the general, or rather the Canadian, information order, which recur so frequently that to continue answering them becomes a drain upon our limited space and time. Some such we have now before us. For example, a teacher may wish us to give the name of the lieutenant-governor and the premier of each Province in the Dominion. Another may wish a list of the cities of Canada, and so on. We may answer in a given number, and within a month or two some new subscriber may repeat the same questions. What we wish to suggest is this: The Copp, Clark Co., of this city, publish a little book called "The Canadian Almanac," which is a mine of information on a hundred such matters. It can be had for twenty cents. We find it a very useful book of reference, and we are sure every teacher would do so, too. We have no interest in the sale of this book more than in that of any other by any other publisher. But we often wish that every teacher had access to a copy. Hence this free advertisement, which is contrary to all business principles. The publishers will, we hope, forgive us.

High School Entrance and P. S. Leaving Department

EDITED BY

ANGUS McINTOSH

Headmaster Boys' Model School, Toronto, Ont.

With the assistance of several special contributors.

THIS Department covers **four pages** each issue, and is devoted wholly to High School Entrance and Public School Leaving work. It is supplied in separate form to EDUCATIONAL JOURNAL subscribers, only, at 25c. a year, or in quantities at

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LITERATURE.

"A FORCED RECRUIT AT SOLFERINO"—P. 287, FOURTH READER.

Solferino is a village of Lombardy, in northern Italy, situated about ten miles west of the River Mincio, which joins Lake Garda with the River Po, and about eighteen miles northwest of Mantua. On the 24th June, 1859, near the village of Solferino, Victor Emmanuel, who at this time held Piedmont and Sardinia, aided by a French army under Napoleon III., gained a great victory over the Austrians, who were under the command of the Emperor Francis Joseph. By the peace of Villafranca, in July, 1859, Lombardy was ceded to Sardinia. In 1860, Victor Emmanuel was proclaimed King of Italy; but the province of Venetia remained in the possession of Austria till 1866. Many Italian sympathizers of Lombardy and Venetia were forced to serve in the Austrian army against their own countrymen, who were endeavoring to free Italy from foreign oppressors. The authoress selects as a type of the men so wronged a brave lad from Venetia, who faced death manfully at Solferino.

General Subject of Poem.—The fate of a Venetian Hero. The main divisions of subject are (1) The finding of the body; (2) The appearance of the body; (3) The circumstances under which the lad was compelled to march against his own countrymen; (4) His conduct during the trying ordeal; (5) Reflections on the hero's fate; (6) Feelings of his countrymen towards him.

The authoress is addressing the victorious Italians.

Stanza 1.—The finding of the body and how it was to be honored. l. 1--Austrian--a collective name for the Austrians. l. 2—The position of the body would suggest that he had been fighting against the Italians.

Stanza 2.--The appearance of the body—fair, delicate, young, happy, unlike the regular soldier.

Stanza 3.—A true friend of Italy, although wearing the Austrian uniform. ll. 3 and 4—The following will give the meaning of these two lines: How seldom has a shot sent to rest a greater young heart underneath it (any uniform) (than this one was). The word heart has not only a literal meaning, but it clearly refers to the young man's love and devotion as described in stanza five, and to his courage, as implied in stanza six.

Stanza 4.—The cruel treatment he received at the hands of the Austrians, in being forced to join the army, and how he avoided service by never loading his musket. The strong expressions, *tortured* and *goaded*, are intended to describe the hardships of forced service in the ranks of the enemy, when his desires, no doubt, were to serve on the opposite side. His sufferings were all the more keenly felt because he was made to appear as a traitor to his country l. 2—File—A line of soldiers ranged behind one another; rank, a line of soldiers ranged side by side. *File* is, probably, here used to rhyme with *smile*. The meaning is simply that he was compelled to appear as a private.

Stanzas 5 and 6 and l. 1 of 7.—His love for his own country and his hatred of the enemy. *Yearned.*—Longed eagerly. *Badge.*—The Austrian uniform. His death would mean his deliverance from the Austrians.

Stanza 7, l. 2—l. 4 of Stanza 10.—The question, which implies indifference to those killed in the ordinary course of battle, and the reply which states the great trials through which he came, in passively suffering without the encouragement and support of comrades in arms fighting for a common cause. He had beside him the enemies of his country, and he must have felt himself placed in the position of a traitor. *l. 1, Stanza 8—Tricolor.*—The flag of Italy is a tricolor—green, white, and red. *One Tricolor* suggests the flag of United Italy. The French flag is also a tricolor—blue, white, and red. Flags of tricolor vertical bands have been adopted as symbols of liberty wrested from tyrannical oppressors. *l. 4, Stanza 8—Blazen the brass.*—To decorate monuments with the names of heroes and their deeds of valor.

Stanza 9.—The disgrace of having to march with the enemy, and to remain only passive, instead of being permitted to take an active part in liberating his native land.

Stanza 10.—The sublime death of the martyr, cut off from his own people, offering, through a sense of duty, the obedience of a faithful son, and welcoming death at the hands of his own friends, in order that he might best serve his nation. It was not permitted him to actively serve his own country, yet he remained truly loyal and submitted with a loving heart to his fate. In this he showed a more lofty spirit than could have been displayed by acting a mere soldier's part.

l. 2—Guerdon. — Reward. In this case, the gratitude of thankful hearts, praise and honor.

l. 4.—His soul kissed the lips of her guns.—He lovingly welcomed the guns of the Italians, which were to bring death to him, and thereby relief from his hated Austrian service and death to the Austrians, and thereby the freedom of his countrymen from the Austrian yoke.

Stanza 11.—Feelings of the Italians who were burying the body. l. 3—*Your poet.*—The reference is probably to Horace, the great Latin lyric poet, who died B.C. 8, at the age of 57.

It is quite probable that stanzas 3 and 10 will be found the most difficult for pupils to understand.

SELECTED PROBLEMS.

SUITABLE FOR ENTRANCE CLASSES.

1. Find the cost of carpeting a hall, 40 feet long and 7 feet wide, with 30-inch carpet, laid lengthwise of the room, and worth 75 cents a yard, allowing 4 inches per strip for waste in matching. Ans., $30.25.

2. A can row a mile in 20 minutes, B in 15 minutes, C in 13 minutes, 20 seconds, and D in 12 minutes, respectively. If they all start from the pier at the same time and row out into the lake, how far must each go, so that on returning they may all reach the pier together? Give the answer in terms of the distance passed over by D. Ans., $\frac{3}{5}$, $\frac{4}{5}$, $\frac{9}{10}$, 1.

How many pickets, each 3 inches wide, placed 3 inches apart, will be required to fence in a lot 6 rods by 14 rods, and what will be the cost at $2.75 per C? Ans., 1,320, $36.30.

4. How many rails of the longest possible equal length will inclose a rectangular field, 9,893 feet long by 8,047 feet wide, with a straight fence six rails high? Ans., 16,560,

5. What part of this year will be past at noon on July 4th? Ans., $\frac{371}{732}$.

6. A stream has a current of half a mile per hour. An oarsman rows a certain distance down the stream in 60 minutes, when he turns and rows back to the place of starting in 64 minutes. How far down the stream did he row? Ans., 16 miles.

7. A boatman can row 10 miles an hour in still water. In going a certain distance down a stream which runs at the rate of 2 miles an hour, it takes him 10 hours. How long will it take him to row back? Ans., 15 hours.

ARITHMETIC.

SQUARE ROOT.

(1) First illustrate and explain the meaning and application of the terms *square* and *square root*.

(2) Find the squares of the numbers 1—10, 99, 100, 999, and 1,000.

(3) Have pupils give all the perfect squares between 1 and 100 and their square roots.

(4) Find the square roots of such numbers as 121, 144, 225, 400, 625, which can readily be done by inspection.

(5) Multiply 35 by 35 and analyze the product.

$$\begin{array}{r} 35 \\ 35 \\ \hline 175 \\ 105 \\ \hline 1225 \end{array}$$

$$\begin{array}{rl} 25 = & 5^2 \\ 150 = & 5 \times 30 \\ 150 = & 5 \times 30 \\ 900 = & 30^2 \\ \hline 1225 = & 5^2 + 2 \times 5 \times 30 + 30^2 \end{array}$$

It is evident that 1225 is greater than the square of 30 and less than the square of 40, therefore the tens figure of the root must be 3. This fact was known from the multiplication; but show that it may be inferred in other cases not known, *e.g.*, the number 1369, which is the square of 37. 1369 being greater than 900, and less than 1600, must have a square root which has 3 for its tens figure.

$$\begin{array}{r} 1225 \\ 900 = 30^2 \\ \hline 325 = 2 \times 30 \times 5 + 5^2 \end{array}$$

$$= (2 \times 30 + 5)5$$

Now, since 325 is made up of two factors, one of which is $2 \times 30 +$ a certain quantity that is known to be 5 from the multiplications, and the other factor is the same as the quantity added to 2×30, viz., 5. Therefore, since the greater part of much the

Journal Subscribers . . .

Should not fail to secure additional copies of this department. It covers four pages filled with helpful matter, almost all of which is specially written or selected to aid teachers in preparing classes for the Entrance and Public School Leaving Examinations. For special rates see top of this page.

larger factor is known, it may be used as a trial divisor to determine the other, if not known.

60 divided into 325 gives the factor 5; and 5 times $(60+5)=325$.

6. Next take the square 1369.

$$1369$$
$$900=30^2$$
$$469=2\times30\times7+7^2$$
$$=(2\times30+7)7$$

Then represent the method of extracting the square root in the usual way.

7. Illustrate by means of a square representing, say, 1225 square inches.

8. Explain the reasons for marking off into periods of two figures each.

9. Give exercises for pupils to apply the method in easy cases.

10. Next take larger numbers.

11. Numbers that are not perfect squares; to find the square root of the highest square in it and to find the remainder.

12. To find the square root of a decimal.

13. To find the square root of a fraction.

14. Application.

(1) To find the side of a square field, when the area is given.

(2) To find the sides of a field whose length is a certain number of times its breadth, when the area is given.

(3) To find the sides of a lot when the area is given, and when it is known that the breadth is a certain fraction of the length.

(4) To find the radius of a circle when the area is given.

(5) Problems involving the facts implied in Props. 47, Book I., Euclid.

(6) Problems involving successive discounts at the same rate.

PUBLIC SCHOOL LEAVING EXAMINATION.

The following are the subjects of this examination: Reading, Grammar and Composition, English Poetical Literature, History and Geography, Arithmetic and Elementary Mensuration, Algebra, Euclid, Commercial Course, including Writing and Bookkeeping.

Arithmetic and Elementary Mensuration. — Arithmetic in theory and practice; special attention to commercial problems; insurance; simple and compound interest; averaging accounts; discount, stocks, bonds, and partnership; areas of rectilinear figures.

ARITHMETIC.

SUITABLE FOR P.S.L. CLASSES.

1. A merchant's stock was insured for $42,000, $\frac{1}{2}$ of this amount at $\frac{7}{8}$ %, $\frac{2}{3}$ of the remainder at $\frac{3}{4}$ %, and the remainder at $\frac{5}{8}$ %. Find the total premium paid. Ans., $332.50.

2. What is the amount of $4,615 for 2 years 5 months at 8 % compound interest? Ans., $5,562.36+.

3. The gross amount of a bill is $50; but, after two successive discounts at the same rate, the net amount is $46.08. Find the rate of discount. Ans., 4%.

4. A speculator sold stock at a discount of 10%, and made a profit of 20%. At what rate of discount had he purchased the stock? Ans., 25%.

5. A man invested in stock at 90$\frac{1}{8}$ in a government road paying 7%, and received, yearly, $455. What sum did he invest in the stock, brokerage being $\frac{7}{8}$%? Ans., $5,915.

6. A merchant sends his agent pork to sell on a commission of 2%, with instructions to invest the net proceeds in tea at $14 a box, after deducting his commission at 3$\frac{3}{4}$% for buying. How many boxes of tea does the merchant receive, both commissions being $357? Ans., 441.

7. Sold Mr. Long the following goods: May 2nd, two dozen ulsters, @ $18 each, on 3 months' credit; June 21st, six dozen vests, @ $2.56 each, on 2 months' credit; August 1st, three dozen trousers, @ $4 each, on 40 days' credit. Find the equated time. Ans., August 14th.

GRAMMAR QUESTIONS.

1. What part of speech is *as* in each of the following sentences?

(1) He went home, *as* he was wanted.
(2) I saw the fire, *as* I was coming home.
(3) I love such *as* love me
(4) He did the work *as* well *as* anyone could do it.

2. What part of speech is *that* in each of the following sentences?

(1) *That* is my hat.
(2) *That* man was there.
(3) I saw *that* he was there.
(4) He is the man *that* I saw.

3. Distinguish between the restrictive and descriptive uses of adjectives and adjective clauses, and give examples.

4. Analyze the following passages:

(1) If any care for what is here
Survive in spirits render'd free,
Then are these songs I sing of thee
Not all ungrateful to thine ear.

(2) The wish, that of the living whole
No life may fail beyond the grave,
Derives it not from what we have
The likest God within the soul?

(3) Then why resign into a stranger's hand
A task as much within your own command,
That God and nature, and your interest too,
Seem with one voice to delegate to you?

(4) It is due to Cowper to say that he accepts the assistance of his relatives, and all acts of kindness done to him, with sweet and becoming thankfulness; and that whatever dark fancies he may have had about his religious state, when the evil spirit was upon him, he always speaks with contentment and cheerfulness of his earthly lot.

GEOGRAPHY.

The prescribed Geography for the Public School Leaving is as follows: Commercial and physical geography. Geography of Canada and the British Empire more particularly.

1. Name the different zones, give the limits of each, and state what determines these limits,

2. What is meant by the solstices?

3. What is meant by the "midnight sun"? Where must a person be to see it?

4. What are the chief causes which affect climate? Compare and contrast the climates of (1) Manitoba and Newfoundland; (2) Madrid and Pekin; (3) The Sahara and the Congo State.

5. Describe the three motions of the earth.

6. What are the constituents of the air?

Explain what is meant by evaporation and by condensation?

What causes winds?

Give the causes of land and sea breezes.

7. Name the British possessions in Europe and Asia. When and under what circumstances was each acquired? State the importance of each.

8. What are the British possessions in Africa?

What islands of Africa are under the control of Britain?

What is the relation of the Transvaal State to Britain?

EUCLID.

MISCELLANEOUS EXERCISES, SUITABLE FOR PUBLIC SCHOOL LEAVING CANDIDATES.

1. The opposite angles of a rhomboid are equal.

2. If through the middle points of the sides of a triangle straight lines be drawn perpendicular to these sides, these three straight lines will meet in a point.

3. In a given straight line find a point equi-distant from two given points not in that line.

4. From two given points on the same side of a given straight line to draw two lines to meet on that given line, which shall be together less than any other two lines from the given points to any point in the straight line.

5. The three lines drawn from a point within a triangle are together less than the sum of the sides of the triangle, and greater than half that sum.

6. If an angle and its supplement be bisected, the two bisectors will be at right angles.

7. The three sides of any triangle are greater than the double of any one side, and less than the double of any two.

8. The four sides of a quadrilateral are greater than the sum of the two diagonals.

NOTES AND ANSWERS TO QUESTIONS.

It is clearly the duty of the trustees, according to the Regulations, to provide for the lighting of fires one hour before the time for opening school from the first of November until the first of May in each year. It is plainly stated that "no teacher or pupil shall be required to perform such duty, unless regularly employed for that purpose."

In the issue of February 1st, the following problem in arithmetic was intended as No. (2):

What is the value of a semicircular tract of land whose radius is 100 rods, at $70 per acre? Ans., $6,875. By mistake "109 rods," instead of 100 rods, was given.

"Cold on His cradle the dew-drops are shining";
l. 5, Epiphany Hymn.

This line is intended to describe the exposed surroundings of the child Jesus, as He lay in the manger, instead of being in a warm room of a house. It is perhaps not well to attempt a strictly literal interpretation of this line, yet it may be stated that whatever the accommodations for the "beasts of the stall" were, they may not have been such as to prevent the cold, damp air from pervading the place and forming dew.

Spelling must be made a special subject of study, as tests in spelling are applied on all the answer papers. It is necessary, therefore, to drill on the main terms of all the subjects All the lessons of the Fourth Reader should be included in the preparation. There will be no written test in orthoepy at the Entrance Examination. The only test that will be applied in pronunciation will be in connection with the oral reading.

HALF-YEARLY PROMOTION EXAMINATIONS—CITY PUBLIC SCHOOLS, PETERBOROUGH.

December, 1895.

LITERATURE—JUNIOR 2ND CLASS.

Time, 1½ hours.

(A maximum of 5 marks may be added for neatness.)

Part I.—"The Squirrel," Page 83.

1. Which of the stanzas tells about the squirrel's winter home? Who are his neighbors during the cold weather? From what you know of his habits write a little "story" about how the squirrel lives in winter.

2. Which stanza tells about the sleepy animals? When are these animals wide awake? Write a little story telling how the mischievous squirrel teases them. (Do not use the words of the book.)

3. Write out the third stanza, and put a dot at each place where you would pause if you were reading it. Also put in place of these words others which tell their meanings: *Want, singers all the night, nursing birds, cuckoo, her tit.*

Part II.—"The Lion," Page 72.

1. How the Lion catches his prey.
Description of the Lion.
Strength of the Lion.
Find the three paragraphs which tell these things about the Lion, and write the first three words of each.

2. Write the words below in a column on the left hand side of your paper. In another column write words pronounced the same, but having a different meaning, and after each of these write its meaning: Thus, bare....bear, a large wild animal *eight, four, feet, male, mane, night, waits, one, reeds, roar, prey, to, great, more, seen, be.*

3. Explain the meaning which each of the following passages have in the lesson: *structure, tawny yellow, graceful, pressed by hunger, command of his keeper.*

Values—3, 3, 10, 3, 3, 10, 17, 14, 12, 12, 12.

LITERATURE—SENIOR 2ND CLASS.

Time, 1½ hours.

(A maximum of 5 marks may be added for neatness.)

Part I.—"The Children's Hour," Page 179.

1. Tell the story of the "Bishop of Bingen in his Mousetower on the Rhine."

2. Tell as many ways as you can in which Longfellow is like the Bishop of Bingen, and the children like the rats who attacked him.

3. Find these passages in the lesson, and then tell what they mean : *night is beginning to lower, the day's occupations, my turret, blue-eyed banditti, scaled the wall, dungeon, round tower.*

4. Tell what the plot was that the children had made ; tell also how Longfellow proposed to *match* them.

5. Give another meaning for each of these words besides the one it has in the lesson : *sound, grave, rush, scaled, match, dark.*

Part II.—" Presence of Mind," Page 117.

1. What is *presence of mind?* Write the first word of the paragraph which tells how Andy Moore showed his presence of mind. What other quality besides presence of mind did Andy show?

2. Write the first and last words of the paragraphs that describe Andy's appearance. Describe him in your own words. (Do not use the words in the book.)

3. Write words opposite in meanings to these : *Presence of mind, help, protected, particular, pleasant, content, disappear, distance, wrong, apart, blessing, gentlemen.*

Values—12, 7, 7, 14, 7, 7, 12, 3, 4, 2, 4, 8, 12.

LITERATURE—JUNIOR 3RD CLASS.

Time, 1¾ hours.

(Readers will be required.) (A maximum of 5 marks may be added for neatness.)

Part I.—" Bruce and the Spider," Page 68.

The poem is made up of the following parts :
(1) The despair of the King.
(2) The attempts and failures of the spider.
(3) The success of the spider.
(4) The lesson which it taught Bruce.
(5) The lesson it should teach you.

1. Number the stanzas in your reader, and then state what stanzas tell of each of these parts.

2. What lesson did Bruce learn, and what one should you learn? What great deed did Bruce accomplish by " trying again "?

3. Write in your own words the story of the spider's attempts and failures, and final success.

4. Write out the stanza next to the last, filling in all words left out, and putting other words in place of the following : *Bravo, bravo, defied despair, gossip tells the tale.*

Part II.—" The Heroic Serf," Page 82.

1. What is a *serf?* What is an heroic action? Write down the single sentence from the lesson which tells of the serf's heroic action. Tell why he did it, and why you think it heroic.

2. " The circumstances " (time, place, surroundings).
" The introduction."
" The first certain indications of the wolves."
" The first attack by the wolves."
" A desperate expedient " (plan).
Write the first three words of each of the paragraphs to which the above are subjects.

3. How should each of the following passages be read : (1) " Surely that is not the wind. Listen ! " (2) " They are after us." (3) " Drive on ! drive on ! "

4. Try to picture to yourself the whole scene before the attack of the wolves—the sleigh, the occupants, the horses, the country, the sky ; then write a description of it.

5. For the words given below, write meanings that could be put in their places :
1st Par.—*Dark forests, countless troops.*
2nd Par.—*Bleak plain, relay of horses.*
9th Par.—*Measured tread, post-house.*
Values—10, 3, 3, 3, 7, 2, 8, 2+2+2, 2+2, 10, 9, 6, 9.

LITERATURE—SENIOR 3RD CLASS.

Time, 2¼ hours.

(A maximum of 5 marks may be added for neatness.)

Part I.—" The Waterfowl," Page 227.

1. Explain the meanings of the following passages occurring in the poem (numbers indicate stanzas) :

(1) *Glow the heavens, last steps of day, solitary way, rosy depths.*

(2) *Might mark thy flight to do thee wrong. Painted on the crimson sky.*

(4) *Pathless coast, illimitable air.*

2. After carefully reading the poem, write a short description of the evening scene as you see it in imagination.

3. What two stanzas mention the summer home of the waterfowl? Write a short description of that home, imagining all that is not told in the poem.

4. Where is the waterfowl going? How does it find its way? What stanza tells us? Explain what lesson Mr. Bryant learns from this. In what stanza is the lesson stated?

Part II.—" Volcanoes," Page 119.

1. Point out the subjects of the paragraphs, and show how they are connected with the subject of the lesson.

2. Beginning at the first paragraph, underline the following passages, then write out sentence in which each occurs, substituting for the part underlined other words which have the same meaning : *Striking contrast, summits, tremendous, force, lurid, amazing grandeur, in eruption, beyond comprehension, fiery monster, appalling disasters, deluge the city of Pompeii.*

3. Tell where the following are : Java, Italy, Herculaneum, Pompeii, Iceland ; and name three volcanoes in North America.

Part III.—" The Ivy Green," Page 93.

1. (1) The ivy is a dainty plant.
(2) The ivy is a true-hearted plant.
(3) The ivy is a fearless plant.
(4) The ivy is a long-lived plant.
Point out any passages in the poem which prove these statements.

2. Tell the meaning of the last stanza in your own words.

Values—16, 9, 2, 7, 3, 5, 2, 12, 10, 8, 12, 14.

LITERATURE—JUNIOR 4TH CLASS.

Time, 2¼ hours.

(A maximum of 5 marks may be added for neatness.) Note.—Class require Readers.

Part I.—" Evening Cloud," Page 45.

1. In this little poem the cloud is compared to " the departed soul." Point out four resemblances which the poet has shown between them, giving the passages in which they occur.

2. Explain clearly the meanings of the following passages : *Lay cradled, A gleam of crimson tinged its braided snow, Glory, Still radiance of the lake, Even in its motion there was rest, Emblem,* and *Gleam of bliss.*

3. Write a description of the scene which the author depicts, first pointing out any beauties you see in it.

Part II.—" Battle of Bannockburn," Page 84.

1. Point out the subjects of the first four paragraphs, showing by means of diagram how they are related to the subject of the whole piece.

2. Write a short description of the English army as you imagined it appeared before the battle. (Use your imagination to supply what is not given.)

3. Make a small map showing the positions (1) of the Scottish army, (2) of Stirling, (3) of St. Ninians, (4) of the brook Bannockburn, (5) of the pits, (6) of the English army.

4. Write the following words, taken from the lesson, in a column. In another column write opposite each its synonym (words similar in meaning) : *Assembled, dominions, barons, cavalry, summoned, stratagem, terminated, Gillies, frontiers, dispersed.*

Part III.—" The Death of the Flowers," Page 67.

1. Suggest another title for the poem.

2. State the subject of each stanza and give the passage in which it is found.

3. In which stanza does Bryant paint a word picture of the dreary autumn? Describe it in a few lines.

4. In the stanza at the head of page 68 what particular time in the fall is meant? Point out anything which you think is particularly good as being true to nature.

Values—16, 12, 10, 8, 10, 12, 10, 2, 10, 3, 2, 2, 3.

STORIES FOR COMPOSITIONS.

HONORING A KING.

A man once asked Alexander the Great to give him some money as a dowry for his daughter. The king sent him to his treasurer, and told him to demand whatever sum he pleased. Obedient to the monarch's command, he went and asked an enormous sum. The treasurer was startled at the greatness of the sum asked, and said that he could not part with so much without an express order from the king authorizing him to pay the amount. Wishing to see the monarch himself about the matter, the treasurer went to him, and said that he thought a small part of the sum might serve for the occasion. " No," replied Alexander, " let him have it all. I like that man, for he does me honor. He treats me like a king, and proves, by the largeness of his demand, that he believes me to be both rich and generous." This was enough. The treasurer immediately paid over the sum to the man of great desires.

CONTENTMENT.

An Austrian nobleman built a magnificent house in Vienna, and caused to be inscribed on the front of it these words : " This house was erected by Count Dorn, to be given to the first man who can prove that he is contented." One day a stranger knocked at the gate, and desired to speak with the master. " I am come," said he, " to take possession of this house, as I find that you have built it in order to bestow it on the man who is really contented. I am willing to take an oath that I am in that state ; you will, therefore, please to give me immediate possession." When he had said this, the count replied : " You are quite right, sir, with respect to my intentions ; but I cannot discover the least trace of contentment in your character. If you were quite contented, you would not wish to get possession of my house. I beg you, therefore, to retire from the premises." As any man's asking for the house was a substantial proof for his discontentment, the count got keeping it to himself.

A LUCKY HIT.

Protogenes was a famous painter in early times, and lived at Rhodes. One of his masterpieces represented a hound engaged in a chase, and foaming at the mouth from extreme exertion. For a long time the artist was unable to satisfy himself in properly painting the froth. At last, in a fit of anger, seizing the sponge which he used for wiping off the colors, he threw it violently against the picture. Strange to say, he thus produced by accident a most correct representation of the froth round the animal's mouth. The picture was afterwards preserved in Rhodes.

QUICK WIT.

The jester attached to the court of Peter the Great of Russia was remarkable for his ingenuity in extricating himself and others from trouble. A cousin of his, on one occasion, had fallen under the Czar's displeasure, and was about to be executed. The jester presented himself at court to petition for a reprieve. On seeing him enter the chamber of state, and divining his errand, the monarch shouted to him : " It's of no use coming here ; I swear that I will not grant what you are going to ask." Quick as thought the fool dropped on his knees, and exclaimed : " I beseech your Imperial Highness to put that scamp of a cousin of mine to death." Peter, thus caught in his own trap, had no choice but to laugh, and send a pardon to the offender.

A TROUBLESOME SWORD.

An officer, when sitting in the theatre, kept constantly fidgeting about, so that his sword got entangled in the legs of those who sat beside him. " Sir," said a gentleman near him, in an angry tone, " your sword annoys me." " Very likely," returned the officer ; " I believe it has annoyed a great many besides you, but perhaps in a more serious fashion."

TRIFLES MAKE PERFECTION.

When Michael Angelo, the great sculptor, was employed on one of his noblest works of art, a friend called to see him, and during his visit expressed great surprise at finding his statue apparently no further advanced than when he had seen it a few weeks before. " Stay, my friend," said the artist ; " I can assure you that I have been hard at work on it since I saw you last. I have deepened the furrow on the brow, and slightly de-

pressed the eyelid, while I have added another line to the mouth." "Yes," said his friend; "I see all that; but these things are only trifles." "That is true," replied the sculptor; "still, it is these trifles which make perfection; and do you call *perfection* a trifle?"

AFRICAN JUSTICE.

Alexander, marching into Africa, came to a people dwelling in peaceful huts, who knew neither war nor conquest. "Stay with us," said the chief, "as long as it pleaseth thee." During an interview with the African chief, two of his subjects brought a case before him for judgment.

The dispute was this: the one had bought a piece of ground, which, after the purchase, was found to contain a treasure, for which he felt himself bound to pay. The other refused to receive anything, stating that he had sold the ground with what it might be found to contain, apparent or concealed.

Said the chief, looking at the one: "You have a son," and, to the other, "you have a daughter; let them be married and the treasure given them as a dowry."

Alexander was astonished. "And what," said the chief, "would have been the decision in your country?"

"We should have dismissed the parties, and seized the treasure for the king's use."

"And does the sun shine in your country?" said the chief; "does the rain fall there? Are there any cattle there which feed upon the herbs and grass?"

"Certainly," said Alexander. "Ah," said the chief, "it is for the sake of *those innocent cattle* that the Great Being permits the sun to shine, the rain to fall, and the grass to grow in *your country*."

NATURE AND MYTHS.

Every child is a little savage. He needs his myth, and must be a fetish worshipper. In his heart he is a polytheist or a pantheist. He must have these traits of the savage if he is to live and grow to the full vigor of his possibilities. The child loves the birds and flowers, the sun and stars, and it was these which gave us our religion. We must catch and follow the traces of likes and dislikes in each child, and thus develop every germ of originality. Not to do this, not to be ever on the watch for the means by which we may further the development, is to dwarf some part of the child's being. The mother who endeavors to prevent her child from learning anything which he will ever have to unlearn fails to understand the fundamental truth of education, that experience consists in laying aside smaller for larger ideas and truths. This is an essential to any growth.—*G. Stanley Hall, at Massachusetts State Association. From the Popular Educator.*

HOW JIM GAINED A PRIZE.

"If the boy was smart, I could understand," said Farmer Bixby. "But he ain't smart; he's all but stoopid; and should a stoopid boy want to go to college?"

Mrs. Bixby had already heard that remark a hundred times; she was afraid she would hear it a good many times more before she gained her point. Mrs. Bixby rarely set her mind on anything, but now she was determined that her son Jim should go to college. So she said, for the twentieth time:

"Not stoopid, pa, he ain't. Jest slow, which he can't help. It takes him a long time to learn his lessons, but he does learn 'em, even if he don't ever have a high place in the class. Once he gets a thing he remembers it, too. They had some questions in school, last week, and Jim answered best of all. The head teacher, Mr. Blake, told me so. Jim'd never say a word himself. Yes, he's slow, but—"

"I need him 'round the farm," grumbled Mr. Bixby. "It's been more'n I wanted to do to let him go even so far as he has in school. I never counted on sending him to college. I can't spare his work and the money it'd take to send him, both."

Mrs. Bixby's usually submissive brown eyes flashed.

"Pa, I ain't ever spoke so before, but I shall say something now. You can afford to send him to college, if you wanted. That's your one fault—closeness. For the rest, there ain't a better man 'an you anywhere. Don't you think it shows there is good stuff in our Jim when he walks four miles in to school every day, and four miles home, and does chores for you as well? Mebbe he'd have a higher place in class if he had more time to spend on his lessons, 'stead of using it up working around the farm. There's Raymond, he hasn't as good land as you, but his boy has no work to do after school. Now, I've done my duty by you for years, given you all the butter and egg money, and I ask as kind of proper pay to me that Jim can go to college."

Mr. Bixby looked quite overwhelmed when the vigorous speech closed.

"Well, ma," he remarked, "I guess I ought to know what's best for my son; however, seeing you are so set on it, I will say this: If Jim gets the history prize this March, why, I'll let him go to college for one year, anyhow. If he gets it I'll know he's got a little in his head worth cultivating. If he don't get it he can't go to college."

Mrs. Bixby's face cheered up a little.

"Jim calculated to try for that prize," she said, "only his hopes of winning it ain't any too high. Lee Raymond is trying, and he's pretty smart."

Mr. Bixby frowned.

"It'd please Raymond mighty well if his boy got in ahead of Jim. Jim better get that prize, ma. I couldn't stand to have Raymond's boy beat him."

Mr. Bixby and Mr. Raymond were enemies. They had quarrelled some three years before over an election matter, and Jim and Lee, dear friends, had been forbidden to speak to each other. At first they had grieved, then grown rather indifferent. Now Lee was as bitter in feeling toward Jim as Mr. Raymond was toward Jim's father.

"Well, well, I guess mebbe Jim'll get it," said Mrs. Bixby, practically. "At least he'll try mighty hard."

The prize was given by an old gentleman of the village to the boy who answered best twenty-four questions on ancient history. The questions were sure to be difficult, for the gentleman selected them himself, and was apt to choose as subjects rather unimportant details—those which a boy in studying would be apt to skip for something more important. So a good deal of work had to be done to earn that thirty-dollar prize. The examination was held the last day of the winter term, under the supervision of the prize-giver himself. The competitors were obliged to present themselves on the morning of the fateful day at nine precisely. Anyone coming after that hour was refused admittance, and lost his chance of winning the thirty dollars for that year at least.

Mrs. Bixby told Jim his father's decision. The boy was splitting wood and he continued his work, only stopping to draw a long breath as she concluded with the words:

"So you work and get the prize, sonny. It's the best I can do for you."

"Well, ma,' said the sturdy Jim, "I'll do my best; and I can't do any better than I can do, can I? I know I'm slow, and I guess pa don't regret it any more than I do. Lee is working hard for that prize. He's going to college, anyhow; but I heard him say he'd like that money to splurge on when he gets there. His ma is going to take him to the city and rig him up in new clothes before he starts."

"If you go, I'm afraid you'll have to go on what you got now, or little more," sighed Mrs. Bixby. "Of course, a boy of sixteen don't want much; but, anyhow, your pa, you know, is—"

"I don't care about clothes if I only get there," interrupted Jim, parting a tough stick of wood. "The books are what I am after. Lee has nothing to do, though there is so much work to be done around their farm and house now. You know the baby ain't well, and little Alice tags round after her ma, whining all the time. She's ailing too, I guess. It's mighty hard on Mrs. Raymond; but she doesn't like Lee to spend time off his books helping her."

"'Tis hard on her," agreed Mrs. Bixby, thinking of the time when she and the pretty Mrs. Raymond had been girls together. "She and I were mighty fond of each other once. I wish I could go over and help her some, but your pa'd be mad. Anyhow, I guess she can't be so bad off, or she would let Lee do something. 'Taint good for a boy to be at his books all the time; he needs some work."

"Oh, ma, don't you get to thinking like pa," groaned the unusually uncomplaining Jim. "He says it's good for a boy's mind when his body is all tired out; but that's not so. I wish I could make him go and sit on a hard bench all day at school, studying, and then come home and do chores, finishing by milking so many kicking cows that his fingers get too nerveless to hold a book. Then I wish he'd set up a geometry before him, and try to work out an original problem. I guess he'd find it pretty hard."

"Why, sonny!" cried Mrs. Bixby.

"I know I oughtn't to say anything, but I do get so awful tired."

"It ain't easy for you, dear," whispered Mrs. Bixby, laying her knotty hand on the boy's brown curls. "But I do what I can for you."

Jim looked ashamed, as he furtively squeezed her fingers.

"You're the best ma there is," he said, "the very best. I'm pretty good on history, and I'll work well and perhaps I'll win the prize. The examination is three weeks off, so, you see, I won't be hurried at all in getting ready for it."

"But don't neglect your other studies," cautioned Mrs, Bixby, as they walked together to the house.

(To be concluded.)

For Friday Afternoon.

LAUGH A LITTLE BIT.

Here's a motto just your fit—
Laugh a little bit.
When you think you're trouble hit,
Laugh a little bit.
Look misfortune in the face,
Brave the beldam's rude grimace;
Ten to one 'twill yield its place,
If you have the wit and grit
Just to laugh a little bit.

Cherish this as sacred writ—
Laugh a little bit.
Keep it with you, sample it,
Laugh a little bit.
Little ills will sure betide you,
Fortune may not sit beside you;
Men may mock and fame deride you,
But you'll mind them not a whit
If you laugh a little bit.

—*Anon.*

DRINK AND DANGER.

Write it on the liquor store,
Write it on the prison door,
Write it on the ginshop fine,
Write, aye write, this truthful line:
"Where there's drink, there's danger."

Write it on the workhouse gate,
Write it on the schoolboy's slate,
Write it in the copybook,
That the young may at it look:
"Where there's drink, there's danger."

Write it on the churchyard mound,
Where the drink-slain dead are found,
Write it on the gallows high,
Write it for all passers-by:
"Where there's drink, there's danger."

Write it underneath your feet,
Up and down the busy street,
Write it for the great and small,
In the mansion, cot, and hall:
"Where there's drink, there's danger."

Write it on your ships which sail,
Borne along by steam and gale;
Write it in large letters—plain,
O'er our land and past the main:
"Where there's drink, there's danger."

Write it in the Christian home,
Sixty thousand drunkards roam
Year by year from God and right,
Proving with resistless might
"Where there's drink, there's danger."

Write it in the nation's laws,
Tramping out the license cause;
Write it on each ballot white,
Politicians read it right:
"Where there's drink, there's danger.'

Mathematics.

Communications intended for this department should be written on one side only, and with great distinctness; they should give all questions in full, and refer definitely to the books or other sources of the problems, and they should be addressed to the Editor, C. CLARKSON, B.A., Seaforth, Ont

CORRESPONDENCE.

W. M. GOVENLOCK, B.A., Ingersoll, sent solutions of Nos. 1 to 13, inclusive, 15, 16, 18, 19, 20, 21, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 37, given in the January issue.

A. N. MYER, Dunnville, contributes solutions of the Senior Leaving Algebra.

B. McM., Evelyn. Please send the question as well as the reference. *This is necessary in all cases to secure attention.* Time is valuable. Write out your Q.'s carefully.

SUBSCRIBER, Park Head, wishes THE JOURNAL to explain thoroughly the method of extracting cube root. We cannot use the small space at our disposal to reprint common text-book work. Thanks for your kind statement that this paper is "of immense value" to you. Your best plan is to seek (*a*) a first-class text-book on arithmetic, say Girdlestone's; (*b*) a few private lessons by mail from the nearest teacher available.

MAGGIE PARSONS, Maynooth, under date of Dec. 9th, asks for solutions of Junior Leaving Algebra for 1895. We shall be glad if some enterprising teacher will furnish concise solutions for publication.

M.A.S., no address, sends a problem for solution.

K.S., Port Severn, asks for solutions of four problems, but does not take the trouble to send the problems themselves, but only references. Repeat your request, and give the problems in full. Time is money. Don't ask us to waste it.

R. FOSTER, North Bay, under date of Nov. 11th, says: "I find THE JOURNAL a great help in my school work." He requests a solution of a problem of which the answer does not satisfy him.

C. A. MCINTYRE, Avonmore, sent a correct solution of No. 8, page 241, January issue.

L. K., Manitowaning, asks for solution of a problem.

S.G., St. George, asks us to solve a problem. The solution appeared Feb. 1st, in answer to another correspondent. All our subscribers will find it worth while to file and bind their copies of this paper. It makes a very nice volume.

S. J. KEYS, Gore Bay, sent solutions of Nos. 1 to 8, inclusive.

T. L. BUCKTON, Victoria University, sent a short article on "The Billion Question." Thanks to both these friends for giving of their best with the sole purpose that they "may benefit some fellow-teachers."

After pointing out the lack of uniformity in the English and the French methods of notation, Mr. Buckton proceeds:

"The method that seems to me more in accordance with the principle on which our system of notation proceeds would run as follows: 10 units = 1 ten; 10 tens = 1 hundred; 10 hundreds = 1 tens of hundreds; 10 tens of hundreds = 1 thousand; 10 thousands = 1 tens of thousands; 10 tens of thousands = 1 hundred thousand; 10 hundred thousands = 1 million, etc., etc. Of course the question is only a matter of name, and does not affect our operations with figures, but yet some principle ought to be observed in the nomenclature, a consistent and logical uniformity."

W. VANDUSEN, Wheatland, Man., sent solutions of Nos. 1, 2, 3, 4, 5, 6, 7, 28, 29.

Solutions sent by V., Riding Mountain, Nos, 7 to 12, inclusive.

A.H.P. MATTHEWS, Langley, B.C., says: "I have not seen any solutions of Nos. 81, 87, 89, 92, 93, and 94 of the issue of June 1st, 1895." In proof of good faith he sends solutions of Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 24, 25, 26, 27, 28, 29, 31, 32, 35, 37, of the issue of Jan. 1st, 1896. That is a fair sample of the generous help and kindly reception accorded to THE JOURNAL beyond the Rocky Mountains.

SUBSCRIBER, Willetsholme, asks a number of questions about the problems in the High School Arithmetic and in the Public School Arithmetic. Most of them have been previously answered. See back numbers of THE JOURNAL, or send for private answer.

J. D. sent two questions in Mensuration.

R. S. BREWSTER, Sunderland, sent solutions of Nos. 2, 3, 8, 12, 16, 18, 20, 21, 22, 23, 25, 28, 29, 31, of Jan. 1st.

REMARK 1.—All these kind friends have shown in the most practical way their appreciation of THE JOURNAL. The cheerful words of encouragement in these and many other letters show that this paper is doing a good work from month to month, and is helping a great many teachers in their daily work who are ready and anxious to reciprocate the benefits conferred. In these stringent times THE JOURNAL needs the help of every well-wisher, and in an active form. We trust they will tell their love and speak out their affection at the spring conventions. Spread the news far and wide that THE JOURNAL is "of immense value" to every earnest teacher.

REMARK 2.—As stated a few months ago in this column, it would seem that the Public School teachers of Ontario find very great difficulty with the authorized text-books in arithmetic. We have published solutions of questions in the Public School and in the High School arithmetic by the dozen, and still they come. Now, a large number of questions are repeated by new correspondents who have not the back numbers of THE JOURNAL. Apparently the demand is for a companion to each of these books, giving hints here and there, and solutions of the harder questions. Will not some one persuade the Education Department to issue such helps? The High School text-book is chiefly a collection of problems, and the two taken together do not furnish more than a meagre outline of the theory of arithmetic. They are all very well in the hands of a competent teacher who has had first-rate instruction from some other source, but what are the teachers to do who are compelled to rely solely on these two books?

R.F.—A rectangular bin $8\times6\times4$ feet. How many bushels of wheat? How much would the whole weigh at 61 lbs. to measured bushel? N.B.—The book answer is 150 bush., 9,150 lbs. What relation must we take between cubic feet and pounds weight to get this result? P.S.A., p. 89, Q. 20. ANSWER.—See P.S.A., p. 34: "A cubic foot contains very nearly 25 quarts." This makes 1 cubic foot $=\frac{25}{32}$ bushels. This friend says: "I find THE JOURNAL a great help in my school work."

R.S.B.—"I find the extension of the P.S. Arithmetic rather too heavy for P.S. pupils. Look at the rules for Mensuration. Does anyone suppose that P.S. pupils can understand the half of them?" (*a*) If you do not like the book, remember that the use of it in your school is not compulsory. Hundreds of teachers use no text-book in the class, and they do not seem to miss the P.S. Arithmetic. (*b*) Many teachers collect and arrange appropriate sets of graded questions for their own classes, at the same time keeping a memorandum of the solution of each problem to save time in teaching and in correcting errors. (*c*) Several Ontario teachers have published such sets. We are not acquainted with any exclusively for use of P.S.L. pupils, but we believe that one or two have a few exercises specially selected for that class of pupils. "Problems in Arithmetic," Gage & Co., has fourteen sets of such questions, with hints of solutions. Perhaps that will answer your query, "Could you direct me where I can get a good set of exercises appropriate to pupils going up for P.S.L.? I am at a loss to find a set." The following sentiment carries its own guarantee: "I owe much to your paper, and if I should be so lucky as to aid anyone else in removing a difficulty a part of my debt is paid." There spake a noble-hearted Canadian! May he receive back good measure, heaped up and running over!

SOLUTIONS.

For the problems see p. 249, Jan. 1st, 1896.

No. 15. By W. M. GOVENLOCK, B.A., Ingersoll Collegiate Institute.

Initial velocity = 0, final velocity = 16.

$\therefore$ average velocity = 8, time = 8 seconds, distance risen = 64 ft.

In falling, initial velocity = 0, acceleration = 32 ft. per second.

$\therefore$ in t seconds body falls $\frac{1}{2}.32.t^2 = 64$ ft.; $t = 2$ seconds.

Also final velocity = 64 ft.; or if g is taken at 32.16, the final velocity will be 64.32.

No. 16. By W.M.G. Suppose the time divided into 3 equal units.

Let the acceleration per unit of time $= f$.

Then the ring slides down $\frac{1}{2}f$ in the 1st unit of time

" " " " $\frac{3}{2}f$ " " 2nd " " "

" " " " $\frac{5}{2}f$ " " 3rd " " "

In all, it slides $\frac{9}{2}f$, which is therefore = 9 feet, $\therefore f = 2$.

Hence it slides 1; 3; 5 feet in the equal times.

No. 17. Book-work. See Todhunter's "Mechanics for Beginners," p. 240, ss. 54 and 55.

No. 18. By W.M.G. At the end of 2 seconds the particle would be 120 feet from the point were it not for the force of gravity. Now, this can be resolved into 60 feet vertically and $60\sqrt{3}$ horizontally. Gravity would cause the particle to fall 64 feet in 2 seconds.

Thus it must go horizontally $60\sqrt{3}$, and vertically 124 feet.

Or, rather, it moves in the line of the resultant of these velocities = 161.8 feet.

No. 19. By W.M.G. We have at once

$106\frac{1}{2}$ % of par value $= 35\frac{1}{2}$ shillings

$\therefore$ par value = 33s. 4d.

No. 20. By W.M.G. To complete the balance we shall have to put in the opposite scale pan sufficient weight to balance the wood

i.e., $\frac{24}{100}\times\frac{1000}{1728}\times\frac{5}{36}$ oz. = 1 lb. $\frac{5}{36}$ oz.

No. 21. By the EDITOR.

The mercury displaced in the tube = mercury added in the cup

$\therefore$ (area of tube) $\times 1\frac{1}{2} = 10$ (area of tube) $\times x$; $\therefore x = \frac{3}{20}$ inch.

$\therefore$ actual fall $= 1\frac{1}{2} - \frac{3}{20} = 1\frac{7}{20}$.

No. 22. By R. S. BREWSTER, Sunderland, Ont. This is the apparatus commonly called, in its different forms, "Tantalus' Cup," and the explanation is the same as that for the principle of the siphon. The water, after rising in the larger tube to the level of the smaller one, will complete the circuit of fluid and carry the air down the smaller tube inserted in the bottom of the vessel—which is not necessarily cylindrical. When once exhausted of air, the system will continue to flow until the water level falls below the lip of the larger tube and once more admits the air.

No. 23. By R.S.B. $P\times3 = W\times2$, or 30 lbs. = 2W; W = 15 lbs.

No. 24. By W.M.G. Take out 15 marbles and the remainder is a multiple of 20, 24, 30. The L.C.M. of these is 120, so that the number in the bag must be 135. 255, 375, etc. It must also be a multiple of 25, hence 375 is the *smallest* such number. N.B.—Solved many times before in this column.

No. 25. By W.M.G. Let the distance between the 2nd post and the 3rd be 3 inches, then the distance between 1st and 3rd is 6 inches, and that between 1st and 2nd is 2 inches. Make a triangle whose sides are 3, 6, and 2; find the centre of the inscribed circle, and place the 4th post there. N.B.—The sides 3, 6, and 2 give an *impossible* triangle. The problem is impossible with the figures given. This solution, however, is true for possible values.—EDITOR.

No. 26. By W.M.G. Area of lid $= \pi(1)^2 = \pi$ sq. ft.; length of the slant side $= \sqrt{(1+\frac{9}{4})} = \frac{1}{2}\sqrt{13}$ feet. The area of the curved surface is the area of a sector of a circle of which $r = \frac{1}{2}\sqrt{13}$, arc $= 2\pi.1$ foot.

Area of sector $= \frac{1}{2}$ arc $\times$ radius $= \frac{\pi}{2}\sqrt{13} = \frac{11}{7}\sqrt{13}$ $= 8.808$ sq. ft.

$\therefore$ total area $= 3.141 + 8.808 = 11.949$ sq. ft.

No. 27. By the EDITOR. The shot will describe a parabolic curve, and will reach the ground at a certain horizontal distance from the foot of the cliff. But the mechanical effect would be the same if the force of projection and the force of gravity acted separately and consecutively. The force of projection would then carry it in a horizontal line to a certain point, and then the force of gravity would carry it to the ground. The energy is, therefore, the same as that generated by falling through 78.48 metres, which may be found as in No. 15 above.

No. 28. By W. VANDUSEN, Wheatland, Man. Since the length of the chord = radius, it is the side of a hexagon (Euc. IV. 15), of which the area $= x^2 \times .433 \times 6$. But of the circle the area $= 8^2 \times 3.1416$. Hence, the six segments, or the difference $= 8^2 (3.1416 - 2.598) = 64 \times .5436$. The area of two of them is, therefore, $64 \times .1812$. But the zone = circle − these two segments $= 64 \times 3\ 1416 - 64 \times .1812 = 64 \times 2.9604 = 189\ 465$.

No. 29. By W.V.

Let s = distance passed over by the hour-hand ;
then 12s = " " " " " " minute-hand.

$\therefore$ 12s = 20 min. $+ \frac{1}{12}$s ; s $= \frac{40}{23}$ minute spaces. The minute hand has, therefore, moved over $\frac{40}{23} \times 12 = 20\frac{20}{23}$ minutes past four.

No. 30. By the EDITOR.

$\frac{1}{19} = .05262\frac{3}{19}$, by common division ..... (1)

$\therefore \frac{3}{19} = .15789\frac{9}{19}$. Substitute this in (1), and

$\frac{1}{19} = .052631578\frac{9}{19}$ ..... (2)

$\therefore \frac{9}{19} = .473684210\frac{5}{19}$ ..... (3)

$\therefore \frac{18}{19} = .947368421\frac{1}{19}$ ..... (4)

$= .947368421152631578\frac{9}{19}$ from (2) ; and from (4) it is plain that the figures recur after the last 8.

No. 31. By R. S. BREWSTER. Let S be the place of meeting between P and Q.

Then the rates are as PS : QS

$\therefore \frac{8PS}{9QS} : \frac{10QS}{9PS} = 5 : 4$; $\therefore 4PS = 5QS$;

i.e., the rates are as 5 : 4 ; $\frac{5}{9}$ of $39 = \frac{65}{3}$ miles ; $\frac{4}{9}$ of $39 = \frac{52}{3}$ miles

$\therefore$ at $\frac{9}{10}$ former rate A. goes $\frac{52}{3}$ miles in 4 hours ; or former rate $= \frac{10}{9}$ of $\frac{13}{3} = 4\frac{22}{27}$ miles per hour.

And B.'s rate was $\frac{4}{5}$ of this $= \frac{4}{5}$ of $\frac{130}{27} = 3\frac{23}{27}$ miles per hour.

No. 31. By W. M. GOVENLOCK B.A. Let them meet after x hours, A. going y miles, and B. z miles per hour.

Then $xy + xz = 39$; $\therefore x = 39 \div (y + z)$ ..... (A)

A. is 4 hours longer on the road

$\therefore (39 - xy) \div \frac{9}{10}y = 4$; $\therefore$ from (A), $39z \div (y + z) = \frac{36}{10}y$ ..... (B)

B is 5 hours longer on the road,

$\therefore (39 - zx) \div \frac{8}{5}z = 5$; $\therefore$ from (A), $39y \div (y + z) = \frac{45}{8}z$ ..... (C)

B $\div$ C gives $\frac{z}{y} = \frac{16}{25} \cdot \frac{y}{z}$, whence $z = \frac{4}{5}y$ ..... (D)

From C, $39y \div (y + \frac{4}{5}y) = \frac{45}{8}$ of $\frac{4}{5}y$, whence $y = \frac{130}{27} = 4\frac{22}{27}$, A.'s rate ;

and $\frac{4}{5}$ of $\frac{130}{27} = \frac{104}{27} = 3\frac{23}{27}$ miles per hour, B.'s rate.

No. 31. By W. PRENDERGAST, B.A., Inspector of Separate Schools, Ontario. See EDUCATIONAL JOURNAL, December, 1890.

If A. had maintained his former rate he would have reached his destination $3\frac{3}{5}$ hours after the meeting, and B. would have reached his in $5\frac{5}{8}$ hours. The time required to finish is directly proportional to the distance and inversely to the rate. But the distance itself is inversely proportional to the rate. Hence, by composition we get $3\frac{3}{5} : 5\frac{5}{8}$ inversely proportional to the squares of the rates ; $\therefore$ rates are as 5 : 4.

Thus the *times* required to walk a mile are as $\frac{1}{5} : \frac{1}{4}$.

At their regular rates A. would take $(5\frac{5}{8} - 3\frac{3}{5})$ hours less than B. to walk the whole distance. Therefore B. takes $\frac{27}{520}$ hours longer to walk a mile than A. takes. Hence, $(\frac{1}{4} - \frac{1}{5}) \div \frac{1}{5}$ of A.'s time for a mile $= \frac{27}{520}$ hours.

$\therefore$ A.'s rate $= 4\frac{22}{27}$ miles per hour ; B.'s rate $= 3\frac{23}{27}$ miles per hour.

No. 31. By A. H. P. MATTHEW, Langley, B.C.

Let x = A.'s rate per hour in miles at start.
" y = B.'s " " " " "
$\therefore$ $5\frac{5}{8}$y = distance from meeting place to P.,
and $3\frac{3}{5}$x = " " " " " Q.

(1) $\therefore$ $5\frac{5}{8}y + 3\frac{3}{5}x$ = total distance = 39 miles

and $\frac{5\frac{5}{8}y + 3\frac{3}{5}x}{x}$ = A.'s time at original rate

and $\frac{5\frac{5}{8}y + 3\frac{3}{5}x}{y}$ = B.'s " " " "

(2) $\therefore$ $\frac{5\frac{5}{8}y + 3\frac{3}{5}x}{y} - \frac{5\frac{5}{8}v + 3\frac{3}{5}x}{x} = 2\frac{1}{25}$ hours.

$x = \frac{5}{4}y$.

Substitute No. 1, and $x = 4\frac{22}{27}$, $y = 3\frac{23}{27}$ miles per hour.

N.B.—This fine problem appeared on the Second Class arithmetic paper for Ontario, 1889. We are glad to be able, by the help of our contributors, to place side by side four elegant and totally independent solutions. The comparison of different methods is a valuable window that admits much light.—EDITOR.

No. 32. By W.M.G. Let the *original* cost be \$1 ; *now* it costs $\$\frac{15}{16}$.

Let x = cost of the work ; y = cost of the material
$\therefore x + y = 1$; $\frac{5}{4}x + \frac{5}{8}y = \frac{15}{16}$; $\therefore y = \frac{3}{4}$; $\frac{5}{8}y = \frac{5}{8}$.
Out of a total cost of $\frac{15}{16}$, cost of material is $\frac{5}{8}$
" " " 100 " " " \$66⅔.
Ans.

No. 32. By A.H.P.M.

Let x = cost of material now, for 1 article
and y = " labor "
then $\frac{6}{5}$x = " material at first
" $\frac{4}{5}$y = " labor at first

$\therefore 15 \left(\frac{6x}{5} + \frac{4y}{5}\right) = 16(x + y)$

$\therefore x = 2y$

$\therefore$ the material now costs $\frac{2}{3}$ and labor $\frac{1}{3}$

$\therefore$ on \$100 worth of articles the material is worth \$66⅔. Ans.

No. 33. By S.P.G. Let x and y be the numbers, then $x^2 + y^2 = axy$

$x^2 - y^2 = bxy$. Therefore $a = (x^2 + y^2) \div xy$, and $b = (x^2 - y^2) \div xy$; $\therefore a + b = \frac{2x}{y}$, $a - b = \frac{2y}{x}$; *i. e.*, $a^2 - b^2 = 4$.

N.B.—The exponents have evidently been omitted by mistake.

No. 34. By the EDITOR. Every time any number contains 10, it contains 9, with a remainder of 1. Thus, 12345 contains 10, 1234 times and remainder 5. Hence it contains 9 ; 1234 times with remainder (5 + 1234). The operation in full stands thus :

```
1234,5
 123,4
  12,3
   1,2
     1
-------
1371,6
```

N.B.—A little inspection and a few experiments on other numbers will make the method clear.

No. 35. By A.H.P.M.

$.06 \div .0002 = 3{,}000$ cubic feet per hour.

NOTE.—This equation is copied from the "Manual of Hygiene." It is well explained in section 72, on page 38 of the Manual.

No. 36. By the EDITOR. A cord foot is one-eighth of a cord = 16 cubic feet. If the sides of the curb are perpendicular to the bottom, the width must be 4 feet. But if the sides slant as usual, the data are insufficient. The angle of the slant will be required, and the width at top or at bottom must be defined.

No. 37. By A.H.P.M.

A. gets $\frac{2}{5}$ of all the marks. Let C. get x marks
$\therefore$ B gets $2(\frac{2}{5} - x)$; D. gets $\frac{1}{2}(1320 - x)$; and
E gets $\frac{1}{3}(2640 - 2x)$; $\therefore$ $x = \frac{6}{55}$, and the marks obtained are as 22 : 32 : 6 : 30 : 40. E. is the prizeman.

REVIEW HELPS.

M. A. WATT.

Reviewing is dull work for Junior Classes, and it is hard to keep up interest. I have a plan which I think is original, though that is always questionable in this life of influences. We are "things of shreds and patches." However, it is very interesting. We call it a "Match." The front blackboard is divided into four (or six) sections, half for the boys, half for the girls. Crayons and brushes are placed handy ; "monitors" for cleaning board are chosen from volunteers. Suppose we are reviewing fractions up to addition. A question is announced, first, in changing improper fractions to mixed numbers ; time is given for all to do it rapidly. The names of the boys are given, choosing some good and some poorer workers, and the names of girls of about the same qualifications are also given. Another question is announced to keep the class busy while the others are working on the board. No one is allowed to return to the board after leaving platform, and anyone who declines to work causes a loss to his or her side of the value placed upon the problem. On the other blackboard are two columns headed "Boys," "Girls," in which the mark of each is put. If this style of prob'em prove difficult to the poorer scholars, it is repeated until sufficient practice has been given. If any child in the seat works so rapidly as to get done before the next time, he is allowed to do as many questions of the same style as he can, credit being given in some way for his industry. Any style of question may be reviewed in this way.

It was used one day for music. The staff with an exercise was on the board, the keynote was found, and the whole class directed to get ready for a match on the numbers, letters, and syllables of the notes of the exercise. They all wrote the numbers on their slates, and a part was marked off for a test on the blackboard. The class were eager in their attention to the board, and the dullest were enlightened as their comrades worked out the exercise.

In spelling, the words were given out, and the same went on. It is rather slower in this, though the bad spellers, fearing the publicity, were moved to get ready their much disliked lesson. It was very unpopular to refuse to go to the board, and few tried it after the first time.

It lends itself to geography and grammar, also to history and hygiene, and is a help to almost any lesson. The close attention given to their comrades' work, the critical examination they give to the faults, and to the teacher's marking of these faults, help to clear up points they may have failed to understand in the teaching previously. The danger lies in a spirit of adverse and carping criticism which may be aroused by the emulation, and this should lead the teacher to be very fair and exact in his or her judgments, and judicious in the use of the "Match."

BOOK NOTICES.

BLACKBOARD SKETCHING. By Bertha Hintz, E. L. Kellogg & Co, New York.

Every teacher should be able to illustrate lessons on the blackboard in presence of the class easily and rapidly The elaborate drawing made out of school hours does not repay the teacher for his labor in all cases, and sometimes, when improperly used, spoils what otherwise might have been an excellent lesson. A rapidly executed sketch "made at the moment to exist but a moment" to strengthen or fix the mental picture obtained from the teacher's description or page of the book is all that is required. *All* can learn blackboard sketching, and in a very short time, by following the illustrated directions laid down in this little book. The drawing of objects are taught in proper order, and after the latest and improved methods. We are certain that all who purchase this book and work the first few exercises, and apply them in their teaching, will be delighted and astonished with the result. A.C.C.

NATIONAL DRAWING COURSE. By Anson K. Cross, of Massachusetts State Normal Art School, Ginn & Co., Boston.

This course consists of a set of nine cards for primary grades and five books for grammar grades, a teacher's "Outlines of Lessons" for each grade, a box of tablets from which nearly all the common solids may be constructed, and a glass slate.

In the "Outlines of Lessons" the general plan of the work is outlined, and the hints are such as will be of the greatest material benefit to the teacher who is at a loss to know how to teach drawing. The glass slate is part of the material used, and is of the greatest educational value, because it enables each pupil to correct or confirm his drawing of the appearance of an object by holding the slate between him and the object at right angles to the direction he is looking when observing the object. The "Outlines of Lessons by Weeks," although not intended to be slavishly followed by every teacher, will be found of the greatest benefit to the inexperienced teacher of drawing. We have not space at our disposal to enumerate all the good points of this course. It is destined to be a formidable competitor for public favor with the other two or three excellent courses published in the United States.

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Book Notices.

OLD SOUTH LEAFLETS.

No. 60 contains ship-money papers—a specimen of the first writ of ship-money, 1634; the King's case laid before the judges, with their answer, 1637; extracts from the speech of Oliver St. John (Hampden's counsel) on the ship-money case, 1637; extracts from the arguments of Sir Robert Berkeley, justice of the King's Bench, 1638; and the Act declaring the illegality of ship-money, 1641. These papers will be found most interesting, particularly if the reader, previous to the perusal of them, refreshes his memory of the famous controversy between Charles I. and John Hampden, by re-reading his Green and Gardiner, and by turning up again Macaulay's well-known essay, and Disraeli's "Eliot, Hampden, and Pym."

No. 61 contains Pym's speech against Strafford, after the recapitulation of the charge of treason against the latter. Pym, it will be remembered, was Eliot's successor as leader of the Parliament. He was one of the twelve deputies of the Commons, whom shrewd King James had greeted with, "Set twal chairs; here be twal kings coming." He and Strafford had been dear friends, but when the latter, after Buckingham's death, turned apostate, the friendship was for ever at an end. "You need not use all this art to tell me that you have a mind to leave us," said Pym, in reply to some vague hints made by Strafford as to advantageous overtures that might be made at Court now that Buckingham was out of the way; "but, remember what I tell you, you are going to be undone. And remember, also, that though you leave us I will never leave you while your head is upon your shoulders." It was a strange sequel to the story of their early friendship that the one should be the cause of the other's ruin and death—that the one should become for ever known as the great champion of freedom, the other as the great apostate.

No. 62 of the leaflets contains Cromwell's second speech, delivered at the opening of the first Protectorate Parliament, 1654. The student of history will remember Carlyle's admirable comments on this speech in his so well known "Oliver Cromwell's Letters and Speeches." The speech was reported by "one who stood very near," and "published to prevent mistakes." "As we, again, stand at some distance—two centuries with their chasms and ruins—our hearing is nothing so good. . . . The reporter of Cromwell, like the painter of him, has not to suppress the scars, the natural rugged physiognomy of the man, which only very poor tastes would exchange for any other. He has to wash the natural face *clean*, however; that men may see *it*, and not the opaque mass of mere soot and featureless confusions which, in two centuries of considerable stupidity in regard to that matter, have settled there." (Carlyle.)

No. 63 contains Milton's "A Free Commonwealth," wherein that uncompromising republican shows "the ready and easy way to establish a free commonwealth, and the excellence thereof compared with the inconveniencies and dangers of readmitting kingship in this nation." As has often been said, the two agencies which most raised the commonwealth's European reputation were Cromwell's battles and Milton's writings. Milton, as foreign secretary to the council of state, was the government's chief literary representative, and on him fell the task of defending it by his pen as ably as Cromwell did by his sword. Familiar as we are with the calm stateliness of the Miltonic verse, it is hard for us to remember that the Puritan poet was also a vehement politician, writing fierce and fiery pamphlets as contributions to the controversial literature of the time. When we read the "Free Commonwealth," and the accompanying letter to General Monk, and when we remember that it was written in 1660, that is, on the very eve of the Restoration, we agree with Masson when he says, "How Milton escaped the scaffold at the Reformation is a mystery now, and was a mystery at the time." The reading of this pamphlet will be doubly beneficial if it be accompanied by a re-reading of the essays on Milton by Macaulay, Matthew Arnold, Emerson, Lowell, and others.

Literary Notes.

The complete novel in the March issue of *Lippincott's* is a "Whim and a Chance," by William T. Nichols, already favorably known to the readers of this magazine. Clare E. Robie sketches sharply and not admiringly the portrait of "A Labor Leader." Other short stories, both agreeably light, are "Mis' Pettigrew's Silver Tea-Set, by Judith Spencer, and "Henry," by Mary Stewart Cutting. Oliver McKee considers a topic now attracting general interest, the relative merits and disadvantages of "The Horse or the Motor." The architectural series is continued by Louis H. Sullivan, whose theme is "The Tall Office Building Artistically Considered." Emily Baily Stone presents a picture of "Household Life in Another Century"—not the twentieth, but the fifteenth. Edward Fuller writes seriously and somewhat anxiously about "The Decadent Novel," and hardly dares to hope for another Jane Austen. Three ladies supply a sort of domestic trilogy. Jean Wright offers "A Little Essay on Love," which she handles in no sentimental vein; Agnes Carr Sage traces "The Evolution of the Wedding-Cake"; and Frances Courtenay Baylor has something to say "About Widows," with a view to their better provision in advance. The poetry of the number is by Carrie Blake Morgan, Clinton Scollard, and Richard Burton.

Among the notable articles in the March *Popular Science Monthly* are instalments of the series on "Taxation," by David A. Wells, and that on "Professional Institutions," by Herbert Spencer; also "Exercise as a Remedy," by Dr. Henry Ling Taylor; and the conclusion of Professor W. K. Brooks' "Study of Inheritance." In this number, the materialistic doctrine which all scientific men have been assumed to profess has been attacked in the house of its friends. Dr. Wilhelm Oswald, of Leipsic, the author of several standard chemical works, has delivered an address on what he calls "The Failure of Scientific Materialism," affirming that a theory based on energy should replace the one resting upon matter and force. The article is given in translation in the *Monthly*. It will surprise many to learn that alkali lands, besides their plant-killing sal soda, contain in large measure the salts most valuable as plant food. Professor E. W. Hilgard has an article giving the results of certain examinations of the soils of such regions, and telling what has been learned about the means required to make them productive.

ATTENTION is directed to J. K. Cranston's advertisement of Carnival Bargains. Teachers should get their trustees to take advantage of the exceptional prices offered by this reliable school-supply depot.

With the March issue, the *Atlantic Monthly* begins two important series of papers. "The Irish in American Life," by H. C. Merwin, is the first of the promised articles on "Race Characteristics in American Life." Under the general heading, "The Case of the Public School," the *Atlantic* discusses the payment and standing of teachers throughout the country. Over ten thousand teachers have been requested to contribute information as the basis of these papers. The first, "The Witness of the Teacher," by G. Stanley Hall, president of Clark University, Worcester, Mass., appears in this issue. "The Presidency and Secretary Morton" is the second paper in the series of political studies. "A Seminary of Sedition" is another of John Fiske's historical studies in Old Virginia. There are further memories of Hawthorne, by his daughter; Edith Brower discusses E. A. MacDowell in "New Figures in Literature and Art"; there is a third of Mrs. Catherwood's "Studies in Provincial France"; and Eugenia Skelding picturesquely describes a visit to the Holy Island of Lindisfarne. Fiction is represented by a second instalment of Miss Jewett's "Country of the Pointed Firs"; "A Public Confession," a short story of garrison life, by Ellen Mackubin; and the conclusion of "Pirate Gold," by F. J. Stimson. Poems, book reviews, and the usual departments complete the issue.

The March number of the *North American Review* opens with an important paper on "America's Interest in Eastern Asia," by the Hon. John Barrett, United States Minister to Spain. Athletes, athletic clubs, and all lovers of vigorous outdoor sports, will read with pleasure the article entitled "Revival of the Olympian Games," from the pen of Mr. George Horton, United States Consul at Athens. A practical and thoroughly comprehensive discussion of "Our Foreign Trade and Our Consular Service" is contributed by Charles Dudley Warner. Under the heading of "The Excise Question," the Hon. Warner Miller earnestly asks, "What Shall we do with the Excise Question?" and the Right Rev. William Croswell Doane, Bishop of Albany, writes upon "Liquor and Law." The third instalment of "The Future Life and the Condition of Man Therein," by the Right Hon. W. E. Gladstone, appears, and treats most eloquently upon "The Opinion of Natural Immortality." Other articles are, "Our Defenceless Coasts," by the Hon. George N. Southwick; "The Natural History of Warfare," by Prof. N. S. Shaler; "Jamaica as a Field for Investment," by His Excellency Sir Henry A. Blake, the Governor of that famous West Indian island; "Free Silver and the Savings Banks," by John P. Townsend, president of the Bowery Savings Bank, New York, and Mr. Charles H. Smith, president of the Denver (Col.) Savings Bank; and "Congress and its Critics" is a symposium by several members of Congress. Among the short articles are "Recent Photographic Invention," by Ellerslie Wallace, M.D.; "Woman's Wages," by Kate Stephens; "A Guerilla Eden," by Felex Oswald; and "Chemists as Leaders," by Peter Townsend Austen.

The *Century* for March opens with a timely article of a light character by F. Hopkinson Smith, entitled "A Personally Conducted Arrest in Constantinople," with dainty illustrations by the author from his recent water-color paintings of scenes in Constantinople. This note of lightness and readableness is repeated throughout this number, notably in three stories by Vibert, the French artist, accompanying his famous pictures; also in an article by Prof. H. C. Mercer, of the University of Pennsylvania, giving his researches while on the track of "The Arkansas Traveller," together with the music of that tune and pictures from old-time lithographs; also in an article on John Randolph of Roanoke by Powhatan Bouldin, consisting of new recollections, together with unpublished letters of Randolph's which present this strange and interesting character in a graphic light. Another article of popular character is a sketch of the elder Dumas by Mrs. Emily Crawford, the Paris correspondent, in which a vivid picture is drawn of that robust novelist. Entertaining also is the fiction of the number, including the fifth part of Mrs. Humphry Ward's new novel, "Sir George Tressady"; the fourth and concluding part of Mr. Hopkinson Smith's "Tom Grogan," and short stories by Chester Bailey Fernald and Mrs. Burton Harrison. On the more serious and important side comes, first of all, the "Life of Napoleon," by Prof. Sloane, in which Napoleon is shown as the "Fountain of Honor and Power," establishing a new feudalism and having visions of world empire. Another article of a different sort is an account of "Stamping out the London Slums," written by Edward Marshall, Secretary of the New York Tenement House Commission, which will be in the nature of a revelation to Americans, besides giving suggestions as to the treatment of similar problems in our cities. Another article of importance is Mr. William E. Smythe's "Ways and Means in Arid America," in which the accomplishments of irrigation are set forth, with illustrations by Mrs. Foote, Harry Fenn, and Orson Lowell. A piece of high-class literature by Prof. Woodrow Wilson, of Princeton, is "On an Author's Choice of Company," while a short essay by Dr. Allan McLane Hamilton has the novel title "The Perils of Small Talk."

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HAVING at length surmounted the initial difficulties connected with the organization of our proposed Agency or Bureau for the mutual benefit of School Boards, Principals, and all others requiring Teachers of any grade, on the one hand, and of Teachers of all classes seeking situations, on the other, we now respectfully invite Boards of Public and High Schools, Governors, Principals, and Managers of Colleges and Private and Proprietary Schools, and all others who are responsible for the choice and appointment of Teachers of any grade, to communicate with us, at the earliest possible date, giving us full particulars with respect to any vacant positions, their duties, the qualifications needed, salary offered, etc.

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We also respectfully invite Teachers of all grades, from Public School to University, who may be seeking situations, whether they are for the time being unemployed, or are desirous of bettering present situations, to communicate with us.

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Official Calendar

OF THE

Education Department

For the year 1896

March.

31. Night Schools close (session 1895-96). (*Close 31st March.*)

April.

1. Returns by Clerks of counties, cities, etc., of population to Department, due. [P.S. Act, sec. 129.] (*On or before 1st April.*)

   Applications for examination for Specialists' certificates other than commercial to Department due. (*On or before 1st April.*)

   Toronto University Examinations in Medicine begin. (*Subject to appointment.*)

2. High Schools close, second term. [H.S. Act, sec. 42.] (*Thursday before Easter Sunday.*)

3. GOOD FRIDAY.

6. EASTER MONDAY.

7. Annual meeting of the Ontario Educational Association at Toronto. (*During Easter vacation.*)

13. High Schools open, third term. [H.S. Act, sec. 42.] (*Second Monday after Easter Sunday.*)

    Public and Separate Schools in cities, towns, and incorporated villages open after Easter holidays. [P. S Act, sec. 173 (2); S. S. Act, sec. 79 2).] (*Same as for H. S.*)

15. Reports on Night Schools due (session 1894-5). (*Not later than the 15th April.*)

    Art School Examinations begin. (*Subject to appointment.*)

23. Toronto University Examinations in Law begin. (*Subject to appointment.*)

N.B.—The Departmental Examination papers are not supplied by the Department, but can be obtained from the trade through Messrs. Rowsell & Hutchison, Toronto.

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