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THE CANADA EDUCATIONAL MONTHLY AND SCHOOL MAGAZINE.

DECEMBER, 1894.

EXAMINATIONS.

BY A. H. YOUNG, M.A., TRINITY COLLEGE, TORONTO.

SO much has been said and written upon this well-worn subject, that one almost needs to apologize for referring to it, particularly at this time of the year, when, in an ideal state of things, little thought of examinations ought to occupy the mind of either pupil or master. But the ideal state of things is not. Those who failed last summer have hardly, as yet, forgotten their failure, and those who are looking forward to next summer, both teachers and scholars, are ever mindful of the ordeal to be gone through. Accordingly, it seemed that it might not be useless to try to point out some of the mistakes that are being made, and some of the causes of those failures which, at times, arouse such bitter feelings against Joint Boards, examiners, and other officials. None of these officials is infallible, and they may, therefore, have made mistakes. For obvious reasons, however, I shall not deal with this phase of the question, especially since, so far as I know, few, if any, adverse criticisms have been offered this year in regard to the performance of their various duties.

The failures in examinations in all the grades are to be blamed, not upon the examiners or associate ex-

aminers, solely, if at all, but rather mainly upon pupils and their parents. Who that has had any experience of work in our secondary schools has not found that the average father (not to mention the mother) looks upon his son as being more than ordinarily clever? And, if the son does not pass his examination, what conclusion more satisfactory, or more flattering to the family vanity can be arrived at than that the "teacher" did not do his duty? The Board being chosen from among the same class as the average parent, naturally takes the same view of things, concerning the teacher, and, so I hear, in some places, at least, makes more or less sweeping changes in the staff on the strength of ONE year's bad results alone! No account is taken of the boy's laziness, the lack of home surroundings conducive to diligence, much less of the actual hindrances thereto, such as overmuch party-going and other forms of time-wasting amusements that the youth would in most cases be far better without. Rather than expect such — students, I think they are often called now, to perform the miracle of passing creditable examinations, it would be far better to turn them out

to plough, dig ditches, or do some other honest, healthful, manual labour that would, at least, be profitable to the community. Six weeks or more of such treatment would bring these idlers to their senses, and many a hard-worked schoolmaster and schoolmistress would then be able to get satisfactory work out of them.

Of course, I should not wish to be understood to class the majority of High School pupils among the lazy and incompetent. By no means. I know only too well how ambitious most of them are, how hard they work, and how hard they and their fathers save that they may get a good "education," or enter a profession. But just here comes in the difficulty.

They are, for the most part, in too great a hurry. They often think education consists in acquiring facts, especially facts of the right kind and of sufficient quantity for passing examinations. If by chance they have a nobler conception of what it all means, they still have in many cases a fully developed opinion concerning the commercial value of a departmental certificate or of a university degree. "Money, money" is the constant cry. "We cannot waste a year in waiting for longer preparation." Among the most satisfactory memories I can recall in connection with my work in secondary schools is my having been able, at odd times, to persuade boys that one year more at school is not only not a year lost, but is, on the other hand, more than a year gained. Nor have I yet heard that any so persuaded regrets his change of plan. Quite the reverse.

Knowing, as I do, how burdensome regulations may become by reason of their number, I should hesitate to advocate needless additions to those already in existence. It does seem, though, as if we have

come to the point in the conduct of our educational business where unwise haste should be checked by making it necessary for every intending candidate to have a recommendation from his headmaster. The headmaster and his colleagues have to take the blame for the failure of over-anxious, over-hasty candidates insufficiently prepared, just as much as for that of the class before referred to. Many a master has been more than vexed to find people presenting themselves for examination whom he knows to be totally unfit. Yet, even with the new system of reports introduced this year, he has not sufficient protection for himself and his staff.

This question of protection is a very serious and pressing one. Any man who has had to do with examining must recognize that fact. A case something like this was brought to my notice last summer by an associate examiner who is not unknown as a schoolmaster. A candidate for the Senior Leaving comes into the school in September and is to go up next July. He knows nothing of German, and must get up grammar enough to answer your questions and be able to write a bit of prose. Besides, he must prepare two authors. If he does not pass, the master is blamed, and, as he tells me, his position or, at any rate, his reputation, is endangered. To apply the argument practically, I am told that leniency should be shown, and that it is all very fine for me who am not subject to this kind of pressure to hew to the line in maintaining the standard called for in the printed regulations. In vain do I point out that a year is not a sufficient time in which to begin and carry on far enough the study of any language to pass the Senior Leaving. Equally vain is my advice to let the board and the public think as they like. So

the farce (perhaps there is something of tragedy in it) goes on. Pharaoh's taskmasters' demanding bricks without straw is nothing to it. Men, who at college were among the brightest in their year, are growing old before their time, wearing themselves out with worry and anxiety lest the examination results should show that their allotted task has not been performed to the satisfaction of lazy or over-eager boys, of their fathers, and of the Board, doing themselves the greatest possible injury by lowering their ideals to a level compatible with holding on to a mere pittance upon which they may keep body and soul together, but on which they can with difficulty manage to buy, in the shape of books and periodicals, food enough to keep their minds from starving.

For the state of things at present existing, I have blamed pupils, parents and school boards chiefly. To be quite just, I must add that they have in many instances merely bettered the instructions of schoolmasters themselves. For some years past it has been most perniciously fashionable in the event of great success, to trumpet abroad the number of certificates won, the number of matriculants passed, the number of honours and scholarships obtained, and then to fall to comparing the relative standing of the schools of the province. Such methods smack of the turf, and men who make use of them are one in spirit with jockeys who ride horses to the winning post, and with bookmakers who make gain out of races. The pity of it is that many a bright girl and boy are run to death by their jockeys, and have no strength left to carry them through the struggles of later life.

I do not undervalue success in examinations any more than I do in anything else. But, as soon as examinations are made the chief aim of school effort, I protest against them.

They should be a test of the character of work done, and, as far as is possible, of a candidate's ability to think. Certainly the results of any one year should not be taken to prove by themselves the capability or the incapability of any man or woman engaged in teaching, for, as I hold most strongly, teaching and education do not consist in passing examinations and in preparing candidates for them.

In a properly graded school, with a competent staff doing its duty fully, with boys and girls honestly doing their best according to the brain power given them, and not making too great haste toward a money-earning position, there ought to be few failures, or none, at any examination where it is a mere question of passing. Honour-getting is a different matter.

It is only to the comparatively few that honours can fall, and it has always been a difficult matter for me to decide who was the more deserving of credit—the bright honour man or his master. At any rate, taking into account the difficulty of ensuring a succession of clever boys, he is a wise man who does not glory too much in honour lists, for the innings of dull boys surely comes soon or late. And, then, what becomes of the reputation built up on a run of success that was due as much to the clever pupils of former years as to the master? The sooner we get back to the old-fashioned view, that education is a training of the whole man, and that knowledge is worth more than the empty display of it, the better for the country at large, and the sooner will cause for disappointment at results and disappointment itself disappear, the sooner, also, will every one concerned be less and less anxious to cast blame for failure upon some one else, but will seriously try to see where his own fault lies and will remedy it if he can.

INSPIRATION IN EDUCATION.

By JOHN E. BRADLEY, PRES. ILLINOIS COLLEGE, JACKSONVILLE, ILL.

THE constant temptation of the teacher is to substitute the means for the end. The arithmetic, the science or the language is taught for its own sake, and the success or failure of both teacher and pupil is measured by the actual knowledge of the subject which the pupil has acquired. Even if the purpose of education is correctly apprehended, it is often ignored. The teacher forgets that the branches taught are but instrumental and subsidiary. The real question is not how much history or German does the pupil know, but what influence has the acquisition had upon his habits of thought, his tastes, his ruling purposes.

The English psychologist, Dr. F. W. H. Myers, has told us many wonderful things about the "sub-linnial consciousness," — the inner-self, — which is so important a factor in our daily life. It is in this deeper self that our habits and preferences and settled opinions lie embedded. It is these which constitute our individuality, our identity, and which like underlying strata cause the elevations and depressions of an outward life. All true education affects this sub-conscious self. That which can be measured by pages in a text-book, or tested by examination papers, is but a very superficial thing. At the best it stands related to real education as the blossom is related to the fruit. It is prized for its potency or promise, but it is by no means sure to yield strong, well-ripened character. Its value depends upon the influence its acquisition and assimilation have upon the underlying self. The wise teacher seeks constantly to measure his work by this higher test.

Education should develop enthusiasm and the appreciation of worthy motives. The test of work is its result. Good teaching will enkindle in the learner a desire for broader culture. Knowledge produces the love of knowledge. But it often happens that the spirit or the methods of a teacher arouse in a pupil quite the opposite feeling. The discouragements or exactions of school life are more deeply impressed upon his mind than the facts which he learns; he comes to dread study and school is associated in his thought with restraint, or a wearisome routine. He readily yields to the temptation to leave school. If home influence protects him from making this mistake, he remains under conditions which are unfavorable to mental growth. His faculties require for their normal activity, hearty and spontaneous interest. Their best work cannot be enforced. It must spring unsought. The subject itself or its mode of presentation must attract the pupil and arouse his willing and vigorous thought. It must be related to his previous knowledge or to his natural impulses. As Professor James aptly says, we might as well ask the student to give the Choctaw equivalent of some English word as to perform an action—*e. g.*, to learn a lesson—concerning which he has no notion. Practice makes perfect when the aim is clearly seen and the effort vigorously made—otherwise it simply produces stupidity. In the artificial atmosphere of some class-rooms neither of these conditions is supplied. An unreal goal is set up, or too often no motive to effort is afforded. An ideal education will so utilize the

natural impulses as to afford constant pleasure in the pursuit of knowledge. The purpose of school discipline is not to repress these impulses but to guide their development. They are the pupil's motive power, and to diminish their strength is to inflict lasting injury. When their development is wisely guided and properly encouraged, spontaneity of intellectual action and moral self-control will invariably follow.

One of the duties of the teacher, especially in the high school or academy, is to stimulate the ambition of his pupils. Indeed he should never lose sight of this important end. As the faculties unfold and strengthen the youth finds a constantly increasing pleasure in their exercise. His intellectual horizon widens and his day-dreams begin to foreshadow his future career. It is a critical period in his life, and it is of prime importance that his aspirations should be encouraged. To teachers and parents they may seem crude or grotesque. But one must acquire energy before he can utilize it, and this is the time for growth. The imagination should be fired with high hopes and aims. It is far better that the ideals should be fired with high hopes and aims. It is far better that the ideals should be somewhat mistaken or confused than that there should be no ideals. The important thing is that the student should determine to make the most of himself—should feel a wholesome discontent with his present attainments. Too often the school or college is the place where youth grow *blasé* and indifferent, unwilling to interest themselves very much in any subject, especially if it require close thought or hard work; where persistency and moral enthusiasm are in bad form. They ought rather to be places where youth will learn to apply themselves, where they will acquire moral earnestness, where intellect and purpose will grow strong

by surmounting obstacles and pressing on to higher ends.

Edward Everett Hale once said that the public schools lack inspiration. He is not the only observer who has felt this great need. To be truly educative the school must afford constant stimulus to worthy aims and purposes. Very few of the men who are graduated from our colleges and universities and become a power for good were destined by their parents to such a career. It will usually be found that some teacher has so guided their study as to yield an ever increasing ambition. In a certain high school two hundred boys were fitted for college during a period of fifteen years. Of these, only eight had any purpose of going to college when they entered the school. That purpose was a part—often the most valuable part—of their education. The instructor who simply does his work from day to day, with no thought for his pupil's plans for the future, loses sight of the highest motive. The eight-grade teacher whose pupils do not wish at the close of the year to go to the high school, has failed in a fundamental particular. The high school or academy whose graduates are not eager to go to college is not doing good work. Wherever learning or study or ambition are at a discount inspiration is lacking and the school is weak at a vital point. All good work, all high endeavors are born of inspiration. The boy who does not think high things, whose imagination does not revel in glowing pictures of what he hopes to be and to do is training himself to be contented with the bald necessities of life. The school should fill his mind with high hopes and ideals.

The materialism of our day touches the boy in the public school as with the chill of an iceberg, paralyzing his ambition, stifling his day-dreams and his hopes. It turns him away from the college and even the high school

into the factory and counting-room. When, as a boy, his thoughts ought to be on romance and history and literature, it chains him to the tread-mill of some belittling routine. It so magnifies a paltry \$2 or \$3 a week that a boy who might one day earn \$1,000 or \$10,000 a year and direct great interests shall never rise above the merest drudgery. It deprives him of his normal development, of the capacity to see and enjoy that which is highest, truest and best in life.

Moreover, the community suffers. The evils arising from illiteracy, which are greater than we often realize, are insignificant in comparison with those which spring from incompetence and misdirection in high places. Trained and upright leadership is our greatest need—men of character and culture in every community and every walk of life. We often hear it said that boys are educated away from the industries which need them, and jokes are worn threadbare concerning the poor parson or lawyer who might have been a good shoemaker or trench digger. But the

assumption is ridiculously contrary to the fact. The crowding is all around the foot of the ladder. It is the ignorant workman, not the trained student, who is a drug in the market.

If a teacher by his lack of sympathy and personal helpfulness has led his pupils to dislike school and perchance to leave prematurely; if he has made his teaching so dry as to inspire no enthusiasm for literature and science and research, he has inflicted a wrong and failed in his work. He may have been a martinet of discipline and drill his pupils may show high averages and pass good examinations, but if his instruction has produced in them no love for study, no scholarly tastes, no aspirations for culture and refinement, it has been ineffective at a cardinal point. A true education will yield these elements of power, will gather into a steady flowing stream, the fitful impulses of youth, will harmonize the discordant elements of untrained nature and bring symmetry and strength into the ripened character.—
Education.

THE STANDING OF SCHOOLMASTERS.

THE clever, if somewhat vulgar, Frenchman who calls himself Max O'Rell, has been complaining that when his English reviewers want to say something disagreeable about him or in deprecation of his work, they say he is a schoolmaster. Nettled by this, he tells us, through the *Daily Chronicle*, that Englishmen always speak with contempt of schoolmasters, and goes on to ask the reason. Various correspondents have tried to explain the fact, but none of their solutions seem very satisfactory. Equally unsatisfactory is the plan of meeting the charge by a direct denial

and by the declaration that Englishmen do not despise schoolmasters, and that schoolmasters here are as well thought of as in the rest of the world. It is no doubt true that a great many schoolmasters have been made Bishops, and that Bishops are Peers and the holders of offices better paid than those occupied by Ministers, Ambassadors, Generals, and Admirals; but this does not really disprove Max O'Rell's contention. In the first place, the schoolmasters who are made Bishops belong to a very narrow caste—that of the public-school masters—and are rather dis-

tinguished ecclesiastics who have taken to teaching, than schoolmasters in the ordinary sense of the word. If we take a wide and impartial view of all the facts, we have to admit that there is a great deal of truth in what Max O'Rell says. It would, of course, be going much too far to say that schoolmasters as a whole are treated with contempt in England, or that any marked social stigma was placed on them. A man does not lose caste, however good his birth, by becoming a schoolmaster. Still, schoolmasters in England are a somewhat "disconsidered" class. Perhaps the best way to put it is that men are not as proud of being schoolmasters as they are, say, of being barristers or architects or engineers. They are not, of course, in the least ashamed of being engaged in teaching, but any schoolmaster who has thought about the matter would probably admit that strangers very often took trouble to show him that *they* at any rate were enlightened enough not to think him "a muff," or the member of a body of pedantic prigs and bores, because he was a schoolmaster. But such voluntary symptoms of sympathy on the part of strangers are a sure sign that people think the world is not quite fair to the class in question. It is not, however, necessary to labour the point. Every one who considers the subject will have to admit that, rightly or wrongly, schoolmasters suffer in England from a certain slight sense of being disregarded. It is very slight, and it is not carried to the point of prejudice; but still there is "a something" in the way in which we treat schoolmasters. An instant way of proving this fact is at hand. Note the inflection of voice and manner with which an Englishman states the fact that M. Dupuy was a schoolmaster, and compare it with his statement that M. Carnot was an engineer. In one case there is, at the very least,

a suggestion that the Prime Minister has come from a very unlikely place. In the other instance, the previous career is treated as the most natural thing in the world.

What is the ground for this "disconsideration" of schoolmasters in England? It is not very easy to find an explanation. And for this reason it would be very difficult indeed to find any one who would publicly admit his dislike for schoolmasters, and still more difficult to get him to defend his position by argument. The feeling against schoolmasters is far too slight to be tangible. We are inclined to believe that if you get to the rock-bed of the feeling, it will be found to consist in the hatred of Englishmen for what is didactic. There is nothing which so much annoys the plain Englishman as the didactic man. He respects learning in the abstract, but he cannot endure the person who is inclined to lay down the law on this, that, and the other, and who is always anxious to teach people the proper way to do things. The Latin races seem to like the didactic man. They may not really learn any more from him than the Englishman, but their imaginations are pleasantly tickled by the notion that they are to be taught something new. The Englishman does not crave for sympathy, and, if possible, likes to puzzle things out for himself. He always feels at the back of his mind that it is somewhat of a humiliation to be taught. He likes to believe that he could have worked it out for himself. Notice an Englishman learning anything. He is always watching for the moment when he can, as it were, snatch the teacher's instruments out of his hand and start for himself, with a curt—"All right;—I see exactly how it's done, and can manage now much better by myself, than if you went on explaining. Your teaching me any more would only bother me. I can worry the

rest out for myself and by myself." The typical Frenchman or Italian, on the other hand, likes the sympathy, between the teacher and the taught and feels the human nexus not a worry but an encouragement. Your typical Englishman is, in fact, too much of an individualist to learn without being a little set on edge by the teacher. Hence his hatred for the didactic standpoint, and his feeling of half-resentful contempt for the man who dares to occupy the position of teacher. Another ground for the "depreciation" of the teacher in England is far plainer and less metaphysical. A couple of generations ago, schoolmastering was looked on as a sort of refuge for the destitute. Men took up teaching, not because they felt that they had a vocation for it, but because they could not find anything else to do. It used to be a common saying that when a man failed at everything else, he became a wine-merchant, and when he failed at that, a schoolmaster. This was, of course, an exaggeration; but it is not too much to say that from the beginning of the century till the end of the forties, the majority of schoolmasters in England had taken to schoolmastering as a *pis-aller*. Take the case of Nicholas Nickleby. It seemed the most natural thing in the world to Dickens to make his hero take up schoolmastering when he had got into difficulties. The result was that the profession was filled either with impostors or with men whose attainments offered a very slender support indeed to their pretensions. All the more active spirits in the nation were planning railways and canals, designing machinery, running factories, serving in the Army and Navy, or developing the Empire. Only the Residuum were left to do the work which a people who boasted themselves to be eminently practical were unpractical enough to think could be done by the

first idiot who came along. No doubt we have changed all that now. The young men who take up schoolmastering at the present time are men for man quite as capable and quite as full of energy and intellect as the young barristers or men of business. Still, a little of the old prejudice remains, and the world is still half inclined to fancy that people adopt schoolmastering as a profession because they are not fit for anything else.

It would be difficult to exaggerate the ill results of the social depreciation from which schoolmasters as a whole suffer in England. In the first place, it tends to prevent a certain number of men becoming schoolmasters who would otherwise do excellent work in the region of teaching. Next, it induces a sense of injury and bitterness among the lower ranks of the profession. There are hundreds of schoolmasters who feel themselves to have a grievance against society,—to be owed a social consideration which they do not receive, but which they yearn for as only the man of thought and not of action can yearn. It is a great evil to have a class naturally inclined to introspection imagining themselves slighted, and feeling and cherishing the bitterness of slighted men. You want, if possible, to have your teacher a bland, self-possessed, well-satisfied man,—one who can communicate to the young the balance and control of mind which it is the chief part of education to impart. You incline, by withholding social consideration from the schoolmaster, to get restless, dissatisfied, and bitter men for your teachers. It is, however, easier to regret the attitude of the public towards the schoolmaster than to suggest a remedy. One would like to borrow from France the public feeling as to schoolmasters, and to see Englishmen as proud of being schoolmasters as of being clergymen; but how to attain the desired result we

do not know. It is to be feared that the right feeling must grow from inside. The influence of the Press is not likely to do much good, for if it could have rendered effective aid in such a case, it would long since have changed public feeling towards the other "disconsidered class" in England,—that of the journalist. In spite of the three hundred and thirteen numbers issued each year by every daily paper in the Kingdom, the journalist still belongs to a calling of which he is not what may be called automatically proud. Probably the best way of giving the schoolmasters the right to be proud of their profession would be in some way or other to recognize all schoolmasters in schools receiving public money—and endowment should count as public money—as public servants. If this could be done we should hear

no more of the depreciation of schoolmasters, for men are disposed to be proud of serving the State. In any case, the feeling against schoolmasters is not likely to last many years longer. The facts are too much against it. Their didactic manners and their habit of unrestrained authority may perhaps prevent them from ever becoming a really popular class but they will not in the future suffer from the prejudices against which Max O'Rell protests. We may yet see a man who has been a schoolmaster, Speaker, and exercising in St. Stephens the powers of keeping order originally acquired in the "lower fourth."—*The Spectator*.

It is not so much the being exempt from faults, as the having overcome them, that is an advantage to us.—*Swift*.

ENGLISH IN SECONDARY SCHOOLS: SOME CONSIDERATIONS AS TO ITS AIMS AND ITS NEEDS.

BY SAMUEL THURBER.

FIRST of all, the English teacher must be a teacher of English literature. Here he finds a legitimate specialty, a competency for which demands long study, endless reading, and especially a reverential attitude of mind towards ancient thought and ancient forms of expression. These requirements of studious preparation and of absolute mental fealty he has in common with the teacher of history, but he wears them with a difference. The teacher of history labors to explain when and why and with what consequences things occurred, how civil institutions grew up and decayed, how our civilization came into being. The teacher of literature has for his theme the re-

cord which the race has kept, in beautiful and impressive forms, of the vicissitudes of its spiritual life. We must not consider our literature merely as the work of isolated men expressing private thoughts and feelings. Only those utterances which the race adopts are literature. When the race adopts a writer, it does this because it finds in him an adequate representative and exponent of itself. Literature therefore is the voice of the nation asserting its ideals, confessing its fears. We honor the individual writer because he has spoken our own thoughts in such wise as to make us know ourselves more. There is no influence discoverable in the school curriculum so directly and exactly fitted to uplift

young souls as contact with old literature. The writers of the past made the books which we read to-day. Is it possible to imagine what life would be to us were our old English books blotted from existence?

The aim of literature teaching should be chiefly to inculcate reverence for the great writers, and a taste that should voluntarily choose them for hours of recreation in preference to the ephemeral writing of the day. To-day's interests are sure of abundant attention. The present speaks for itself all too loudly. The newspaper, the magazine, the newest book clamor all about us and insist on being heard. The literature of the present day can therefore be neglected in the secondary course.

The natural method is to begin with the writers nearest in time to our own day, because these are the most easily understood. Hence I would have the youngest pupil read Longfellow, Whittier, Emerson, Hawthorne, Lowell, Holmes, Bryant, Irving. That these writers are American is an additional reason for putting them at the beginning. But we must at once abandon the idea of continuing to make a distinction between English and American literature. It is a distinction impossible to make before the beginning of this century. Only when English or American writers have occasion to say distinctly English or American things do they betray which country they are of. There is but one great public of English readers. Neither country keeps its literature to itself: each speaks to the other, as well as to itself, in every literary utterance.

Pupils coming to the high school at the age of fourteen or fifteen years will ordinarily have made the acquaintance of these writers in the grammar schools. Thus the first high school year can be largely devoted to the English writers of the same period,—

that is, to Tennyson, Browning, Wordsworth, Ruskin, Carlyle, Dickens, Thackeray, George Eliot, Scott, Macaulay.

The second year may be given to the eighteenth century, and concern itself especially with Dryden, Pope, Gray, Goldsmith, Cowper, Burns, Addison, Swift, Johnson.

To the last two years should be assigned the literature of the Tudor period and the work of Chaucer, with a cursory view of the literary monuments of the intervening fifteenth century. And of this two years of the English course I would give at least one good half to the single topic of Shakespeare. The remaining half I would divide between Milton and Chaucer, trying to make opportunity for a little of Bacon and Spenser, a good deal of Bunyan, and for something if possible, of Clarendon, Marvell, and Butler. With the writers of the fourteenth century, other than Chaucer, it will be hardly feasible in high schools to do more than examine specimens for purposes of language study. The same study may be profitably pursued through the fifteenth century, which, except the *Morte D'Arthur*, produced no literary masterpieces, interesting to general readers, but which presents most curious memorials of the development of linguistic usage.

Now to anyone who conceives me to mean that all the authors I have mentioned are to be brought into the class and read there, all the pupils holding the books and making identical preparation, I shall seem to have named far too many; while any one who imagines me as contemplating a manual of literary history, where each writer has his paragraph or two, or at most his few pages will criticise my list as too meagre.

A manual of dates and facts, with references to sources of information, but wholly abstaining from criticism and exposition, is an excellent thing

for pupils to have in possession throughout the course in literature. Histories of the literature, like Ten Brink's, Taine's Morley's, Shaw's, Collier's, should be in the reference library, not in pupils' desks as text-books. A young student broods and muses over his book, and imbibes it without reference to the lessons assigned. As material for this rumination he should have the best and worthiest literary productions. No one has made, or will make, a text-book of literature good enough to be read in lieu of literature, or, I will say, good enough always to pitch the key of interest and expectation in which great writers should be approached. I make little account of any study of authors through intermediary books or lectures. We must contrive to deal with a considerable number of writers and to come into contact with the writings themselves.

Necessity has in this case been the mother of invention, and we have learned to break away somewhat from the custom of dealing with English texts in the slow, plodding manner we at first caught from the methods of the Latin and Greek classes. It remains, however, a good plan to read a few choice things in the thorough, intensive, stataric way. Best adapted for this purpose I have found, any one or two of Macaulay's literary essays, a poem of Scott, the minor poems of Milton with passages from the greater ones, and, say, four plays of Shakespeare. Macaulay's wonderful memory and his tact for summoning the items of his knowledge to do duty by way of illustration make the study of his prose an excellent lesson in general literature. Scott stirs young imaginations with his vigor of expression and keeps the reader's mood up to his own level by means of his grand poetic diction. In his reading of Scott the young student may first be lead to consider the significance of poetic motives and

forms. These studies [of poetics will connect themselves, but far more profoundly, with Milton; and here the learner will test all he knows of history and of the Scriptures, or can fathom of spiritual and religious truth, while he searches for the meaning of Comus and Lycidas, or traces the career of Satan through *Paradise Lost* and *Paradise Regained*. In Shakespeare the literature course culminates; for in Shakespeare is every element of intellectual and artistic greatness. No discipline so abounds in spiritual satisfaction as the study of our great dramatist. No habit can be brought from school more precious than the habit of reading and re-reading those immortal poems.

The other way of conducting the school reading is the cursory, the rapid, the extensive or comprehensive way. Pedagogic art should strive to make the most it can of this resource. For instance, give a pupil a school week for reading a certain novel, or play, or poem, or a vacation week for reading two or three times as much; and then let him make a five minutes report, orally, or from manuscript, if he prefers, to the class, under injunction to have his report interesting and terse, and his English good. In thus prescribing reading it is necessary, above all things, to avoid giving out pieces which, however classical will to the pupil be heavy and hard, and which, by embittering his leisure hours, may shake his loyalty of devotion to the study of literature. The mature student will delve and plod through anything, with an eye perhaps to honor or profit; but the youth must be humored. There is good reading for every age.

The best way is to encourage pupils to read from the promptings of their own tastes, or under such spurings as their private experience supplies,—always, however, to be ready, when called on, to announce, or, perhaps,

to confess, what they have been doing. This gives occasion for censuring bad choices; and such occasions are indispensable to furnish reaction points and grounds for reproof. Or let pupils in turn open the recitation by reading choice bits of prose or verse, and then either let the reader tell, or require the class to tell, what writer each passage is from. Such exercises furnish opportunity for correcting the crudities of juvenile taste. This correction is best administered by the mere act of dwelling solely on the good selections. Condemnatory language may awaken ill will. Your preferences had better be seen and surmised than heard uttered in censorious terms.

By mingling judiciously the cursory and the stataric methods is possible to get over large areas of literature. Plays of Shakespeare reserved for stataric treatments should be chosen from the following:—Hamlet, Macbeth, Julius Cæsar, The Merchant, The Tempest, As You Like It, The Midsummer Night's Dream, Henry VIII. For the oldest pupils this list may be extended to include Lear and Othello, and any other of the greater plays. Whatever plays are not read in the slow way may be studied in the cursory method, exception being made, of course, of such plays as, by the nature of their plots, dwell throughout on themes repugnant to modern tastes. However rapidly we go through a play, some passages must be read aloud in the class, with all care for the elocution, for the dramatic expression, for the due observance of the verse. Some passages must be committed to memory. Some scenes must be distributed to pupils for acting. But much must be left unpronounced, and had better be. The course of the plot can easily be told. The Henry Irving Shakespeare suggests what large excisions can be made without mutilating the story.

In Milton, after the minor poems and two books of *Paradise Lost* have been read statarically, the rest of the poetical works can be read cursorily, at the rate of a book per lesson. It is easy to make sure that the work is done, and that the main difficulties are cleared away. Every passage specially noteworthy for any literary quality can be taken in hand for special consideration. I would certainly leave no part of Milton's verse unread, and on certain parts I would linger long.

We can get a good many Spectators read if we do not insist on having them all read aloud. The Rape of the Lock is worth one lesson: the Essay on Criticism is worth several if we can get the time. Wordsworth's Sonnet, "Scorn Not the Sonnet" is enough for a lesson. The rest of Wordsworth must be taken generously and left for the absorptive powers of nature to dispose of. It cannot profitably be much talked about. In literature as in religion there are the duties and the rites of the closet. To understand Wordsworth requires a certain habit of self communion which youth cannot possibly have acquired. The Deserted Village and the Traveller must be read at once; the Task, a book at least at a time; and Rasselas cannot be dwelt on. The Idylls of the King must be treated by mixed stataric and cursory methods. Such a morsel of perfection as the Lady of Shalott it were wicked to treat as if it were commonplace. To lecture on the meaning of such a poem is futile. A piece of verse whose distinction is its supreme beauty is not to be racked for its meaning, but rather to be enjoyed as a work of art: it is not to be mastered, like a lesson, but to be surrendered to as a commanding influence. In such case the teacher's concern is to further and encourage the unskeptical attitude of admiration. Hence a beautiful poem had better be

well read than commented on. The best way in which to treat the gems of literature is to recur to them often at intervals. The object should be to read or recite them, or perhaps to chant them, in the right tone, to show that they are truly felt and sympathized with. This may be said of The

Five of St. Agnes, of The Cotter's Saturday Night, of certain religious hymns, and of not a few pieces and passages that everybody loves and never grows weary of.—*The School Review*.

(TO BE CONTINUED.)

EDUCATION IN UPPER CANADA.

THE establishment of district or grammar schools in 1807-8, of township common schools in 1816-20; and the establishment and endowment of Upper Canada College in 1829-30, as well as of other local schools of note; the correspondence between our early governors and the home government, as well as the different resolutions discussed and measures passed in the Upper Canada Legislature, show that enlightened ideas on education were making steady progress, and gradually becoming embodied in practical form. Indeed, the reader cannot fail to notice how convincing are the evidences contained in the resolutions, letters and documents of this volume, that many of the most valuable ideas of the present day were present to the minds of the friends of education in the early history of the Province. They show that no common or fragmentary conception of excellence animated the attempts of our educational pioneers.

Strong interest attaches to the accounts given of the founding of noted schools, where many of our most successful men received their early training. Some of these schools are rich in historical associations, and had in earlier times an importance which we do not sufficiently appreciate now. When the infant province was

struggling into organized and aspiring political life, when learning had no favored centres, and the opportunities of intellectual culture were enviably rare, the opening of academies like those at Kingston, York, Cornwall, Ernesttown and London meant much to ambitious youth, and their advantages were sought with corresponding eagerness.

Besides the educational interest and value of this book, we cannot refrain from expressing our gratitude to the author for the sketches of public men and the historic incidents which enliven his pages. When we take this into account, we must say that he has given us more than a documentary history of education; he has also given us matter of general historic value, and in the form most suited to attract attention.

Our readers should feel more than ordinary interest in the perusal of Dr. Hodgins' book, being, as it is, the first part of the account of an educational development to which Methodism, through the personality of Rev. Dr. Ryerson, made the most important contribution. The venerable founder of the system does not yet appear, except in the matter of personal reference, in these pages; his shaping hand will be seen in the next volume.—*The Christian Guardian*.

A FRENCH VIEW OF EDUCATION FOR WOMEN.

QUITE recently there was opened at Macon, in France, a school for the higher education of young girls. The occasion was considered of so high importance that M. Spuller, the Minister of the Interior, presided at the opening and delivered a discourse, which appears in the *Revue Internationale de l'Enseignement*, Paris. The opinions he expresses in regard to the education which should be given to young girls may be considered those of the French Government, and are, therefore, worthy of consideration by all who are interested in female education. M. Spuller said :

"It is only since the establishment of the Third Republic that there have been in France institutions for the higher education of young girls. Not that there have been lacking at any time well-instructed women. French literature counts among its master-pieces works written by women.

"Those who are best fitted to appreciate intellectual productions do not hesitate to put the letters of of Madame de Sevigne in the same rank as the writings of the greatest French authors. There have been, however, until lately no institutions where a higher education could be given to the daughters of the households belonging to those social classes which, by dint of labor and perseverance, rose, little by little, from the humblest conditions to the highest, and which constitute, so to speak, democracy in its activity and its progress.

"This defect in the French system of education has not been by any means universally perceived. Even while this school at Macon was rising from its foundations, reproaches were addressed to the Government. It was said : 'Do you want to alter nature? Are not men and women two beings

essentially different? How, then, can they receive the same education? Do you not understand that they ought to be educated quite differently and according to methods altogether adverse?' The Government has answered these reproaches by finishing the building and opening it as a place of instruction. In the founding of such an institution at Macon, women may be pardoned for thinking that they are having a sweet revenge. For it was precisely at Macon, as ecclesiastical history relates, that a Council once met to deliberate on the question whether women have souls.

"Why then multiply buildings at needless cost? say those who are still unable to appreciate a higher education for young girls. Why not educate youth of both sexes, at the same institution, in the same classes, as is done on the other side of the Atlantic? Divers good reasons might be given for this separation of the sexes, but one, in our view all-controlling, will suffice. It is that we do not think that schools for the higher education of young girls should be exactly like those intended for boys. We do not think that there is but one way to instruct everyone, women as well as men. We believe that the same sciences, be they as dry as arithmetic or algebra, be they as pleasant as natural history; that history, literature, good letters, those precious educators, those sweet consolers of women as well as men—that all these can and ought to be taught differently to men and women. There is a feminine education and there is a masculine education. Each science can and ought to be taught to girls by education from the special point of view of girls, and the same science can and ought to be taught to boys from the special point of view of boys. We go further. We

say that the same questions of history, the same analyses of literature, can and ought to be treated from different points of view according as they are addressed to boys or girls.

"In France we have a horror of learned women, of bluestockings. We should be quite unfaithful to the national traditions, we should heap contempt on perhaps the most eminent genius of the French race, we should renounce Moliere, if we dreamed of making French women so many '*Femmes Savantes*.' Moliere has spoken of these in terms which, fortunately, are of a nature to discourage forever and cover with ridicule those who would like to try such a thing.

"Is that, however, any reason why we should let French girls grow up in ignorance, why we should not try to form their judgment, their taste, their reason? To take a single example in literature, why should not girls of France learn the reasons which make an intellectual production really beautiful, by which qualities such a work is distinguished, why it deserves to be read, reread, and reflected on, how it ought to be read and criticised?

"What we desire is that, with that instinct which belongs to women alone, with that sort of divination which appertains solely to their sex, with that taste at once pure and delicate, which seems to be the principal attribute of their intelligence, in the evening, when the day is done and the hour of repose has come, in the family talk, when such or such an idea comes up for discussion, when the name of such or such a writer, more or less renowned, is mentioned, the wife, the mother of the family, the young girl, hope and charm of the household, may say, with simplicity and discretion, but with that charming and fine authority which manifests sureness of knowledge and elevation of mind, why and how the book which is spoken of, the

article which has just been read, ought to be appreciated, and all that without pedantry and affectation.

"We do not ask that French girls charge their memory with useless names. We do not require that they be strong in the nomenclature of facts, in the genealogy of kings, in the succession of events, in the dates of battles. We would easily forgive some confusion in various epochs just as we would pardon faults of orthography. What we ask, above all, is to cultivate and adorn the minds of our girls, to teach them how to exercise their reason, to have just ideas, to express those ideas with clearness, elegance, and especially moderation, which is the supreme quality of the French nation and French genius. Let us teach French girls to shun exaggeration of all kinds—exaggeration of thought, exaggeration in expression—to keep in mind the precept of antique wisdom, 'of all a little and not too much of anything.'

"This is the kind of women we seek to rear in and for France, and such can be reared only in institutions of higher education like the one just started at Macon, where young girls are instructed by methods specially adapted to them and quite apart from the other sex."—*Translated for the Literary Digest.*

NONCOMBUSTIBLE CLOTHING.—Canada is noted for its asbestos products. At Thetford, on the line of Quebec Central, is a celebrated mine. The product of this industry is largely shipped to Europe. At Quebec and other places asbestos goods of many kinds may be seen. Mittens, shirts and overalls for firemen's use are made from this mineral. The cloth is of a light granite color, quite soft and pliable, and resists the action of fire.

THE HIGH GROUND.

MAN is a spiritual being ; any plan for dealing with him must take this into account. Education must consider man in his spiritual aspects, or else it will assuredly fail. It excites the curiosity and surprise of the reader to read old history. If the beginning is made with the Bible we immediately come to a recognition of the spiritual side of the human race ; and the reaction of man upon the spiritual influences operating on him (in the case of Abraham) laid the foundation for a religion that gave direction and power to man's progress.

So in all history. There have been some in all nations that felt there was a ruling spirit ; this perception is what has saved the nations from entire bankruptcy, even though gods of wood and stone were set up. Man's salvation lies in recognizing the spiritual in the material. One who visits the vast museums at Kensington will be deeply affected by the large collections of birds naturally placed near their nests that with great care have been sought for, found, and removed here. Tears often are seen to flow as pair after pair is passed, for it is so plain that there is an over-ruling spirit of love.

Fra Angelico (often known as Fiesole because his best days were spent there) achieved a reputation that has not grown dim as the years have gone by, because he felt the spiritual element ; there is something surpassingly fine in his "Coronation of the Virgin," in the Louvre. He attempted to state some of his ideas concerning art ; one of the laws he considered as conclusive as those Newton discovered concerning gravitation is, "The fair tree Igdrasil of human art can only flourish when its dew is Affection ; its air Devotion ; the rock

of its roots, Patience ; and its sunshine, God."

These are needed to cause colors rightly to be placed on the canvas. But what are the needs rightly to influence the lives of young men and maidens, and cause those lives to become something as high and as beautiful as the conception of the Creator? *Teaching* must be conceived of as a means of carrying forward and really attaining the design of the Creator. Looked at from this point of view the teacher's work is indeed a sublime one. The teacher, at his home fresh from some volume of poetry, may have reached this conclusion ; but when he enters the dusty school-room, where his pupils straggle in, many of them tardy and untidy, where lessons are not learned, where an evil mind is far more apparent than a desire for knowledge, he concludes his theory is too fine for the work in hand. If such a feeling arises, let the teacher ask himself how it is that Angelico's pictures, made out of oil and various earths, still hang upon the walls and are still the admiration of students of art, after more than five centuries have rolled by? What is it that has rendered his work so immortal?

Teaching is an Art. There may be high teaching and low teaching. The teacher who recognizes great underlying principles is teaching for all time. He will use the same materials for his word in common with other teachers ; his pupils will read, write, and use figures ; but he will accomplish something the others do not. The person who has a knowledge of certain things is equipped to a certain extent, and only to a certain extent. A young man who was em-

ployed to paint the interior of a house saw one day a picture hanging on the wall, and heard the owner incidentally remark that it had cost a thousand dollars. He took careful note of the various colors used, obtained a canvas and set to work to make something of equal value. After months of work he asked the owner to look at his production, and estimate his worth. "That is not a work of art; it has no value" was the verdict. And yet it had as much blue, as much red, as much yellow as the other; and undoubtedly far more toil had been spent on it.

Two teachers may have each a half hundred boys and girls of all ages, each has the same amount of knowledge as far as an examination can disclose it, but one does a work a thousand-fold nobler than the other. One addresses the spiritual side of the pupils, the other leaves it untouched. It may be that this is done unconsciously; it may be that he is as needy for the money stipend as the other, but the fact remains that he has touched springs of motive wholly left alone by the other.

It is reasonable when it is thought over, that a person may be shut up for days with a company of youth, and the ostensible purpose be a knowledge of grammar, geography, or mythology, and yet something else be learned that makes heroes, which the grammar and geography assuredly would not. In the school-room at Eton one sees the name Arthur Wellesley cut deep into the oakwood by the hands of the boy who as man was the Duke of Wellington; and he wonders how the influence that made him so great was imparted to him along with lessons in Latin and Greek. For we will believe that there was a human agency in these things. It is an inquiry that men make an object of serious study—how did this thing, this world, this man, this manner of thinking originate?

Ruskin, speaking of woman's education says: "It is of no moment to her own worth or dignity that she should be acquainted with this science or that, etc., etc., but it is for her to trace the hidden equities of divine reward . . . to understand the nothingness of the preparation which this little world in which she lives and loves, bears to the world in which God lives and moves, etc." This and much more he says to endeavor to impress on all people to get below the surface of things and live for the real and immortal. And this is the high ground the teacher must stand on day by day, and from this he must teach, and on it he must bring his pupils. "And honor without fail," says Rossetti. There are certain things that must be, no matter what is done or left undone; great is that teacher who, as the multiplication table is being learned, knows as surely that honor is also becoming an object of adoration by the child.—*The School Journal*.

A GREAT SCIENTIFIC DISCOVERER.—Prof. Hermann von Helmholtz, the celebrated physiologist and physician, died of paralysis in Berlin on Sept. 8. His greatest work was a treatise on "The Conservation of Force," published in 1847, which set forth, for the first time, the interchangeability and indestructibility of all the manifestations of force in nature, such as light, heat, electricity, chemical action, and animal vitality. He showed also for the first time a difference in chemical composition between the active and quiescent muscles, and proved, by means of ingenious devices, that thought is not instantaneous. Perhaps this century has produced no greater scientist than he was. In 1883, the German emperor conferred on him a title of nobility.—*Our Times*.

A CANADIAN GRACE DARLING.

THE following account of a truly heroic incident appears in a Buffalo newspaper. The heroine referred to is a Mrs. Becker, residing on the Canadian shore of Lake Erie :

On the morning of the 20th November, 1854, the schooner *Conductor* left the port of Amherstburg, bound for Toronto, with a cargo of 10,000 bushels of corn. The wind blew fresh from the south-west all day—a heavy sea running meantime. About five o'clock p.m., the wind increased to a perfect hurricane, and all the canvas was reefed snug down. Toward midnight, a severe storm arose. The topsail-sheets were carried away, the boat was washed from the davits, the decks swept clean of everything, and the vessel would not obey her helm, and seemed to settle in the trough of the sea.

About four o'clock in the morning of the 21st, the crew of the schooner made what they supposed to be Long Point Light ; but it was really the light at Long Point Cut. The thickly drifting snow instantly obscured this light, and in about half an hour afterward the vessel struck. Although she was not more than 200 yards from the shore, it was impossible to form an accurate opinion as to the locality, because of the thickly drifting snow. The sea made a clear breach over her, and forced the crew into the rigging, where they remained from five o'clock in the morning until two in the afternoon. Ice was fast making all the time. The crew then descried a woman and two little boys approaching along the beach.

The woman and children built a fire on the shore, and made signs to the sailors to swim ashore. The sea was so great they were afraid to venture, until the captain, thinking the risk of drowning better than almost

certain death by cold and exposure, struck out from the wreck, and by extraordinary efforts nearly reached the shore ; but his strength failed, and being caught by the under-tow, he would have been carried out, had not the woman come to his assistance. She, seeing his critical situation, came to him as speedily as the deep water would permit, and having walked in up to her neck, fortunately reached him, he being utterly exhausted. The woman supported the man, and drew him ashore, having been herself several times beaten down by the force of the waves. With the assistance of the boys, she drew him to the fire, and resuscitated him.

The mate of the schooner next struck out, but in like manner failed to reach the shore, and sank. The captain, supposing himself to be sufficiently restored, went to the assistance of the mate, but again himself gave way ; and the woman went again into the angry waters, out to the utmost depth at which she could stand, and brought the two men ashore. The mate seemed to be lifeless, but was at length restored. In addition to these efforts, five several times did the woman go out to the receding surge, and at each time bring an exhausted, drowning seaman ashore, until seven persons—the master, mate and five of the crew—were saved. It was evening now, and one man who could not swim still clung to the rigging. During the whole night, the woman paced back and forward along the shore, renewing the fire, encouraging the rescued men, giving them food and warm tea, and administering to their comfort. From time to time she would pause, and wistfully regarding the stranded vessel, thus give utterance to her humanity : “ Oh, if I could save that poor man, I should

be happy!" When morning at last came on the 22d, the storm having abated, the sea was less violent. The master and crew being now strengthened and invigorated by the food and fire, constructed a raft, and reached their comrade, whose resolute spirit, though fast giving way, was still sufficient to enable him to retain his position in the rigging. Thus he, too, was saved, though badly frozen. The crew remained at the cabin of Mr. S. Becker nearly a week before they were able to depart.

On the week following this occurrence, two American vessels were lost on the same point, whose crews were greatly comforted by Mrs. Becker, whose husband was still engaged in

trapping. The crews of these vessels were sheltered in her cabin, and were the recipients of her hospitable and humane attentions and care.

The account concludes with a certificate from the captain and crew; and we learn that an effort has been successfully made in Canada to offer to Mrs. Becker a pecuniary acknowledgment of her spirited conduct. She has, however, expressed a desire that the money should be appropriated to the education of her children. She and her husband are said to gain their living by fishing.

[Reprinted from Chambers' Journal May 17, 1856. See poem *Abigail Becker* in the High School Reader.]

POPULAR EDUCATION AND CRIME.

THE International Institute of Sociology, which convened in Paris, October 1, was presided over by Sir John Lubbock. His opening address was devoted to a survey of recent social progress in Europe, and created considerable comment. The part which excited most attention in England and France was that in which he discussed the effect of general education upon crime in England. Since the passage of the Act of 1870, providing for primary and secondary education, the number of school children in English schools has increased from 1,500,000 to 5,000,000; and the number of persons in prison has fallen from 12,000 to 5,000. The yearly average of persons sentenced to penal servitude for the worst crimes has decreased from 3,000 to 800, while juvenile delinquents and offenders have declined from 14,000 to 5,000. A similar remarkable falling off was cited in the case of paupers, the de-

crease being from 47 to 22 in the 1,000, or over 50 per cent. These statistics, cited by Sir John Lubbock, are almost startling in their significance. They are seemingly proofs positive of the truth of Victor Hugo's saying, quoted by him, that "he who opens a school closes a prison."

His contention that general education is the explanation of this marked decline of criminality in England was, however, vigorously disputed. The Paris *Temps* declared that the reverse was true in France, that the opening of the schools has filled the prisons; that crime has greatly increased with the extension of education. English papers, admitting the correctness of his statistics, said that he was reasoning *post ergo propter hoc*. The claim of the *Temps* would seem to prove this, and if we accept as true the claim often advanced as to the effect upon the negroes of our Southern States, of the meagre education which they have

received since their emancipation, we have another obstacle to accepting Sir John Lubbock's desired deduction. Nevertheless, we believe that there is a real and perceptible connection between substantial education and the decrease of crime. It would be deplorable and terribly disheartening if there is not such a causal connection. Education, as we understand it, is not mere rote learning and intellectual gymnastics and acquisition, but it is education of the whole man, morally, intellectually, physically. It is training and preparation for complete living; education in industry, in the laws of society, in the rights and duties of citizenship as well as in the sciences, arts and letters. Children and youth taught from the time of their entrance into the primary to the time when the university doors close behind them that harmonious and progressive social life depend upon individual rectitude and industry, and inspired with the examples of upright teachers, are not likely to become criminals and paupers. Education, when it means this, does diminish crime and close prisons.

The striking differences of the results of the spread of education in France and in England are to be explained in great measure by the fact that in France education is almost entirely intellectual and in England moral training and discipline are combined with intellectual. English pupils are not only taught how to use their faculties, but the spirit in which they ought to use them in order to attain to the highest good. The agencies which in these days especially aid in promoting general popular education are not alone the public schools, colleges and universities, but the pulpit, the press, clubs, societies and organizations, all of which aim at social enlightenment and improvement. These, and particularly such practical schemes for bringing the means of education and the results of scientific research to the

homes of the people as the Chautauqua system and University Extension, all unite in educating the people in the real needs of citizenship and the duties of individual living.—*University Extension, Philadelphia, November.*

THE LAWS OF HEALTH.—We consider that man's religion to be of a superficial and ill-instructed sort which does not include a careful study of, and close obedience to, the God-appointed laws for the preservation of health. There is a divine order to be observed with reference to the body as well as to the soul. All avoidable sickness is sin, and all attainable health is duty.—*Zion's Herald.*

FROUDE.—A place is vacant in literature that cannot readily be filled in spite of the numerous charges against him as an historian, there can be little question that no one remains who can fitly occupy the shoes of Mr. Froude. With all his shortcomings, his errors of omission and commission, he was a great writer, great enough to be fairly reckoned as one of the glories of English prose. Much has at various times been made of his supposed inaccuracies and his love of effect. But in the controversies that ensued it must be admitted the pedants had not always the best of the argument. There are few historians without bias, and if Mr. Froude sinned in indicating his leanings, he sinned in good company. And his charm was infinitely greater than that of many more pretentious writers. His works may not, indeed, place him among the foremost English historians. He may lack the reach and grasp of Gibbon, the exactness of Robertson, the concinnity of Hume, the picturesqueness and dramatic force of Carlyle; but he had both fascination and power, and certain pages of his are likely to be read as long as anything of their kind in the language.—*The Publisher's Circular.*

CAUSE AND EFFECT IN EDUCATION.

THE human infant is a much less complex thing than we are wont to think. It is plastic and general; for the most part a mere bundle of possibilities. And we stand to it in relation of Fate or Destiny. We have given to us a tiny organism with little individual will or intelligence. The influences to which we subject this organism constitute the educative process. There are two elements to be considered. First of all, there is wrapped up in this tiny ball of organized matter an inherent tendency more inexorable than the predestination taught by Calvin. We call it heredity. It is the gift, for good or ill, of fathers and great-grandfathers, of mothers and great-grandmothers, for many generations back. The fairy godmothers who come in the story book to every child's christening represent a scientific fact. The talents they bestow, the fatal limitations they inflict, are not by chance. They are the qualities of ancestry. A system of education neglecting this element of heredity neglects a determining cause, and is fundamentally unscientific. But it is an element largely beyond the control of the teacher. All he can do is to develop these germs, or discourage them, as heredity seems good or bad. Even in this very moderate function he blunders, for the most part, terribly.

The second element is the one with which we have practically to deal. It includes all post-natal influences. In science we call it environment. It is a long-standing debate as to which of these elements is the stronger. We need not enter the controversy. The balance of present evidence seems to support that view of the matter which gives the greater influence to environment. In this

lies the hope of the educator. We mean to get the best of the dead great-grandmother. Mr. Fiske has pointed out that in the increased helplessness of the human infant, in its greater freedom from inborn instincts, in the lengthening days of the plastic period of infancy, are to be found the possibilities of a far greater individual advance. This, then, is the problem set before us as educators—so to shape these influences that the developing human spirit may approach perfection. It is not a new problem. It was before the Greeks. It was before the men of the Middle Ages. It has been constantly before our own people. But it has never been very satisfactorily solved. The extent of our failure can be better realized when we remember that nearly all educational reforms have been forced upon the schools from without. They originated with men and women who were so fortunate as to escape the pedagogical blight. When we remember further that the men of mark in the great world of action and creative thought have either been educated in an irregular fashion, or, if they have gone to the academies and colleges, have never taken the courses too seriously, these facts are significant. They mean that education has too often been a thwarting of the spirit, an attempt to fit a square plug into a round hole, a pressure, a dead weight, rather than an unfolding. They mean, in short, that education has seldom, in practice at least, been reduced to a science.

We fail as Ptolemy failed, as Kepler failed, as the alchemists failed. We fail because we do not observe the true sequence of cause and effect in life of the child. We must part company with that fatal duality which separates body and spirit. We must

look upon the child as a unit. We must see in it an organism which includes both body and spirit, an integer. Little Margaret is very picturesque in her quaint gown and big hat. They conceal the fact that her poor little body is stunted and undeveloped, and will but ill withstand the emotions and functions of womanhood. Brother Jack is also a lively figure in bright kilt skirt and velvet jacket. His neck is thin, but it is surrounded by a very broad linen collar. We look at that and find him charming. His little legs are slender as broomsticks, but they are in thick black hose, and the red kilt attracts the eye. We look at that and are satisfied. He is active and noisy. We take it for granted that he is getting on finely. Were he in the bathtub, we should think otherwise. Later, Jack goes to college. He breaks down. His mother says it is overwork. But this is not the truth. The

truth is that he has not the brain power to cope with normal intellectual tasks. The fault is elsewhere than with the curriculum. In all this, the image cast by prudery makes us horribly unscientific. Worse still, it makes us hopelessly vulgar. These are but two out of a large and bad company of images which to-day obscure the reflection of science in education. They make difficult the recognition of the simple fact that the child is an organic unity; and they make practically impossible the development of any system of education based upon this truth. So long as we allow this obscurity, and persist in this blindness, we shall have no science of education, however many school-houses we may build, for we shall be steadily doing violence to a principle which may not be violated—the sequence of cause and effect.—*Prof. C. Hanford Henderson, in the Popu-Science Monthly for May.*

THE BIBLE AS LITERATURE.

COMMENTING some months ago on the almost supreme value of the Bible as a merely literary production, in which there is a bright and varied melange of history, philosophy, poetry, allegory and prophecy, we adverted to the very sparse knowledge of the book that is to be found among even the fairly well-educated people whom one meets at the present day. It would be safe enough to say, in fact, that if a class of young men graduating from the University were to be set a number of questions to answer from the Bible, from Shakespeare, from Byron, and from Tennyson, the least satisfactory set of answers would be from the Bible. Far more people have a fair acquaintance with the characters of

Portia and Antolycus and Gobbo and Lady Macbeth than they have with Miriam and Gideon and Zerubbabel and Judith; and, for one person who can be found to talk intelligently about "Jotham's parable," "Nathan's ewe lamb," or the "King's dial that went backward," there are a half dozen who can discuss learnedly the "bar of Michael Angelo," the "Fate of Parisina" and the "Prisoner of Chillon."

We are led to revert to this subject by the perusal of an article in the *New York Independent*, in which a college president gives his experience in this matter of Biblical knowledge, or lack of knowledge, with a class of young men who formed the year's freshmen. The entire *personnel* of

the class were the sons of lawyers, preachers, teachers, merchants and farmers, and they represented all the well-known sects of religion, such as Episcopalians, Presbyterians, Roman Catholics, Methodists, Baptists, Congregationalists, Unitarians, etc. Wishing to ascertain what this class of freshmen, of the average age of twenty years, knew about the Bible, the president had twenty-two extracts from Tennyson dictated to them with a view to their answering them. The extracts all contained scriptural allusions, which allusions were to be explained by the students in their answers. The class as a whole only obtained a bare 50 per cent on its answers. Considering the extreme simplicity of the questions asked, this must be allowed to be a very sad exhibition. Whether it is that Sunday school teachers and parents are not any longer doing their duty in making children memorize the most striking narratives and passages from the Bible as they used to, or whether it is that, after being committed to memory, the passages are being driven out to make room for the "Moths" and "Dodos" and "Yellow Asters" that are the bane of modern morals as they appear to be the perils of modern literature; we do not profess to say with certainty.

This neglect of this really wonderful book is one of the biggest possible mistakes that educationists and parents can make in the training of their children. The religion of the Bible altogether apart as a mine of the finest and most varied literature, it stand ahead of any other literary work that has yet been written. It has a gallery of characters which, in real dramatic picturesqueness and intense human interest, is not surpassed by Shakespeare. It has imaginative flights which Milton would have been proud to own. It has historical pictures equal to any that the magic art of Herodotus or

Macaulay or Froude ever limned. It has poesy of the heart, of the fancy and of expression throughout the Psalms and Job, and the prophets, and the Revelation, that do not suffer in the comparison with the best and sweetest efforts of Burns, of Byron and of Tennyson. And, though there are questionable passages in several books of the Old Testament, the literature of the Bible, as a whole, is permeated with a sound and lofty morality that has but one influence on the reader, and that influence of a purifying, elevating and ennobling character.—*New Orleans Times-Democrat.*

"WITHIN."

To fail in finding gifts, and still to give,
 To count all trouble ease, all loss
 as gain,
 To learn in dying as a self to live—
 This dost thou do, and seek thy joy
 in pain?
 Rejoice that not unworthy thou art
 found
 For love to touch thee with his
 hand divine;
 Put off thy shoes, thou art on holy
 ground;
 Thou standest on the threshold of
 his shrine.

But canst thou wait in patience,
 make no sign,
 And where in power thou fail'st—oh,
 not in will—
 See sore need served by other hands
 than thine,
 And other hands the dear desires
 fulfil,
 Hear others gain the thanks that thou
 wouldst win,
 Yet be all joy? Then hast thou en-
 tered in.

*Anna C. Brackett in Harper's Maga-
 zine.*

NOTES FOR TEACHERS.

THE TEACHER AS EXPERT.

I. In considering the fitting of the teacher, there is involved the discrimination between schooling for training and schooling for education. Training implies taking on a particular bias; adopting something new; education means avoiding the bias. Education uses learning as a means of growth; training looks to skill. Nevertheless it may be asked, is not the course for training that most respects the requirements for education, permanently best for training?

II. There is also the further distinction between teaching and learning. The former is characteristically an unselfish act; the latter selfish. Learning finds its motive within; teaching without, in the children to be influenced. To be "touched" with the need of others is the primary fact in teaching.

III. From within the profession, the need is great for teachers who are also students. To continue a learner only is narrowing. To be an instructor only is to impoverish life. Not always is the best learner the best teacher. No one can continue to be a good teacher who ceases to be a learner.

IV. From the side of the public the demand is for teachers who are experts. (The expert is one who has knowledge of a kind, or insights and skill which the average individual, the highly cultured individual even, does not have.) Some teachers lack the general culture. Some have no knowledge of the processes. Some have narrowed their view to the school. A few yet follow authority.

V. Among other things expert knowledge includes acquaintance with man's natural history relations, race relations, sex characteristics, physical and mental heredity, instincts and traditions, culture epochs, the field of child study.—*Dr. Richard G. Boone.*

SOME POINTS FOR YOUNG TEACHERS.

1. Do not talk too much. "In the multitude of words there wanteth not sin; but he that refraineth his lips is wise."

2. Always speak kindly to an angry pupil. "A soft answer turneth away wrath, but grievous words stir up anger."

3. Never be sarcastic. "There is that speaketh like the piercing of a sword, but the tongue of the wise is health."

4. Some pupils *expect* you to scold them. By all means let them be disappointed. "Reprove not a scorner lest he hate thee."

5. Reprove and punish pupils in private; never personally in public. "Debate thy cause with thy neighbor himself, and discover not a secret to another."

6. See nothing, yet see everything. Take immediate action on very few misdemeanors. They are not half so bad as your imagination makes them. "The discretion of a man deferreth his anger; and it is his glory to pass over a transgression."

7. At the same time, do not hesitate to act promptly when necessary. "A prudent man foreseeeth the evil and hideth himself, but the simple pass on and are punished."

8. Don't worry. Teach under "high pressure;" govern under "low pressure." "Fret not thyself because of evil men."

9. Never become discouraged, especially with serious difficulties. "If thou faint in the day of adversity, thy strength is small."

10. "Withhold not good from them to whom it is due, when it is in the power of thine hand to do it."—*National Normal Reunion.*

PUBLIC OPINION.

THE EDUCATION PROBLEM IN AUSTRALIA.—The Sydney correspondent of the *Westminster Gazette* relates an interview he has had with Cardinal Moran, who, in answer to questions, stated his views on the education problem. The interviewer began by saying that the Cardinal was, perhaps, interested to learn, from a *Westminster Gazette* article, cabled to the Sydney papers, that the Primate of the Anglican Church was fairly satisfied with the educational systems of Australia :—

“I had many conversations on the subject with his predecessor, the Right Rev. Dr. Barry,” said his Eminence. “He looked on religion as an essential element in education, and he publicly declared in many of his addresses that the stand the Catholics had taken was the proper one. Of course, we regard the problem of education as the real problem of society at the present day. We consider that if the children are allowed to grow up without religion, or in indifference to religion, the future of the nation must be tainted with the same impiety or indifference, and that—particularly today—nothing can be more detrimental to the true interests of society than the growth of irreligion. The wealthier classes can provide means for having their children trained in religion and piety, independent of scholastic training, but for the great mass of the people the only education is that afforded by the public schools. Nowadays the mass of the people cannot be overlooked, not only as an element of society, but as a governing element. The people are the ruling power, and if democracy is allowed to be tainted with socialism, or irreligion, or impiety—by whatever name it may be called—the future of society must be sad indeed.”

SPORTS.—Dr. Crowden, the headmaster of Eastbourne College, holds very emphatic opinions concerning the moral and physical value of sports to boys. “Speaking from an experience of thirty-six years as a schoolmaster,” he said the other day, “I can say most conscientiously that I believe the influence of all manly games on the moral life of a school can hardly be over-estimated.” This ought to satisfy parents who hesitate in allowing their sons to join in games that are supposed to have an element of danger in them. Dr. Crowden thinks the danger scarce worth considering, while the gain is inestimable. But exercise in moderation cannot but be good. It is immoderation that does mischief and brings “manly games” into disrepute.—*The Publisher's Circular*.

COMMON SENSE.—First, then, there are obvious limitations in the raw material to be trained. “Though thou bray a fool in a mortar, yet will not his foolishness depart from him.” This may be expressed in many euphemistic ways, but they all come to the same thing—namely, that there are some people who seem to entirely lack common sense. On such, training appears to have no more effect than the rest of their experiences. In dealing with mind, infinite as it is in variety, each problem has to be faced with its own peculiar difficulties. Children are not quadratics, which can all be solved by one method ; and they require, in those who would understand them, a certain amount of insight. This does not necessarily imply birth-gifts of “tact” and “weight,” but it does imply at least a germ of enthusiasm for the work, and a certain amount of love for children.—*Miss M.V. Thomas in the Educational Review*.

GEOGRAPHY.

THE ELECTRICAL RAILWAY.—The question of greatest interest to the public now is, "What will be the probable extension and limits of the application of electricity to railroading, and to what extent will it replace steam?" It may be laid down as a law almost certain of fulfilment that the development of the electric road will be a gradual evolution. This does not necessarily mean that it will be slow—for that is a word supposed not to exist in the electrician's lexicon—but that, like the growth of almost every other application of science and engineering, it will be a step-by-step process.

One of the first and most natural outgrowths of the electric street railway will be the application of electricity to elevated roads. In many respects this is an easier problem than the operation of surface roads, for the elevated structure affords an opportunity to conduct the current by a third rail, which cannot be satisfactorily insulated on a street track, and the motors are not exposed to their worst enemies, sand, mud and water. Now that the success of the Intramural Electric Road at the Columbian Exposition has demonstrated both the practicability and the advantages of electricity for elevated roads, there is no reason why the electrical equipment of such roads should not make rapid progress. On underground railroads the advantages of electricity over steam are much greater than on surface roads. Steam power, with its attendant smoke and noxious gases, is manifestly unfit for such service, and electricity is practically the only suitable power now available. The success of the London underground electric road leaves no question as to the practicability of this system, and its extensive adoption in the great cities of the civilized world may be confid-

ently predicted. Another natural extension of the electric street railway is the suburban and inter-urban road. The former is an established institution. The latter is already in operation in several places and will gradually extend its field of usefulness. The advantages of electricity over steam on roads joining neighboring cities are evident—avoidance of smoke and cinders, more frequent, though smaller, trains, and the ability to make the street tracks of each city and the road between them a continuous system, avoiding the transfers and delays at the steam railway stations. Beyond comparatively short distances, however, the ordinary 500-volt system becomes alarmingly expensive and the need of some longer-range method is apparent.

As the electric road is only six years old and scarcely anything has been done as yet toward the operation of long distance railways by electricity, it may be considered a little early to venture any well-defined predictions on the subject. The indications are, however, that within five years electricity will be the generally accepted power for elevated and underground roads as well as for surface street car service; that in ten years numerous inter-urban roads from ten to thirty miles in length will be electrically equipped; that in twenty years some of the large railway systems enjoying the heaviest traffic will consider electric passenger service essential to their welfare; that, both for the convenience of the public and economy of operation, the tendency will be toward more frequent and smaller trains; that a maximum speed of 150 miles, and a schedule rate of 75 miles per hour will not be considered remarkable; and that within the life of the present generation we will see the present long train of loosely-coupled

cars, with their restricted space, poor ventilation and light, imperfect facilities for viewing the scenery and annoyances from smoke and cinders, give way to a single car of liberal dimensions, shaped on scientific lines to cleave the air at high speeds with minimum resistance, equipped with noiseless electric motors, free from the

disagreeable products of the steam locomotive furnace, designed to afford the passengers an unrestricted view in all directions, perfectly ventilated, lighted by electricity and capable of a speed that will cover the distance from New York to Chicago between sunset and business hours next morning.—*Irving Hale, in the Eng. Mag.*

EDITORIAL NOTES.

A TRAINING COLLEGE FOR SECONDARY TEACHERS.

The College of Preceptors, London, England, has just established a training College for Masters in Secondary Schools, an undertaking in which they will have the interest and sympathy of all educators.

The Principal of the new Training College is Dr. J. J. Findlay, M.A., who has had a distinguished academic career at Oxford and in Germany, has been a Master at Rugby, and Principal of Queen's College, Taunton. He is now in Canada, engaged in drawing up a Report on the Schools of the United States and Canada, in the capacity of Assistant-Commissioner of the Secondary Education Commission.

We append a brief account of the general lines on which the Training College will be conducted, from the *Educational Times*:—

The work will be done in the College buildings and in the practising schools which metropolitan headmasters and principals place at our disposal. No student will be admitted to the College without producing evidence of such good general education as to entitle him to enter upon his professional studies. In order to encourage men who have taken high degrees or given other evidence of considerable attainments, there will be a certain number of scholarships. The course is inexpensive—a fee of twenty five guineas covers the whole charge for tuition—

and it is designed so as to occupy a year. The academical year will begin, as at the Universities, in October, and terminate in the June following.

We see by the public papers that the examiners for 1895 have been appointed as far as the work in the schools is concerned. Let us remind the examiners that the schools are confined to certain text books and that therefore candidates expect of the examiners a recognition of this fact.

The cry heard on every hand is lack of gratitude, or want of respect, want of respect to age, want of respect to authority, want of reverence in the presence and in the midst of sacred things. We cannot afford such wants as the above.

The emphasis which is being put in education, and in educational publications, on the moral and spiritual side of school work, is one of the most important and hopeful signs of public sanity which has appeared in recent years. It seems to indicate that all concerned in the up-bringing of children have been forced by the logic of facts to acknowledge that intellect in man is not necessarily allied to goodness, and requires training to recognize and to confess that there is a Being beyond ourselves, who is supreme and constantly "makes for righteousness." This agitation must continue till the proper recognition is given to this department of school work.

SCHOOL WORK.

HIGH SCHOOL PRIMARY ARITHMETIC.

(Continued from last issue.)

BY PROF. N. F. DUPUIS, QUEEN'S COLLEGE, KINGSTON.

6. A lent a sum of money for two years, at 10% per annum, interest compounded yearly; B lent an equal sum for the same time, at 10% per annum, interest compounded half-yearly: B gained \$220.25 more than A. Find the sum each lent.

\$1 at 10% for 2 yrs., comp. int. gives $(1.1)^2 = \$1.21$.

\$1 at 10% per an. for 2 yrs., comp. $\frac{1}{2}$ -yearly gives $(1.05)^4 = 1.21550625$.
The diff. = 0.00550625.

\therefore A's = B's sum lent is \$15 taken as often as 220.2 contain 0.00550625, that is $220.25 \div 0.00550625 = \40000 .

7. A merchant reduces the marked price of an article by a certain per cent. He gives the same per cent. off this reduced price for cash. The cash price is now $\frac{3}{8}$ of the original marked price, find the rate per cent.

Let the ratio of the reduced price to the marked price be r ; then the ratio of the selling price to the reduced price is also r ; and hence the ratio of the selling price to the marked price is r^2 and this is $\frac{3}{8}$.

$\therefore r = \frac{5}{8}$, or he reduces his price each time from 6 to 5, i.e. by $\frac{10}{6}$ or $16\frac{2}{3}$ per cent.

Otherwise—if m is the marked price, and r be the rate per cent of reduction, $m - \frac{r}{100}m$ or $m \left(\frac{100-r}{100} \right)$ is the reduced price, and $m \left(\frac{100-r}{100} \right)^2$ is the cash price.

$$\text{But } m \left(\frac{100-r}{100} \right)^2 = \frac{25}{36} m.$$

$$\therefore \frac{100-r}{100} = \frac{5}{6}, \text{ and } r = 16\frac{2}{3}.$$

8. How many cords of wood are there in a cylindrical log 2 long and 3 ft. 6 in. in diameter?

The volume of the cylinder is $\frac{1}{4} \pi d^2 l = \frac{1}{4} \times 3.1416 \times (3\frac{1}{2})^2 \times 20$ cubic feet, = 6.013 . . . cords.

If $\frac{22}{7}$ be used for π , which is less nearly correct than 3.1416, the result given is $6\frac{1}{3}$ cords.

9. Find the diameter of a circle whose area is equal to the sum of the areas of the two circles whose diameters are 12 in. and 16 in. respectively.

Areas of the two circles are $\frac{1}{4} \pi \cdot 12^2$ and $\frac{1}{4} \pi \cdot 16^2$. The sum is $\frac{1}{4} \pi \{ 144 + 256 \} = 100 \pi$. And then for the circle whose area is 100π the (diameter)² is $\frac{100\pi}{\frac{1}{4}\pi} = 400$.

\therefore the required diameter is 20.

This question generalized is, "to find a circle whose area shall be equal to the sum of the areas of two given circles."

Since circles are all similar figures, and similar figures have their areas proportional to the squares described upon similar line-segments, it follows that the square on the diameter of the required circle must be equal to the sum of the squares on the diameters of the given circles; and π is not concerned in the solution.

10. The diagonals of a rhombus are 8 inches and 10 inches.

Find the area.

The rhombus can be transformed into a rectangle having one diagonal of the rhombus and half the other diagonal as adjacent sides, by cutting the rhombus along the diagonal and rearranging the parts.

Therefore, area = $\frac{1}{2} \times 8 \times 10 = 40$ sq. inches.

ALGEBRA.

1. (a) Multiply out

$$\begin{aligned} \text{This is } & \left\{ \begin{array}{l} (x^2 + xy + y^2) \\ (x^2 + y^2) + xy \end{array} \right\} \left\{ \begin{array}{l} (x^2 - xy + y^2) \\ (x^2 + y^2) - xy \end{array} \right\} \left\{ \begin{array}{l} (x^4 - x^2y^2 + y^4) \\ x^4 - x^2y^2 + y^4 \end{array} \right\}, \\ = & \left\{ \begin{array}{l} (x^4 + 2x^2y^2 + y^4 - x^2y^2) \\ (x^4 + y^4) + x^2y^2 \end{array} \right\} \left\{ \begin{array}{l} (x^4 + y^4) - x^2y^2 \\ (x^4 + y^4) - x^2y^2 \end{array} \right\}, \\ = & \left\{ \begin{array}{l} (x^4 + y^4) + x^2y^2 \\ (x^4 + y^4)^2 - x^4y^4 \end{array} \right\}, \\ = & x^8 + y^8 + x^4y^4. \end{aligned}$$

More interesting methods are the following:—

Each factor being homogeneous, the product will be so, and we may operate on the co-efficients alone, since the letters are readily written into the result.

First factor	1 + 1 + 1
Second "	1 - 1 + 1
Product	1 + 0 + 1 + 0 + 1
Third factor	1 + 0 - 1 + 0 + 1
Product	1 + 0 + 0 + 0 + 1 + 0 + 0 + 0 + 1,
∴ $x^8 + x^4y^4 + y^8$ is the expression.	

Otherwise, the product is of 8 dimensions and homogeneous.

Therefore the type terms are x^8 , x^7y , x^6y^2 , x^5y^3 , and x^4y^4 .

Observation readily shows that the co-efficient of x^8 is 1, of x^4y^4 is 1, and of the other terms, zero.

∴ $x^8 + y^8 + x^4y^4 =$ the product.

1. (b). Divide $a^2x^8 + (2ac - b^2)x^4 + c^2$ by $ax^4 - bx^2 + c$.

This may be done by separating the dividend into two factors by inspection, when one of these will be found to be the divisor, and the other will be $ax^4 + bx^2 + c$.

But this process of dividing is not always conveniently applicable, and it is better to employ synthetic division as follows: (*see Dupuis' Algebra, art.*

The work stands thus :

$$\begin{array}{r|l}
 a^2 + 0 + (2ac - b^2) & +b +c \\
 ab & +0 +c^2 \\
 \hline
 & bc -c^2 \\
 & -bc \\
 \hline
 a + b + c & 0 \quad 0
 \end{array}$$

and since the variable is x^2 , $ax^2 + bx^2 + c$ is the quotient.

2. (a). Given $(a+b)^2 = a^2 + 2ab + b^2$ deduce the expansion of $(a+b+c)^2$.

Write $(b+c)$ for b in the expansion of $(a+b)^2$. This gives $a^2 + 2a(b+c) + (b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$.

NOTE.—The square of $(a+b+c+\dots)$ may be generalized in the form $(\Sigma a)^2 = \Sigma a^2 + 2 \Sigma ab$. That is, the square of the sum of any number of quantities is equal to the sum of their squares and twice the sum of their product take two and two. (Dupuis' Algebra, page 25, ex. 9.)

2. (b). If $x-y = 2\frac{3}{4}$, and $xy = 4\frac{8}{9}$ to find the value of $x^3 - y^3$; $(x-y)^3 = x^3 - y^3 - 3xy(x-y)$.

$$\begin{aligned}
 \therefore x^3 - y^3 &= (x-y)^3 + 3xy(x-y) = (x-y) \{ (x-y)^2 + 3xy \} \\
 &= \frac{3}{4} \{ \frac{16}{9} + 3 \cdot \frac{16}{9} \} = 46\frac{3}{4}.
 \end{aligned}$$

3. (a) Find what value of x will make the product of $x+3$, and $2x+3$ exceed the product of $x+1$ and $2x+1$ by 14.

$$(x+3)(2x+3) = (x+1)(2x+1) + 14.$$

When by distribution, etc., $x = 1$.

On account of the equation being quadratic, however, there is another root, which is commonly overlooked, viz., $x = \infty$. (See Dupuis' Algebra, art. 76 and 81, or Salmon's Conics, art. 125.)

3. (b). Solve $a(x-a) - b(x-b) = (a+b)(x-a-b)$.

Distributing, etc., $x = a+b$.

4. A man can walk from P to Q and back again in a certain time at the rate of 4 miles an hour. If he walks at the rate of 3 miles an hour from P to Q , and at the rate of 5 miles an hour from Q to P , he requires ten minutes longer for the double journey. What is the distance from P to Q ?

Let x be the distance from P to Q , and t be the time from P to Q and back again, at 4 miles an hour :

Then $\frac{2x}{4} = t$ and $\frac{x}{3} + \frac{x}{5} = t + \frac{1}{6}$, expressing the ten minutes in terms of an hour, since the time denomination is hours.

$$\therefore \frac{x}{3} + \frac{x}{5} = \frac{2x}{4} + \frac{1}{6}; \text{ whence } x = 5 \text{ miles.}$$

5. (a) Factor $1 - 2px - (q-p^2)x^2 + pqx^3$,
and $6x^2 + xy - 15y^2 - 11x + 26y - 7$.

$$\begin{aligned}
 \text{The first is: } & x^3 pq + x^2 p^2 - x^2 q - px - px + 1 \\
 &= qx^2(px-1) + px(px-1) - (px-1) \\
 &= (qx^2 + px - 1)(px-1).
 \end{aligned}$$

For the second we carry out a sort of intelligent tentative process until we find the terms of the factors, or we do as follows :

The factor, if there be any, must take the form, $6x^2 + xy - 15y^2 - 11x + 26y - 7 = (ax + by + c)(a^1x + b^1y + c^1)$, and as this is to be an identity, it must be true for all values of x and y . Let $y = 0$, then $6x^2 - 11x - 7 = (ax + c)(a^1x + c^1)$.

And putting $x = 0$, $-15y^2 + 26y - 7 = (by + c)(b^1y + c^1)$.

Hence we have to factor $6x^2 - 11x - 7$, which is $(3x - 7)(2x + 1)$; and $-15y^2 + 26y - 7$, which is $(5y - 7)(-3y + 1)$.

Hence the factors are $(3x + 5y7)(2x - 3y + 1)$.

If these give the coefficient of xy correctly, they are the proper factors.

5. (b). Show that $(m^2 - n^2)^2 + (2mn)^2 = (m^2 + n^2)^2$.

This is readily shown by distribution.

“State the formula in words” means, “state the Arithmetical theorem of which the formula is a symbolic expression.”

This is best stated as follows:—

The square of the sum of the squares of two numbers exceeds the square of the difference of their squares by the square of twice the product of the numbers.

(This formula is useful in finding the sides of a right-angled triangle in whole numbers. (See Dupuis' Geometry, art. 171).

6. (a). Find the H.C.F. of $x^4 - 2x^3 + 5x^2 - 4x + 3$, and $2x^4 - x^3 + 6x^2 + 2x + 3$.

This, and all examples in H.C.F. are best solved by working upon the co-efficient alone. (See Dupuis' Algebra, art. 64).

The work stands about as follows:—

$$\begin{array}{r}
 A \dots \quad 1 - 2 + 5 - 4 + 3 \\
 \text{Add, } -B \quad \underline{-2 + 1 - 6 - 2 - 3} \\
 A^1 \dots \quad -1 - 1 - 1 - 6 \\
 \text{Add, } -2B^1 \quad \underline{-6 + 8 - 20 + 6} \\
 \div 7 \quad \quad \quad \underline{-7 + 7 - 21} \quad \div 7
 \end{array}
 \qquad
 \begin{array}{r}
 B \dots \quad 2 - 1 + 6 + 2 + 3 \\
 \text{Add, } -2A \quad \underline{-2 + 4 - 10 + 8 - 6} \\
 B^1 \dots \quad \quad \quad \underline{3 - 4 + 10 - 3} \\
 \text{Add, } 3A^1 \quad \quad \quad \underline{-3 - 3 - 3 - 18} \\
 \quad \quad \quad \quad \quad \quad \underline{-7 + 7 - 21}
 \end{array}$$

∴ $x^2 - x + 3$ is the H.C.F.

6. (b). Simplify $\frac{b+c-a}{(a-b)(a-c)} + \frac{c+a-b}{(b-c)(b-a)} + \frac{a+b-c}{(c-a)(c-b)}$.

Put into each fraction, numerator and denominator, the factor which will bring the denominator to $(a-b)(b-c)(c-a)$. The numerators will be:—
 $(c-b)(b+c-a)$, $(a-c)(c+a-b)$, and $(b-a)(a+b-c)$.

The sum of these is zero, therefore the simplified expression is zero.

GEOMETRY.

The Geometry of the paper, except the 10th question, is from Euclid and needs no comments.

10. Prove that three equal lines cannot be drawn from the same point to the same line, but that two can:—

Let P be the point and L be the line. Let PD be the \perp on L . Take $DA = DB$, parts of L measured in opposite directions. Then $PA = PB$. For in the $\Delta s PAD, PBD$, $DA = DB$, $PD = PD$ and the included $\angle PDA =$ the included $\angle PDB$. ∴ $PA = PB$; and the two equal lines can be drawn from P to L .

Let PC be any other line. If PC lies without PB , $\angle PCB$ is $> \angle PBC$, and $PC > PB$. And if PC lies within PB , $\angle PCB$ is $> \angle PBC$, and $PC < PB$. Therefore PC is not equal to PB , unless it coincides with PB . Therefore three equal lines cannot be drawn from P to the line L .

QUESTIONS IN CANADIAN
HISTORY, 1492 to 1783.

BY PETER MCEACHREN, B.A.,
TORONTO.

1. Give a geographical description of the Dominion of Canada.
2. Describe the early inhabitants of the Dominion.
3. Locate, describe and give tribal names of the Indians who dwelt near the Great Lakes.
4. Give a brief sketch of the Discovery of America.
5. Sketch the voyages and discoveries of Jacques Cartier.
6. Give a description of the work of Champlain in Canada.
7. What was the state of affairs in Canada under the company of One Hundred Associates?
8. What were the aims of the French in colonizing North America?
9. How were the French missionaries received by the Algonquins, Hurons and Iroquois respectively?
10. Describe the invasions of the Huron territory by the Iroquois.
11. Trace the growth of New France from the death of Champlain in 1635, to the establishment of Royal Government in 1663.
12. Describe the social condition and political constitution of Canada under Royal Government.
13. Describe Talon's Administration.
14. Compare the colonization of the French with that of the English, in North America.
15. Sketch the character, and the first administration of Frontenac.
16. What were the chief events in Canada between the two administrations of Frontenac?
17. Describe the second administration of Frontenac.
18. What was the condition of Canada between the death of Frontenac, in 1698 and 1743?
19. Describe the contest between the French and British in North America, during the war of the Austrian Succession, 1743 to 1748.
20. What were the chief events in the contest between the French and British in North America, between the war of the Austrian Succession and the Seven Year's War, 1745-56?
21. What were the causes of the Seven Years' War in Europe, in India and in America, respectively?
22. Sketch briefly the chief features of this war in Europe and in India.
23. Describe the Seven Years' War in North America.
24. What consequences of the battles of Rosbach, Plassey and the Plains of Abraham lead to the conclusion that these were three of the greatest battles of modern times?
25. What were the chief events in Canada between the capture of Quebec city and the signing of the Treaty of Paris, 1763.
26. What were the terms of the Treaty of Paris, of 1763?
27. Describe the Conspiracy of Pontiac.
28. How was Canada governed under Military Rule?
29. Describe the state of Canada just after its conquest by the British.
30. How was Canada governed between 1763 and 1774?
31. State the chief provisions of the Quebec Act, with respect to boundaries, political and religious rights, law and government.
32. What were the merits and defects of the Quebec Act?
33. Why did the North American colonies of Britain revolt?
34. How did the revolting American colonies deal with the Canadians?
35. Specify the boundaries of Canada according to the Treaty of Versailles, 1783.
36. How were the United Empire Loyalists treated by the United States

and Britain? Compare with the settlement made after the Restoration 1660, and after the Revolution, 1689.

QUESTIONS ON CÆSAR.

BOOK IV. CHAPTERS 8 II.

BY H. J. STRANG, B.A.

I. Translate into good idiomatic English Chapter 8. *His ebus* ——— *cognoverant*, making three sentences of the first Latin one.

1. Parse *millibus, quem, delatus, optimum*.

2. Construction of *nocte, remis, egressum*.

3. Account for the mood of *gererentur, caperet*.

4. *orta, propectus*. Write the other participles of these verbs.

5. Write all the infinitive forms of *conspexit*.

6. *portu, solis*. Mention any irregularity or defect in the declension of these words.

II. Translate idiomatically Chap.

10. *His aliquantum* ——— *acceptum*.

1. Explain the construction of the first three words.

2. Classify the subjunctives in the sentence.

3. *cum jam* ——— *prospectu*. What different interpretations may be given to this clause?

5. *patri*. Write out all the active forms this verb may have.

6. *vim*. Decline in full.

III. Translate idiomatically.

(1) *Accessum est ad Britanniam omnibus navibus*.

(2) *Ipsi ex silvis rari propugnabant, nostrosque intra munitious ingredi prohibetant*.

(3) *Eadem fere quae exnuntus cognoverat coram perspicit, sic ut amissis circiter quadraginta navibus reliquae tamen refici posse magno negotio viderentur*.

(4) *Huic superiore tempore cum*

reliquis civitatibus continentia bella intercesserant.

IV. (1) Conjugate *vetuit, consumpta, succisis, arcesso aperto*.

2. Give the nominative, genitive and gender of *navigiis, litore, aggere, nuntiis, maria, loca, vulneribus*.

3. Compare *crebris, longius, minus, plurimas*.

3. Derive *remigo, flumen, tripartito, munitione, introitus*.

5. Mark the quantity of the penult of *ancoras, admodum, captivis munitum, maritimis, revocat, ignorat*.

6. *Testudine facta*. What is meant? What other meanings has *testudo*?

7. Latin for 'of these rivers,' 'in that place,' 'by the arrival of our legions,' 'not even you.'

8. 3rd. sing. pres. subj. of *vult, vetuit, refici, visus est, nacti, redierat*.

9. Give two English derivatives from each of the following *locus, opus, tempus, miles, magnus, ingredior, solvo, manus*.

10. *refici*. What compounds of *facio* take this form in the passive instead of *feri*?

V. Render into idiomatic Latin.

1. Fearing our ships might not be able to withstand the violence of the winds and waves we returned to the port.

2. He told us that the workmen whom you sent for had come to repair the ships that had been damaged by the storm.

3. Leaving the same legion as before to defend the camp he set out at daylight for the place where the Britons had encamped.

4. On learning this they collected larger forces and tried to prevent our men from crossing the river at this spot.

5. In former years these states had waged many wars with the Roman people.

6. After advancing about 15 miles into his territories they halted and selected a suitable spot for a camp.

7. To land a force—to come as soon as possible—to make all their preparations for starting—to put him in charge of the camp.

EXERCISES IN ENGLISH GRAMMAR.

For Primary and Junior Leaving Classes.

“Extreme in all things! hadst thou been betwixt
 Thy throne had still been *thine*, or never been;
 For daring made thy rise as *fall*;
 thy wild name
 Was ne'er more bruited in men's minds than *now*
 That thou art nothing, *save* the *jest* of Fame,
 Who wooed thee once, thy *vassal*, and became
 The *flatterer* of thy fierceness till thou wert
 A god unto thyself; nor *less* the *same*
 To the astounded kingdoms *all* inert,
 Who deemed thee for a time, *whate'er* thou didst assert.”

“Napoleon” by Byron.

1. Classify the italicised words and give their relation.

2. What conjunction has to be supplied in the first line? Give similar instances of its omission with other auxiliary verbs.

3. In what mood is *had been* in l. 2? Why?

4. Point out any difference in the use of *had been* in the two clauses of l. 2.

5. What effect would the substitution of *thee* for *thy* in l. 3 have on the parsing of the rest of the line?

6. Write out in full the clauses to which *fall*, *now*, *less* belong, and give the kind and relation of each.

7. Classify the clause of which the verbs are *art*, *became*, and *did'st assert*, and give the relation of each.

8. Explain the meaning of *betwixt*, *bruited*, *inert*.

Additional Passages for Questions.

(a) “And thou did'st shine, thou rolling moon, upon
 All this, and cast a wide and tender light,
 Which softened down the hoar austerity
 Of rugged desolation, and filled up,
 As 'twere anew, the gaps of centuries;
 Leaving that beautiful which still was so,
 And making that which was not, till the place
 Became religion, and the heart ran o'er
 With silent worship of the great of old!—
 The dead, but sceptred sovereigns, who still rule
 Our spirits from their urns.”
 “The Ruins of Rome.”—Byron.

(b) “Man views it and admires, but rests content
 With what he views. The landscape has his praise,
 But not its author. Unconcerned who formed.
 The paradise he sees, he finds it such,
 And such well pleased to find it, asks no more.
 Not so the mind that has been trained from heaven,
 And in the school of sacred wisdom taught
 To read his wonders in whose thought the world,
 Fair as it is, existed ere it was.
 Not for his own sake merely, but for his
 Much more who fashioned it, he gives it praise.”

Cowper.

For Public School Leaving Candidates

(a) O'er his face of moody sadness
 For an instant shone

- Something like a gleam of glad-
ness,
As he stooped him down
And his eager thirst supplied.
- (b) Sternly, amidst his household
band,
His carbine grasped within his
hand,
The white man stood, prepared
and still,
Waiting the shock of maddened
men
Unchained, and fierce as tigers,
when
The horn winds through their
"caverned hill.
- (c) 'Tis something to a heart like mine
To think of thee as living yet ;
To feel that such a light as thine
Could not in utter darkness set.
- (b) As the tall ship, whose lofty prore
Shall never stem the breakers
more,
Deserted by her gallant band,
Amid the breakers lies astrand,
Soon his couch lay Roderick Dhu ;
And oft his fevered limbs he
threw
In toss abrupt, as when her sides
Lie rocking in the advancing tides,
That shake her frame with cease-
less beat,
Yet cannot heave her from her
seat.
- For Entrance Classes.*
- (a) The good man sat beside his door
One sultry afternoon
With his young wife singing at
his side
An old and goodly tune.
- (b) Down to the gates of the sea,
Out of the gates of the west,
Journeys the whispering river
Before the place of his rest.
- (c) From off yon ash limb sere
Out thrust amid green branches,
Keen like an azure spear
A King fisher down launches.
- (d) Through town and city, far and
wide,
Their wandering feet have strayed,

- From Alpine lake to ocean tide,
And cold Sierra's shade.
- (e) All hearts grew warmer in the
presence
Of one who, seeking not his own,
Gave freely for the love of giving,
Nor reaped for self the harvest
sown.
- (f) At last the ancient inn appears,
The spreading elm below,
Whose flapping sign these fifty
years
Has seen sawed to and fro.
- (g) As o'er the glacier's frozen sheet
Breathes soft the Alpine rose,
So, through life's desert springing
sweet,
The flower of friendship grows.

EXAMINATION PAPERS IN LITERATURE.

By MISS H. CHARLES, B.A., Col-
legiate Institute, Goderich.

Form II. "The Raven," "The
Evening Wind"

1. In "The Raven" describe the scene and circumstances in the speaker's room before the appearance of the Raven.
 2. Give the conversation between the speaker and the Raven, showing clearly the former's state of feeling in each stage of the conversation. Contrast with it the feeling shown by the Raven.
 3. Quote lines from "The Raven," showing any peculiarity in the arrangement of sounds, and point out in each case what the peculiarity is :
 4. Follow the wandering of the evening wind, showing what blessings it conferred as it went.
 5. Point out any difference between "The Raven" and "The Evening Wind."
- Form III. "The Lotos Eaters."
"The Holy Grail."
1. "All vain glories, rivalries,
And earthly heats that spring

and sparkle out

Among us in the jousts."

(a) Who was the speaker?

(b) From the extract what would you give as his opinion of the jousts?

(c) How did Arthur's opinion differ from the speaker's? Give reasons for your answer.

2 Give Percivale's narrative as far as the return of the King, without digressing for the sake of description as he does.

3. (a) Give in your own words the substance of the choric song of the Lotos-Eaters.

(b) Quote any one of the stanzas of it.

4. Give as fully as possible Arthur's opinion of the quest.

Form IV. "Richard II."

I.

1. Are the sympathies of the reader on the side of Bolingbroke or Norfolk in Scenes I and III? Give reasons for your answer.

2. What was the reason for the introduction of Scene II, Act I?

3. How does Richard bear himself as judge between Bolingbroke and Norfolk?

II.

1. (a) Give Bolingbroke's charges against Norfolk and Norfolk's answer to them.

(b) State whether you consider the defence adequate and why?

2. Holinshed gives as part of Norfolk's sentence "that the King would stay the profits of his land till he had levied thereof such sums of money as the Duke had taken up of the King's treasure for the wages of the garrison of Calais, which were still unpaid." Why did Shakespeare omit that?

3. (a) Give in detail the philosophic ideas that Gaunt tries to impart to his son.

(b) How far does Gaunt himself believe them? Give reasons for your answer.

BOTANICAL SPECIMENS AT PRIMARY AND SENIOR LEAVING EXAMINATIONS

BY J. BURGESS FRASER, B.A.
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The importance attached to the practical part of the examination in botany demands that the greatest care be exercised in order that the candidates at the different examination centres may be submitted to a test of their knowledge of the subject, under as nearly the same condition as possible.

With regard to the Primary examination the plan adopted at the recent examination of the examiner, who prepared the paper indicating the plant that is to be used for the purpose of description is a great improvement on the method of some former years, when each presiding examiner was allowed to select the specimen for this purpose.

No matter how anxious the presiding examiner may be to do his duty, he is not in a position to make a selection that will meet the requirements of the paper as well as the examiner can who prepares the paper.

The selection of the specimen for identification at the primary examination has given rise to inequalities that have only to be mentioned in order to shew the unfairness of the test to which the candidates at the different centres have been submitted in the past. It must be obvious that the candidates at a centre where the *pyrola elliptica* is the specimen for identification are placed at a great disadvantage as compared with those at a centre where the white clover is the specimen.

In the latter case it is a matter of presenting each candidate with the number of marks assigned for this question, while, in the former case, it will be only an exceptionally good

candidate who will be able to identify the specimen.

With regard to the senior leaving examination, the condition in which the specimens reach the different centres has always been a cause of complaint on the part of the candidates.

There is no doubt that every precaution has been taken by the examiner to have the specimens in good condition when they are given to the candidates and yet the results have not been wholly satisfactory. The writer has frequently been under the necessity of keeping plants for several days for class purposes and has never experienced any difficulty in doing so, but the box that is used for keeping them in is much larger than those used in sending out specimens for this examinations.

It is just possible that any defects in the condition of the specimens are the result of an over-anxiety on the part of the examiner to have them in good condition.

Let those who are interested experiment on this point and there can surely be no doubt but that whatever method of packing is found to be the best will be adopted by those in charge of the preparation of the specimens. Let larger boxes be tried and do away with the parafined paper in which the specimens are usually folded.

QUESTIONS IN CHEMISTRY.

JUNIOR LEAVING AND PASS MATRICULATION 1894.

3. (a) When 60 cc of hydrogen and 20 cc of oxygen are exploded in a eudiometer, what are the volume and the composition of the resulting gas at standard temperature and pressure?

The equation representing the above reactions is $2 H_2 + O_2 = 2 H_2O$.

The equation when written as a molecular equation expresses the proportions by volume in which the gases will unite so that we are enabled to state that the 20cc of oxygen will unite with 40cc of hydrogen to produce water. As the measurements are taken at standard temperature and pressure the water produced will be in liquid form so that its volumes may be disregarded. Consequently, the gas remaining in the eudiometer will be hydrogen and there will be 20cc of it.

3. (b) If olefiant gas (ethylen) were substituted for the hydrogen in part (a), what would be the volume and the composition of the resulting gas at $100^\circ C$ and 740 mm pressure? Estimate the volume of water produced, measured at $4^\circ C$ and 760 mm pressure.

The result of the burning of olefiant gas depends upon the quantity of oxygen supplied during the combustion. If there is a sufficient supply of oxygen the following equation will represent the reaction $6_2H_4 + 3_2O_2 = 2CO_2 + 2H_2O$, but if the supply of oxygen is limited as in this question then the oxygen will select the hydrogen in preference to the carbon and the following equation will represent the reaction that occurs $C_2H_4 + O_2 = 2C + 2H_2O$.

The following solution is based on this latter equation.

From the equation it will be seen that the 20cc of oxygen decompose 20cc of the olefiant gas, leaving 40cc of it to be measured at $100^\circ C$ and 740 mm.

40cc of olefiant gas at $0^\circ C$ and 760 mm pressure becomes $40 \times \frac{273}{273} \times \frac{760}{740} cc = 56.129 cc$ at $100^\circ C$ and 740 mm pressure.

At the required temperature and pressure the water produced will remain in the form of a gas—and will occupy twice the volume that would be occupied by the olefiant gas from which it is produced when measured

under the same conditions. The 20cc of olefiant gas at standard temperature and pressure, which take part on the formation of the water will become $20 \times \frac{373}{273} \times \frac{760}{740} \text{cc} = 28.065 \text{cc}$ at 100°C and 740 m.m pressure, therefore the water that is produced will occupy twice this volume, so that the whole volume occupied by the resulting gas will be twice $56.129 \text{cc} = 112.258 \text{cc}$. composed of water and olefiant gas. The 20cc of olefiant gas which take part in the formation of water weigh $11\frac{3}{10} \times \frac{2}{1} = 2\frac{3}{5}$ grams, but from the equation 28 grams of olefiant gas yield 36 grams of water. $\therefore 2\frac{3}{5}$ grains of olefiant gas will yield $2\frac{3}{5}$ grains water; but 1 gram of water taken at 4°C and 760 m.m pressure measures 1cc therefore $2\frac{3}{5}$ grams will measure $2\frac{3}{5}$ of a cubic centimeter.

The relation of gases which are called supporters of combustion to those which are said to be combustible is well illustrated by the following experiment. In schools

that are not provided with gas the apparatus may be attached to a receiver containing hydrogen, marsh gas or olefiant gas.

Into the base of an ordinary lamp-chimney fit tightly a cork bearing two tubes projecting about an inch above the cork.

The tubes should be drawn to a point as in an ordinary hydrogen jet; the tips should also be slightly bent so as to bring them close together. Connect the lower end of one of the tubes with a gas jet by means of a rubber tube and leave the lower end of the other tube open. Remove the lamp chimney, turn on the gas and ignite it at the tip of the glass tube, then replace the chimney pressing it firmly on the cork. In a very short time the flame is seen to pass over to the other tube and thus the air which is ascending through it is burning in coal gas. The coal gas which is escaping from the top of the chimney may be ignited and thus shew coal gas burning in air at the same time that air is burning in coal gas.

CONTEMPORARY LITERATURE.

The Christmas number of the *Illustrated London News* is an unusually good issue. Q., Anthony Hope and the late Lord Brabourne contribute short stories. There are numerous engravings and illustrations by such well-known artists as Bernard, Aldin, Browne and others. One of the best of the pretty colored supplements is "Anne Hathaway's Cottage," by W. S. Coleman.

One of the first of the Christmas numbers is the *Scribner's*. Rudyard Kipling contributes a long poem called "McAndrews' Hymn;," a Scotch engineer's ideas on his engines. Robert Grant has a seasonable short story. There is an

article on "George Frederick Watts," by Cosmo Monkhouse, the illustrations of which are exquisitely beautiful. Archibald Lampman has a poem entitled the "Woodcutter's Hut," and George W. Cable's story is concluded. One would, if space allowed, mention every article in commendation.

"A Boy of the First Empire by" Elbridge S. Brooks is begun in the November *St. Nicholas*. "Palmer Cox's Brownies," still caper across the page, and "Jack Ballister's Fortunes" are continued. There is an interesting article on that absorbing present topic "Golf," by Helen Marshall North.

Littell's Living Age, for November 17th, contains an interesting article on "Francis Thompson," from the *London Quarterly Review*. "An Unresolved Discord" is a short story, by W. C. Norris, from *Longman's*.

Two new serials begin in the December number of *The Quiver*. A pretty and humorous short story is "Miss Hannah's Love-Letter," by Albert E. Hooper. There are the usual excellent articles, by such men as Rev. Hugh MacMillan and the Lord Bishop of Ripon.

Delightfully natural and funny is John Kendrick Bang's Paradise Club on "Woman's Suffrage" in the Christmas numbers of the *Ladies' Home Journal*. A new ballad by Sir Arthur Sullivan, gives an air of luxury to the number. The Christmas article, by Robert J. Burdette, is one of the wisest that has been penned for many a day.

The *Youth's Companion* has recently issued a dainty calendar for 1895. The special attractions for next year are wonderfully good. One of the greatest merits of this admirable paper is the entire reliance that may be placed on whatever is found in its pages.

The December *Cosmopolitan* is a particularly good number. There are short stories by Rudyard Kipling, W. D. Howells, and Mrs. Burton Harrison, besides others of interest. Sir Edwin Arnold, Clarence Stedman and James Whitcomb Riley contribute poems. The illustrations are exceedingly good.

We have just received from the publishers, Messrs. Copp, Clark & Co., Toronto, *The Canadian Almanac* for 1895, (48th year of issue); and, although this almanac is always good, the present issue is distinctly in advance of any previous one. An article by Dr. Bourinot on "Canadian Parliamentary Procedure," a series of articles on the "Defences of

Canada," and an excellent account of the Sault St. Marie Canal are among the new features of this excellent almanac.

An Elementary Chemistry. By G. R. White, A.M., Phillips Exter Academy. Boston: Ginn & Co. This book is the outcome of the author's experience in teaching chemistry and is primarily intended for students, who, for any reason, must study chemistry without much assistance from a teacher. The experiments are most carefully detailed, and the chief aim is to make the student think for himself.

Le Monde ou l'on s'ennuie. By Pailleron, with notes and introduction by A. C. Pendleton, D. C. Heath & Co., Boston. One of the Heath modern language series, this is a bright, witty, entertaining, modern French comedy, the "Hôtel Rambouillet" up to date. The language is, of course, of the most modern type; the sentences short, crisp and idiomatic. The notes are copious enough for the fairly advanced reader, and deal mostly with difficult idiomatic turns. The book would be very useful for supplementary reading in our High School French classes.

A Scientific French Reader. Edited by Prof. Herdler, of Princeton, with introduction, notes and vocabulary. Boston: Ginn & Co. This reader is intended as an introduction to French Scientific literature, and therefore special attention is paid to technical terms, etc. It will be useful, chiefly, to students of Science.

Colomba. By Prosper Mérimée, with introduction and notes by G. Eugène Fasnacht. London and New York: Macmillan & Co.; Toronto: Copp, Clark & Co. Mérimée's *Colomba* has long been an acknowledged masterpiece. It is a story of Corsican *Vendetta* of fifty years ago, abounding in local color and thrilling adventure, with admirable delineation of Corsican

character. The notes to this edition are copious—86 pages of notes (mostly brief) to 154 pages of text and are in this editor's well-known practical style. Printing, paper and binding are all excellent.

The second part of *Macmillan's Shorter Latin Course*, an abridgment of the second part of *Macmillan's Latin Course*, has recently appeared from the press. The editors are Mr. Cook and Mr. Pantin, both assistant masters in St. Paul's School, and the chief difference between the method of this book and that of most others of the kind is that it follows, as far as possible, the method by which a child gradually acquires his mother's tongue. The notes, the vocabularies, and all the other parts of the book show good work. (London: Macmillan & Co., through the Copp Clark Co., Toronto.)

Practical Lessons in Physical Measurement, By Alfred Earl, M.A., Barrister-at-Law. (London: Macmillan, & Co., through the Copp, Clark Co., Toronto.) This handbook is a kind of introduction to the study of Physical Science and deals with methods of measurement of mass, space, time, simple changes requiring exact measurement, etc. It is a book for Laboratory practice and seems likely, if at all well used, to help students to think clearly, reason properly and observe accurately—all far more important things than the mere committing to memory of isolated facts.

Messrs. Ginn & Co. have just published, under the name of *First Latin Book*, an abridgment of the *Beginner's Latin Book*, by Collar and Daniell. The present book is by the same authors. It is shorter and easier, but not less thorough nor less fresh and interesting. The special and general vocabularies are worthy of mention.

We have received from Messrs. W. and A. K. Johnston, Edinburgh,

some fine colored pictures intended to aid in the teaching of Object-Lessons, etc.

We note with pleasure that the *Cambridge University Press* are issuing, under the editorship of Prof. Prothero, of Edinburgh University, a series of text books dealing with the history of Modern Europe from the end of the fifteenth century to the present time. These books are intended for the use of all interested in history and politics and promise to be of no little value. The first of the series is entitled "The Revolutionary and Napoleonic Era" and is written by J. H. Rose, M.A., of Cambridge University, Extension Lecturer in Modern History. The introductory chapter is on "The Political and Social Weakness of Europe," and the final chapter on "The Reconstruction of Europe" and thus we find the French Revolution rightly treated, as a part of a greater movement. Great care and pains has evidently been bestowed on this work; the style of the writer is clear and interest is added by the quotation of the words of many of the actors in the great drama. We know of no other book which deals adequately with the question and is, at the same time, suited to the needs of general students.

Macmillan's Classical Series. "Cicero's Pro Murena." Edited, with introduction and notes, by J. H. Freese, M.A. (London: Macmillan & Co., through the Copp, Clark Co., Toronto.) Mr. Freese has prepared this edition for the use of advanced students and has relied mainly on the edition of Halm-Laubmann (Berlin, 1893) for the text, but a short Critical Appendix is added, giving the more important of various readings. "An Introduction," "Outline of the Speech," "Chronological Table," "Index," and some seventy pages of good notes, make up the volume.