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OCTOBER, 1887.

THE RELIGIOUS ELEMENT IN EDUCATION.

AN ADDRESS DELIVERED BEFORE THE PROVINCIAL TEACHERS' ASSOCIATION,
BY REV. A. SUTHERLAND, D.D.

(Specially revised for THE MONTHLY.)

THE question underlying the theme I propose to discuss is this:— Shall our educational system be entirely secular, or shall the religious element, in the form of Christian evidences and Christian ethics, be incorporated therewith? In some quarters there is a disposition not merely to undervalue the religious element in education, but to ignore it altogether. Men sometimes speak of "Science and Religion," or "Culture and Religion," as though they were things entirely separate and distinct; while some speak of the "conflict" of science and religion, and others try to "reconcile" science and religion, as if they were positively antagonistic. The thought is misleading; the divorce is unnatural. Culture and religion are not antagonistic; the one is the completion, or, rather let me say, the one is the soul of the other.

1. An education which excludes the religious element is defective. In the nature of things it must be so,

because it omits a vast amount of important truth. Considering the vast range of subjects open for investigation, human life is far too short to master them all; but while we may be compelled to omit some, perhaps many, subjects from the *curricula* of our schools and colleges, we should see to it that the most important are included, and, if character is to count for anything, there is no subject in the whole range of human studies that compares in point of importance with the great truths of God, and duty and destiny. The most serious defect in a purely secular education is that it supplies no adequate force for the development of moral character. If it be said that intellectual culture is sufficient for this purpose, I need only reply in the words of Herbert Spencer—a by no means partial witness—that "the belief in the moralizing effects of intellectual culture, flatly contradicted by facts, is absurd." If it be said that æsthetic culture is a

sufficient substitute, I call upon John Ruskin—no mean authority—to reply, and this is his answer:—"The period of perfect art is the period of decline. At the moment when a perfect picture appeared in Venice, a perfect statue in Florence, a perfect fresco in Rome, from that hour forward probity, industry and courage were exiled from their walls." And if it be said that our schools and colleges should confine themselves strictly to secular topics, leaving religious truth to the church and the Sunday school, I cite Victor Cousin to the stand, and I hear him testify that "any system of school training which sharpens and strengthens the intellectual powers, without at the same time affording a source of restraint and counter-check to their tendency to evil, is a curse rather than a blessing."

2. An education which excludes the religious element is untrue. The primary object of all true education is to teach the individual mind to think; and this ability to think should be made to pervade universal society. If we have labourers, their pickaxes and shovels should think; if we have artisans, their spindles and shuttles should think; if we have mechanics, their saws and planes, their anvils and hammers, their mallets and chisels, should think; and, more important still, if we have voters their ballots should think. But while it is important that men should think, it is far more important that they should think true thoughts; and our schools and colleges must largely decide whether the thought of the future shall be false or true. Now, I maintain that no man can think truly on any important subject who has not learned to think as a Christian, because without this qualification he is as one who omits the chief facts from his data, and the major premiss of his argument. Does a man think truly in natural science who sees in all the

phenomena of matter only the play of natural forces, and in its combinations only a fortuitous concourse of atoms? Does he think truly in history who never sees God's finger in the destinies of nations, nor hears His footfall in the march of the centuries? Does he think truly in anatomy or physiology, who sees no evidence of Divine wisdom in the human frame, "so fearfully and wonderfully made?" I trow not. And as he does not think truly who excludes God from his thinking, so neither can he teach truly. He teaches only half truths at best, and a half truth is often as pernicious as a positive lie.

3. An education which excludes the religious element tends toward infidelity and atheism. This must be its tendency in the nature of things; this is its tendency as matter of fact. We must remember that education is carried on by a twofold process—the knowledge communicated and the impressions produced. The one largely determines what the student shall *know*; the other determines what he shall *become*. Now what are the impressions that will inevitably be left upon the mind of a youth by an education that is purely secular? As a rule, the impressions will be that religion is a very secondary matter; that it has no legitimate connection with mental development; that it is out of place in the spheres of philosophy and science, and is antagonistic to the advanced thought of the age. If, under these circumstances, a student retains his belief in the Bible, and his reverence for God and religion, it is not *because* of his education, but *in spite* of it.

Some, I am aware, maintain a contrary opinion; but they overlook most important facts. They seem to take for granted that a human mind is but like a glass vessel in which a certain quantity of something we call "know-

ledge" is stored, which can be drawn upon at pleasure, but which has no effect upon the texture of the vessel; that whether the contents are healthful food, corrosive acid, or deadly poison, the glass remains uninjured. This is a terrible mistake. Knowledge introduced into, and impressions made upon, the mind do not remain distinct from it. They are woven into the very texture, so to speak, of the mind itself, giving new directions to thought, new colourings to our perceptions of truth, and a new bias to the moral nature. Moreover the years usually spent at school and college are the very years when the human mind receives its most decisive bent; when teaching, combined with surrounding influences, will do most to determine what the future character shall be—the years, in a word, when thought crystallizes into lasting conviction; when a permanent direction is given to moral tendencies; when habits both of thinking and acting receive a bias which is not easily changed.

4. An education which excludes the religious element is fraught with peril to the State. The foundation of national safety is national virtue, the moral sentiments of the people, rectitude in the private life of the citizen. But moral sentiments and moral rectitude must be sustained by adequate moral forces, and these Christianity alone supplies. To quote the emphatic language of Washington—"Reason and experience both forbid us to expect that national morality can prevail in exclusion of religious principles." All history testifies that intellectual culture is no safeguard from moral vileness, ending in national degeneration and decay. Egypt, once in the van of civilization and learning, is to-day "the basest of nations," and the once mighty empires of Greece and Rome tell the same sad story. Where

shall we find such philosophy, such oratory, such art, as in the land that gave to the world a Homer, a Pericles, a Demosthenes, an Aristotle? Where shall we find such jurisprudence, such statesmanship, such eloquence, as in the empire that could boast of a Justinian, a Cæsar, a Cicero? But where are Greece and Rome to-day? They have fallen. Their civilization lacked the conserving element—the salt was without savour, and was cast out to be trodden under feet of men.

Such examples are full of warning. The causes which led to national downfall then are in operation to-day, and history may repeat herself nearer home than we apprehend. If our civilization is to be progressive and permanent, if our institutions are to rest upon solid foundations, if freedom is to

Broaden slowly down
From precedent to precedent.

if our liberties are to rest secure in the guardianship of public morality, our schools and colleges, where the leaders of thought are trained, must be permeated through and through with the principles of New Testament Christianity. In the words of De Tocqueville—"Despotism may govern without religious faith, but liberty cannot." A lofty morality is the only sufficient safeguard of the liberties of a free people, but "morality," says Dr. J. P. Newman, "without God as its authoritative reason, is but a social compact, a human stipulation, to be broken at will or enforced against will."

If I were considering the case of a pagan nation, my proposition would be conceded almost without demur. Let us take Japan as an illustration. There a vast nation has suddenly awakened from centuries of intellectual slumber. They have thrown open their gates to Western civilization, and the most marked feature of

the awakening is a universal craving for education—a craving so strong that to satisfy it the Government has organized a system of education embracing more than 50,000 common schools, a number of High Schools, Normal Training Schools for both men and women, and an Imperial University, said by those who knew the facts, to be equal in its equipment and in the ability of its professors to Oxford or Cambridge. The most superficial thinker cannot fail to see that these schools and colleges will be mighty factors in moulding the national character, and that they will determine in no small degree, what the future of the nation is to be. If I now submit the question—"Ought Japan to have an education purely secular, or one permeated throughout by Christian truth and Christian influences?" scarce anyone will hesitate to reply, "The hope of Japan is in Christian education."

If, then, a purely secular education is unsafe for the awakening intellect of a heathen nation, on what principle is it safe for the growing intellect of a professedly Christian nation, unless it be on the supposition that we have advanced so far as to have no further need of God? It is confessed that when laying the foundations of an abiding civilization, an education with the savour of Christian truth is good; but some appear to think that so soon as the nation has got beyond its infancy, the savour can safely be dispensed with. "Be not deceived; God is not mocked. Whatsoever a man"—or a nation—"soweth, that shall he also reap;" and the nation that soweth the wind of a godless education must reap the whirlwind of a swift and hopeless decay.

5. But what is meant by the "religious element" in education? Not the *sectarian* element, as some would have us believe; though, for that matter, I would rather have my boy

taught by the most pronounced sectarian, provided he were a godly man, than by the most brilliant teacher who ruled Christ and the Bible out of his classroom. The cry against "sectarian" education has been made to do duty on more than one occasion in the history of this country. Some have used it ignorantly, some thoughtlessly, and some for a purpose—that is, as a convenient way of exciting prejudice. But I plead for the religious—not the sectarian—element. Further, I do not mean the *theological* element. This is another mistake made by many; they confound religion with theology, and then seem to regard theology as something to be kept distinct from other studies and pursuits; and so they say, let our sons get their education in secular schools and colleges, and then let the Churches have their theological schools in which to teach religion to those who are preparing for the Christian ministry. I deprecate the misapprehension, as it is with some; I protest against the misrepresentation, as it is with others. The religious education for which we plead does not mean the study of sectarian theology. What, then, it may be asked, do you mean by the religious element? I mean—say, in the common schools of our country—(1) Such a recognition of God and our dependence upon Him, as will find expression in some simple form of devotion at the opening or closing of the school, or both; (2) the Word of God in the school as a recognized text book, either in complete form or in the form of selected lessons; (3) the inculcation by the teacher, on all suitable occasions, of the great principles of Christian morality, which have their basis in the Ten Commandments and the Sermon on the Mount. More than this I do not ask; less than this I cannot accept.

6. I plead for a recognition of the religious element for the sake of our sons. If we knew that a year hence those sons, in crossing a wide and deep river, would be suddenly plunged into its rushing current, the knowledge would change some of our plans, at least, in regard to their training. Not a day would be lost in teaching them to swim, and perhaps not satisfied with this we would provide the best life-preservers money could buy, and would have the lads carefully instructed how to use them. The illustration is none too strong. In a few years our boys will be plunged into a sea where they must swim or drown, and where nothing but fixed religious principles will suffice to keep their heads above water, and sustain them until they reach the other side. Our sons, as they go forth to life's great battle, must face the same problems and grapple with the same foes that we have had to encounter. Shall we, then, send them forth unprepared—utterly unarmed and defenceless? Oh, surely not! But will an education that is purely secular supply the needed armour of proof? Nay; nothing but "the armour of righteousness on the right hand and on the left" can possibly shield them in the strife. If my statements seem extravagant, listen at least to the words of Professor Huxley, whom one is almost surprised to find on this side of the question:—"There must be a moral substratum to a child's education to make it valuable, and there is no other source from which this can be obtained at all comparable to the Bible."

You may ask what difference it makes who teaches my boy chemistry, biology, anatomy, astronomy, or the like. It may make a tremendous difference, both in regard to what he is taught and how it is taught; for often the tone and spirit of a teacher go farther than the instruction he

gives in determining what a student shall become. In that most critical period of life when intellect is fairly awaking; when the youth is just becoming conscious of the mental power that has been slumbering within him; when he longs to explore new and untried regions; when he craves a wider freedom, and regards with suspicion whatever claims authority over his thoughts or actions; when he begins to regard intellectual culture as the highest possible good, and looks up to his teacher as an incarnation of wisdom, from whose *dictum* there can be no appeal; at such a time the teaching and influence of the class-room may make all the difference between moral safety and moral shipwreck.

If, for example, my boy is engaged in the study of biology, does it make no difference whether he hears from his teacher's lips that God is the only Author and Giver of life, or is told that life, so far from being a Divine gift, is only a spontaneous generation from lifeless matter? If he is studying the structure and laws of the human frame, does it make no difference whether he is taught to recognize Divine power and wisdom in the marvellous adaptation of means to ends, saying with the Psalmist, "I am fearfully and wonderfully made. . . . Thine eyes did see my substance, yet being imperfect; and in Thy book all my members were written, which in continuance were fashioned when as yet there was none of them:" or, on the other hand, is taught to believe that he is but the product of a blind force; that he came, by some unlucky accident, from the darkness of the past, and is speeding swiftly toward the deeper darkness beyond? If he is studying the wonders of the starry universe, does it make no difference whether the instructions to which he listens be in the spirit of the Psalmist's confession,

"The heavens declare the glory of God, and the firmament showeth His handiwork;" or in the spirit of the French atheist who said, "The heavens declare only the glory of Laplace and Leverrier?" Ah! yes; it does make a difference—an incalculable difference—a difference that can be measured only by celestial diameters.

7. I plead for a recognition of the religious element for the sake of the nation. Matthew Arnold has told us that the hope of the world is in its sages and its saints. In other words, Wisdom and Righteousness are the twin forces to save society from corruption and decay. The remark is good, though not particularly original. The principle was recognized by God, if not by man, far back in human history. Ten righteous men would have saved Sodom; the seven thousand who had not bowed the knee to Baal were the conserving force in Israel; and this consensus of Old Testament teaching is emphasized and confirmed in the New by the declaration of Christ concerning His disciples, "Ye are the salt of the earth." The future of this nation—its purity and permanence—will depend upon the extent to which all its institutions—social, commercial, political—are permeated by Christian principles, and this, in turn, will depend upon the education we give our sons and daughters. He must be blind indeed who sees no necessity for higher and better principles in both political and commercial life. Unless there be improvement in these directions the future forebodes disaster. In the school as well as in the home the remedy must be applied: Christian principles must be interwoven with the moral fibre of our sons and daughters in the process of education, and not be put on as a convenient veneering afterwards.

The issues are far more serious

than most persons seem to know. The real question as between the Christian and the secularist in this land is not the inspiration of the Bible, and the thousand and one questions which grow out of that; but it is whether the spirit of our educational system is to be secular or religious, and whether it is to be controlled by the Christian or by the secularist? Some one may say I am putting this too strongly; but there are numbers of people who are by no means sceptics, and even many who claim to be Christians, who think that religion is out of place in school or college. But a moment's reflection will show that such persons, whether consciously or not, are putting themselves on the infidel's platform, and are reasoning along his lines. The only difference is that, while he perceives the logical outcome of his argument, the others do not. He demands a purely secular education; they join with him, though not with the same end in view; but while the methods are alike, the results cannot be widely different. He would have a nation of atheists, made such by their education; they would have a nation of Christians, who are such in spite of their education. He would annihilate all belief in the existence of a personal God—all respect for His character—all reverence for His law; they would retain these things in the Church and the home, though joining to exclude them from the college and the school. But the result is the same. Between them both, Christ must seek the shelter of the manger, because there is no room for Him in the inn. He must be relegated to the companionship of the ignorant and the lowly, because they can find no room for Him in the misnamed culture of this age.

In the army of cultured teachers who serve in the schools of this Pro-

vince there are many noble men and women who feel the responsibility of their office, and that their whole trust is not discharged by drilling their pupils a few hours per day in purely secular studies. They long to lead them up to higher planes of thought and motive. But you meet with scant encouragement; few seem to sympathize with your efforts, and sometimes the thought comes, I may as well confine myself strictly to secular studies and leave all religious precept to the home and the Church. Be not so despondent. Remember you are working for the future, and although the fruit of your labour does not immediately appear, you shall reap hereafter with abundant increase.

Take heart! the waster builds again;
A charmed life old Goodness hath;
The tares may perish, but the grain
Is not for death.

God works in all things; all obey
His first propulsion from the night;
Wake thou and watch! the world is gray
With morning light.

One last thought let me leave with you. The influence you exert in moulding the moral character of your pupils will depend upon the extent to which you are yourselves imbued with the principles you teach, for in this matter more depends on what you *are* than on how much you *know*.

Thou must thyself be true
If thou the truth wouldst teach;
Thy soul must overflow if thou
Another's soul wouldst reach;
It needs the overflow of heart
To give the lips full speech.

Think truly, and thy thought
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a fruitful seed;
Live truly, and thy life shall prove
A grand and noble creed.

REVERENCE FOR OLD INSTITUTIONS.

BY A. H. MORRISON, BRANTFORD.

REVERENCE is the mother of religion, and religion, whatever the term may be worth to the sceptic or agnostic, has certainly been a bond in the past, potent as all pervading, linking peoples into communities even more surely than the ties of kindred or country. Judaism, Buddhism, Brahminism, Mohammedanism and Christianity, this last as exemplified most fully under the Roman Catholic domination, have been powerful factors in the product of universal history. They have moulded thought, determined civilizations, furthered or arrested progress, material, intellectual and spiritual, and have even influenced the duration of national being.

Without reverence, religion, according to the true acceptation of

the term, would be impossible. It is because reverence is perishing, that much of the old fashioned religion is moribund, and much of its new fashioned *locum tenens*, a snare and delusion, an odd admixture of furbelows, feathers and fashionable sensationalism, of Sabbath day cant and week day sacrifices at the shrines of frivolity, unfair business transactions and financial failure. Were not religion decaying and reverence dead, Nihilism, Communism, Socialism, and Intransigentes would be meaningless terms, uncoined as uncared for, their places in the dictionaries would be blank, and their devotees, the iconoclasts of custom and the enemies of humanity, unknown.

To revere is to worship. Even though the object of reverence be no

higher than a deity expressed in the terms of the humblest worshipper's conceptive faculty. The God of an orthodox Newton may be absolutely as far removed from the God of honest Hodge, who cannot sign his name, as the splendour of tropic noon day exceeds the ashen hue of arctic twilight, relatively no difference exists. Newton bends his head and adores, having learned the futility of speculation through a ratiocinative process; therefore reverential from the very realization of his ignorance by a comparison of the known with the unknown. Hodge, in like manner, removes his cap and worships, knowing the futility of speculation by instinct, caring nothing about ratiocination, and reverential because his deity is but the reflex of the squire or the parson raised to the *n*th power. The man who reveres the higher attributes of intellectual or moral utility, according as he conceives it to exist, reveres God. Whatever God to him may mean, and without the conception of a God, even though an unknown God, religion as we have been taught to understand the term becomes a myth, and its ritual meaningless and futile. The Atheist would never deliberately sit down hungry to appease his appetite on faith, while denying the *cause* of faith, neither would a disbeliever in Divine interpositions seek to quench his thirst at the brink of a mirage, knowing it to be such.

Even hero-worship, which is a sort of religion, has its outcome in reverential feeling, for who could make a hero out of a man he despised or pitied? Therefore is hero-worship in this connection both commendable and necessary? nay, indispensable. When we invest humanity with the attributes of a demigod, we at least elevate that humanity to an abstract position a step higher than our own, as none but a fop would worship him-

self, nor can aught but ignorance or infatuation do reverence to anything lower. If Cromwell and Frederick were hero-divinities to Carlyle, it was because he considered them superior to himself, and admitted them to be so—a strange admission, by the by, for Carlyle.

Closely connected with hero-worship or hero-reverence, in some sort depending upon it, is the reverence for old institutions. There is an aphorism to the effect that it is unwise to remove old land marks without good and sufficient reason. That aphorism is worth remembering. Your red hot innovator is more frequently an iconoclast than true reformer. It is so easy to demolish, so difficult to build up. Any fanatical sectarian can apply the brand to an Alexandrian Library. Will he undertake, as the product of his own life's labour, to reinstate the priceless treasure on the shelves?

First of all old institutions is the Church; second, is the School. I place the Church first; because, as we reckon time, it is the older. Your typical Englishman would not willingly forego his Westminster Abbey or Canterbury Cathedral, nor relegate the august shade of Thomas à Becket to the limbo of oblivion, however far the character of the old churchman and hero may fall short of modern conceptions of the man of the millennium, neither would he readily relinquish his Eton, or Harrow, or Rugby, to say nothing of the sister universities by the Cam and Isis. We cannot, at least, well conceive of so radical a change in English feeling, as one that would consign to the iconoclast and leveller these time-honoured institutions, ultimately connected as they are with Church and State. Yet, lately, in a British colony, still peopled by the descendants of Britons, still actuated, let us hope, by something of the old British instinc-

tive reverence for the lofty and the good, it was found possible to debate the question as to the propriety of the maintenance of an educational institution, the oldest of the kind in the Province, which had done good work in the past and was proved conclusively to be doing good work in the present, with a future before it, fairer and more pregnant with promise than even the past records had warranted the assumption. It was found possible, I say, to debate the question; yet stranger, it was found possible to find advocates, many advocates, even among the so-called educated, for the total suppression of the institution, and the diversion of its endowment into a channel alien to the purpose decreed by the original grant.

Now it is to institutions of this type that we owe much of the truest culture, and more of the truest patriotism among the cultured. It has been well said that Eton won Waterloo. The spirit that has fostered the truest British patriotism is the tutelary spirit of the upper class British school, that broods over the urchin at his ink-besmirched Delectus and accompanies him to his pastimes, that animates him alike in the class room, the tennis court and the cricket field.

What constitutes patriotism? It is love for one's native land and reverence for its institutions. Destroy reverence and one half, and the better half, of patriotism is gone. It is not the English soil nor the Canadian soil we love. For English soil before the Anglo-Saxon settlement means nought to us. It was but a wilderness, wolf-haunted and savage, with no history but a wood-stained barbarism, and no sentiment but a monolithic riddle, which puzzles the centuries. So the Canada of four hundred years ago is to the Canadian of to-day a *terra-incognita*, the *Ultima Thule* of middle age geographical re-

search, with untrodden depths of forest and uncrossed expanses of water, with here and there settlements, peopled by the red-skinned aborigines whose highest vocation in life was the chase, and whose national archives were the tomahawk and scalping knife. But what reverence is there for the Pict or Druid, for the hunter or the scout? Reverence is born of progress and enlightenment. It grows with institutions, with the Church of Augustine, the law of Alfred, the schools of Gislebert, of Walter de Merton, of Henry VI., the Witanagemot of the Saxon, the parliament of Montfort, the heroism of Cranmer, of Wellington, of Nelson, of Pitt. It is true that the savage may have his instinctive love for the soil on which he is reared, but it is an unthinking and unquestioning attachment. It is the preference of the wild beast for his lair, the eagle for her eyrie. There they breed their young and there they defy the foe who would molest their callow offspring. But true patriotism has its origin in a higher faculty, far beyond that of mere instinct. It is born of Divine Right, the outcome of Divine Progress. With mere animal instinctive preference is associated the pride of heritage, of accumulated prestige, reverence for the glory of the institution, and love and gratitude for the founders. Love of land and treasured memories of progressive institutions linked in inseparable communion form the crown of Reverence, without which no people can exist intact and unassailable, no patriot dare take his stand as the upholder of national or popular right. *Quem Deus vult perdere, prius dementat.* The nation which the gods would destroy, they previously deprive of reverence. So it has proved with the Jew, who forsook his God and fell; with the Roman who bartered his heritage for a short-lived dream of Eastern luxury;

with the Greek who sacrificed Marathon at the shrine of internecine enmity and disunion; with the Italian Republics who perished with their fangs in their children's throats; with modern France whose bane is a frivolous incontinency; with Ireland whose curse is an hereditary aversion to Imperial legislation. In one word, the history of national decline is to be found in the decline of national reverence, at once the source and fountain head of all pure religion and true patriotism.

What then is the nucleus of this glory of patriotism in the firmament of national being, the last gleam of whose departing trail is the herald of a Cimmerian and dawnless night? Doubtless there may be more than one; but one, it may be unhesitatingly averred, is *the school*. The well ordered home is a good nursery of the patriotic spirit, for therein we learn the reverence for the first of earthly institutions; but it is in a sense isolated and therefore not far reaching. To acquire the true patriotic instinct we must associate with our fellows. We must both give and receive the magnetic spark of a common sympathy, admiration and reverence. And what better time to commence the patriotic training than the season of ingenuous youth? What better training places than the school and the college?—and essentially the best class of boarding schools and colleges massed as universities in the true sense of the term. The common schools do useful work. It is doubtful whether they train to the true patriotic spirit, to true reverence—nay, the fault of Canadian youth is not illiteracy, it is irreverence, they sin in the face of light. Isolated colleges, more especially if denominational, useful as they are in their way, lack the incentive of a universal brotherhood, separating, not welding, tending to spiritual disruption rather than corporate and patriotic union.

The weak point of the Common,

and even of the High School, is that neither is in any sense of the word a home, and where the idea of home, however remotely, cannot be brought in, there can be no abiding interest. The boarding school is of all institutions, *par excellence*, the nursery of patriotism and the fountain head of reverence, always provided that the school have an efficient staff and a reputable history. Rugby and Arnold are names that will endure as long as the English language.

With what love do we look back to the walls of time honoured institutions, within whose hallowed precincts our fathers, ourselves, first beheld, as it now seems from a far away realm, the dawning rays of intellectual light. There is ever a glamour round the dead which we fail to perceive in life. Some deride the idea as mere sentimentality. With these it is invariably "let the dead past bury its dead,"—not so; says the patriot, let the dead past bring its dead, in all the silent but undimmed glory of its successes, in all the pathos of its failures, the mortal with the immortal, to lay it at the feet of the living present, to tell us the story of what has been, to animate for the future, to instruct, to admonish, to teach us to hold as well as build, to retain as well as reform, to honour as well as remember, to reverence as well as enshrine.

Not till the spirit of the school in its best sense is spread over the land; the Rugby, the Harrow, the Eton, the Winchester, the Sandhurst, the Woolwich, shall the true national spirit be evoked. Not alone that spirit which prompts to defence of territory and glorification of national interests, commercial and political, but that more enduring power, that stronger pledge of fellowship, gentleness linked with progress, culture with ability, the true spirit of reverence, the very essence of a manly and independent patriotism.

WHO INVENTED THE ELECTRIC TELEGRAPH?

A TRAVEL PAPER.

IF it be ever your good fortune to visit the town of Greenock you may spend a pleasant hour in the Watt Library. As you enter, there rises before you a fine statue, by Chantrey, of James Watt, to whose memory his son erected these buildings. "The inhabitants of Greenock have erected this statue of James Watt, not to extend a fame already identified with the miracles of steam but to testify the pride and reverence with which he is remembered in the place of his nativity and their deep sense of the great benefits his genius has conferred on mankind." So reads the inscription before you, written by Lord Jeffrey.

Upon some of the bookcases are brass plates from which may be learned the date of the nucleus of this noble collection of books and the times at which additions were made to it, in not a few cases by the public spirit and liberality of Greenock men. It now contains some twenty-five thousand volumes. But one subscription library in Scotland is older than the Greenock Library—that of Kelso. The Glasgow Library dates eight years later, and that of Edinburgh eleven years later. "The Greenock Library was instituted 1st January, 1783. The contents of this case show its extent in 1787, according to the first catalogue, published in that year." And you may see, too, a reprint of that first catalogue produced by Mr. William Hutchison of Greenock in the year 1883, which is a beautiful specimen of the modern printer's art, being a faithful fac-simile of the original—even to the fine old style paper and the type.

One of the most valuable things in the Library is a collection of rare and ancient books to be found in a case by themselves, open for the inspection of visitors. Here is a copy of Ruskin's first printed article (1834) and here, too, is the first Greek book ever printed in Glasgow (1743), closely followed by the first book printed in Aberdeen (1644), bearing the pleasant title of "A Godly Dream." Did you know that William Ged, a goldsmith in Edinburgh, was the inventor of stereotyping? There you may see his first book.

Right below it is a treasure the like of which you may not easily find in the wide world. It is a copy of North's Plutarch (1612 edition). Whose copy, think you? Shakspeare's. There, on the margin are notes and initials believed to be in his own handwriting, and as you stand and look at the old letters and the ancient leaves, brown with their years, think to yourself that this is something worth seeing and other thoughts that perhaps are hard to put on paper or to tell to people so that they will understand what you mean.

You feel as if you did not care to look at any other book for a little, yet as you turn the corner of the case, perhaps some books which have crossed the sea that you have crossed will catch your eye. They are old, old volumes of American sermons collected by the grandfather of Principal Caird of Glasgow University, and presented to the library on the death of Miss Caird of Greenock. There is one "occasioned by the death of General George Washington, who deceased December 14th, 1799."

And now for the Electric Telegraph.

"Would it not be strange if one born in the same town as Watt, about the same time, had brought out of electricity its fine qualities that enable it to abolish distance? This is what actually was done by a fellow-townsmen and contemporary of James Watt.

"Were not the evidence, as we shall show, too plain to be mistaken, I should much incline to doubt it. Whenever anybody discovers anything, half a dozen envious spirits are ready to flood every newspaper with columns of controversial matter to the effect that he did not discover it but stole it. If you found out a way to make gold from brass, or statesmen from demagogues, you would be told that it was all set down in papers that your grandfather most unlawfully took it from some one else's grandfather, and that you had no more right to be called a discoverer than you had to be called Emperor of China. That is human nature. But here the facts are simple, clear and past dispute. Years before the discovery is claimed for any other man, Charles Morison knew that subtle process by which thought flashes round the earth almost with thought's own swiftness.

"In the early part of last century electricity was a toy, a pet of the study. Men no more dreamed of what it could do than they might dream that a pink morsel of baby-humanity would grow into a Napoleon and cover Europe with graves. In 1736 James Watt came into the world that he was to turn upside down. It is probable that Charles Morison was born not far from the same time. Think of it. Greenock was then a cleanly, sleepy, little place. Even Glasgow was hardly bigger than a market town of to-day. Into the Greenock streets came the hardy Highlanders to traffic, and—it must be confessed—to spoil the Saxon as

completely as they could. Prince Charlie had not yet made his desperate struggle for his father's throne. Here in this quiet place, with its steady-going, decent people, more intent upon some venture to the Indies than upon all the politics that agitated far-off London, were born, and grew, and had their training in the world's work, two youths, each of whom had in his mind ideas the full extent and vast influence of which they themselves could as little dream as the Virgin-mother with the Holy Infant in her womb could foresee Christian Europe. Did they ever meet? Perhaps they went to school together, perhaps heard the same long sermon in the Parish Church, perhaps bright eyes long gone out, sweet lips long since ashes, gleamed and smiled with simple coquetry on both. Perhaps—but we must stop."
—*W. F. Douglas, in the Celtic Magazine.*

On the wall beside you hangs a case containing the original documents which prove that Charles Morison was the inventor of the electric telegraph. The first of these is a letter dated from Renfrew, February 1st, 1753, to the *Scots Magazine*, describing "an expeditious method of conveying intelligence by means of electricity"—in other words, "The electric telegraph." The letter is signed C. M. In 1859 Sir David Brewster published an article in the *North British Review*. Part of it is exhibited here also " . . . We are constrained to admit that C. M. was the inventor of the electric telegraph. . . . Everything done since is only improvement. . . . C. M., the only name which we shall ever probably obtain for the first inventor of the electric telegraph." But four old letters, also preserved in this case, prove that C. M. was Charles Morison, a native of Greenock, who was bred a surgeon, but

does not seem to have practised his profession. Little wonder. He was ahead of his age, and the superstitious people of the time believed him to be in league with the devil. He left Renfrew, and emigrated to Virginia where he afterwards died. Search is now being made in Virginia for any trace of this great man that may haply still linger there. His memory cannot be allowed to perish; indeed at the time of writing there is an immediate prospect that the matter will be brought before the meeting to be held in London, to commemorate the jubilee of the public use of electric telegraphy. And one leaves the modest little case, with its precious contents, wishing that this monument placed here by the enlightened zeal of the Librarian of the Greenock Library may not always be the only one erected to his memory.

A few steps more and you enter the reading room where there is a fine chest, beautifully carved,—the arm-chest of some old Spanish galley. There are two others like it in the British Museum.

In the same room you may study the handwriting of the Iron Duke, of the Chelsea Philosopher, of the historian Macaulay, of Nelson's Captain Hardy, of Dr. Chalmers and Charles Darwin, of Gladstone and Daniel O'Connell, of Dickens and Thackeray and Walter Scott and Jenny Lind and of James Watt, whose shadow seems to linger round the place, and finally of another great inventor, a Canadian—Alexander Graham Bell.

And now you will be sorry enough to say good-bye to the place where such a pleasant hour has been spent.

But you will be more sorry to take farewell of the Librarian who has made it a pleasant hour. Allan Park Paton was not unknown to you, because you remembered that he was the learned editor of the Hamnet Shakespeare, which critics praise and students regard, and you will never con its pages again without feeling more strongly the benign influence of his kindly and enthusiastic spirit.

H. M. M.

THE RECENT UNIVERSITY AND DEPARTMENTAL EXAMINATIONS.

BY T. ARNOLD HAULTAIN.

IT has been my duty during the last few weeks to read and mark more than a thousand examination papers. Such a task—involving as it does the careful gauging of the mental capacity of each pupil, the accuracy of his information, his general intelligence, his command of language, and his power of thought—such a task gives one of the best possible opportunities of testing the general efficiency, first, of the school-masters and mistresses of our High and Public Schools, and, second, of the working of the educational machinery of Ontario. Such

an opportunity should not be allowed to slip by without giving the public some information as to the manner in which their sons and daughters are being educated. I have not as yet seen in any periodical any allusion made to these examinations. I venture, therefore, to present a few hints and suggestions with the object chiefly of evoking an expression of opinion from those who by age and experience are far better fitted to express an opinion on these matters than am I myself.

Concerning the details of the inter-

nal mechanism of the conduct and results of examinations, an examiner's tongue is to a very large extent tied. And quite rightly and properly so. Such opinions and generalizations, however, as he may form or draw from the broad area of facts brought before his notice, may be made public without the slightest detriment either to examiners or examined. Indeed some such opinions and generalizations *ought* every year to be brought before the public. To this subject I shall presently revert. For the present let us examine the efficiency of our teachers and of our educational machinery as tested by the recent examinations.

First, then, as to the general efficiency of the masters and mistresses of our High and Public Schools. Two prominent defects were plainly visible throughout the papers: (1) a very noticeable lack of clearness of thought and expression, leading to extreme prolixity, great vagueness, merging sometimes into a total want of meaning, often into absolute nonsense; (2) lamentable ignorance of grammatical construction.

1. To the practical teacher this want of clearness is significant of much. It may indicate careless teaching, or it may be a sign of indolence on the part of an otherwise competent teacher; but probably it oftenest arises purely from *incompetence*: from an inability on the part of the teacher to convey from his own mind to that of his pupil a definite thought—generally because of the indefiniteness of his own. From whatsoever source it springs, however, this want of clearness is a sure sign of ignorance—it is the common cloak of ignorance. But with the details of this significance we need not here concern ourselves. All that need be said is that if a School Inspector found in any of the schools of his Inspectorate an evident

and constant general want of definiteness and clearness in the answers given to his questions, he would be perfectly justified in concluding that such pupils were not being properly "*grounded*"—and "*grounding*," there is none but will admit, is the foundation-stone upon which the whole elaborate edifice of education is built.

2. To say that the papers show lamentable ignorance of grammatical construction is to use most euphemistic phrase. The English language is to the vast majority of candidates, an unknown tongue. Of the Queen's English the vast majority of candidates are guilty of murder most foul, strange, and unnatural. Many exceptions, of course, there are; and if I am accused of destroying the righteous with the wicked, I shall answer that the former are not sufficiently numerous to redeem the character of the whole. It is not only that over and over again one comes across instances of the inability to distinguish between "lay" and "lie," between "fly" and "flee," between "sit" and "set," between "round" and "around;" it is that for hours one reads sentence after sentence in which phrases such as "I seen," "he don't," "they is," "he dost," etc., etc., abound; in which plural nouns are linked with singular verbs; in which direct and oblique narration are inextricably entangled; in which there is an utter oblivion of the fact that there exist such things as capitals or commas;—in which, in fact, every known rule that can be broken *is* broken. And this in the examinations for the Junior Matriculation of the University of Toronto, for the Second Class, and for the Third Class, Teachers' Certificates. What can one say or do? One thing one *can* say, and it is this: Such pupils were taught by men and women who could not themselves talk or write correctly. I may be severe, I may be hyper-

critical, I may be forgetting that we must not upon this continent and amongst the classes from which University and Departmental candidates are chiefly recruited expect that purity of diction which is supposed to be one of the marks of so-called "higher education;" all this I may be forgetting, but what I am not forgetting is that four-fifths of such candidates will one day be, or now actually are, *teachers*.

Second, then, as to the efficiency of the educational machinery of the Province, as tested by the recent examinations. It runs too smoothly. What do I mean by "too smoothly"? I mean that there are too many inducements held out to the youth of both sexes in Ontario to enter upon studies for which the majority of them (I by no means say all) are by nature and circumstances wholly unfitted. I mean that young men who ought to be following the plough and the harrow, and young women who ought to be in the kitchen and the dairy, are tempted into paths of life which they are utterly incompetent to tread. Knowledge—intelligence, even—is not the sole requisite for a teacher. Demeanour, breeding, manner, culture, refinement—one and all of these are as requisite; and can any one, even the most prejudiced, in his heart of hearts believe that the obtaining of thirty-three and a third per cent. will endow any candidate with these? And how are our youths tempted into what they style the "teaching profession"? By small fees, by bonuses, by emulous headmasters, by pushing teachers, by easy examinations, by lenient examiners, and, above and beyond all, by the *competition between schools*. Many are hurried on from one examination to another to feed the vanity and fill the pockets of an ambitious class of teachers. Nothing is thoroughly mastered, and the ground has in most cases to be all

gone over again. The result is that the lowest forms of the High Schools do the work of the Public Schools, and the first two years of the University do the work of the High Schools.

On each of these topics much might be said, but this is not the place for it. On one minor one only will I venture to remark—on the small fees, namely. The public perhaps are not aware that by the payment of *two dollars*—that is about two-sevenths of a bricklayer's daily earnings—by the payment of two dollars a candidate may present himself at the nearest town for a Second Class Teachers' Examination. Twenty-eight distinct and separate papers are set.* He is supplied with pens, ink and paper. A presiding examiner is in attendance for forty-two hours and a half. His answer papers are transmitted, with no cost to himself, to Toronto, there to be examined by men chosen for the purpose.—Thus to strew with roses the really thorny path which leads to success in teaching seems to me to be worse than folly. These things the public ought to know, or, if already they know them, they ought to be reminded of them again and again.

Lastly, to refer to a point already mentioned. It is superfluous to say that examinations are, or should be made, in themselves an *educating* process. They are not merely tests of excellence; they are one of the most powerful instruments the teacher possesses for calling forth or exercising the powers of the mind. Unless examinations are made use of with this end in view, one of their most important functions is wasted. And it has been the habit hitherto so to waste the University and Departmental Examinations. A candidate

*Each candidate does not, of course, write on the whole twenty-eight papers; but twenty-eight distinct and separate papers are prepared.

presents himself for examination; the papers are placed before him; so much time is allowed him in which to answer the questions set; he is passed or "plucked," as the case may be, and—there is an end of the matter. Wherein he failed, in what he was deficient, where he excelled, to what subjects he should devote more attention—of these and similar points he learns nothing. The argument that University and Departmental Examinations are tests, and tests only, is hardly admissible. If they *can* be utilized as educating factors, they *ought* to be. There is surely a science of Educational Economy, as there is a science of Political Economy, although no Adam Smith has as yet arisen to formulate its principles; and surely one of these principles is that no educating instrument should be needlessly wasted. How University and Departmental Examinations may be made of value from this point of view is the question. I would suggest that the examiners for the Junior Matriculation of the University of Toronto, and that each of the various committees of the sub-examiners be required to issue yearly a Minute embodying their views and opinions on such subjects as they think should be brought before the notice of those preparing candidates for the following year's examinations: such, for example, as the general tenor of the answers, how they compare with those of preceding years, the more salient sins of omission and commission, the more glaring faults, the general trend of educational methods, etc. Such Minute, I conceive, would be welcomed by the High School masters throughout the Province. The cost of printing and distribution would be trifling, and could be easily defrayed

by adding a few cents to that now truly infinitesimal fee—the two dollars.

I sincerely trust that I have not in any way betrayed the trust reposed in me as examiner, that I have not divulged or made public anything which should have been kept back. Nothing could have been farther from my intentions. I have purposely avoided references to particular instances, and have dealt as much as possible in generalizations only. An examiner has a four-fold duty to perform: one to those who engage him; one to his candidates; one to the teachers of his candidates; and one (perhaps after all the most important) to the public, who are the fathers and mothers of those candidates. This last I have here, however feebly, attempted to discharge. I believe that there are many old and experienced teachers in this Province who will bear me out when I say I believe the youth of Ontario are yearly sacrificed to that Moloch—education *falsely so called*. They pass through the fire of examinations, and think they are being "educated," and they think being "educated" means being made fit for a sphere for which they are not suited and for which they were never born. They think "education" means a smattering of two or three languages, sciences, and literatures. They think "education" means a contempt for the "humble" occupations of fathers and mothers, a striving after a "higher" walk of life, a more "exalted" "position" in the world. What is the result? I would that the public could read the answers given by the candidates at the recent University and Departmental Examinations. They would then know for themselves what is the result.—*The Week*.

THE POSSIBILITIES IN INTERMEDIATE WORK.

BY EDITH E. INGALLS, LOUISVILLE, KENTUCKY.

IT must at once be stated that the aim of this paper is not to present the attractions of the kindergarten, nor to advocate the charms of the Quincy method of manual instruction, but to consider the possibilities of intermediate work as laid down in the graded system, with the hope of seeing what there is in it of stimulus and profit. As has been noticed by educators, the younger children have generous attention paid their needs, whereas the older boys and girls who reach the dull shades of arithmetic, grammar, geography, and the rest of the well-known list, are left to plod on drearily with little to increase their happiness in study or implant that lifelong safeguard, a delight in mental improvement. A weak point in our present educational system, says Sir John Lubbock in *The Fortnightly Review*, "is that it does not awaken interest sufficiently to enable children generally to continue their education after leaving school." Therefore, it would seem that if ever our young people needed a wide-awake school-room, all genial and inspiring influence, it is just at the time when they are beginning to realize that they are indeed "Little Women" and "Little Men," and may be even laying plans for a definite place in the world's work.

Our graded system confronts us with its precise limitations, so much to be accomplished within a given time. One's first thought is a feeling of utter helplessness, but, upon calmer reflection, are these restrictions necessarily a drawback?

It is readily admitted that every art has its limitations, and triumphs by reason of them. Sculpture can

deal with nothing save living forms, preëminently human forms. To it, colour and language cannot lend their charm. The painter, even with his colours, can present one moment, one aspect only, and the poet also feels the restrictions of certain inflexible rules. Yet in each case does the artist become "master of his craft by turning his own limitations into victory." Mr. Palgrave adds: "This presence of necessity, though perhaps little noticed, is felt in all really fine art."

If such be true, no educator can complain of that which places him among so goodly a company, and the teacher of intermediate work may be inspired to "turn his necessity to glorious gain," and find in the apparently narrow limits of arithmetic, grammar, geography, and the rest, a field so suggestive, a liberty so unfettered, as to expand the mental faculties of both pupil and teacher.

Arithmetic, itself, as taught by most of us now, has proven one of the most stimulating exercises of the day. The direct handling of slates and crayon gives a sense of tangibility gratifying to most children. Could we impart a still more practical character to the lesson, its value would be vastly enhanced. Objects are at all times prized: an actual yard before them, the squares of a surface actually counted, measurements made before their eyes, give a definiteness and reasonableness to methods which are of infinite assistance to the teacher. Why deal with abstractions when we can see with our eyes and handle with our hands? "How many steps of two feet six inches each will a man take in walk-

ing two miles?" Measure a step, give the length of a room, and let us see if a practical demonstration of a simpler example will not lead to a genuine understanding of the more difficult. Imaginary situations need not be excluded. Our girls will be interested in calculating material for a dress, amounts of ribbon and lace requisite for a certain article, and, if they can be led to fancy themselves in dire extremity, the carpeting of a room or the papering of a wall, will be a source of interest as well as profit. Then when the abstract work comes, as it must inevitably do since no amount of objects can supersede this preparation for the higher mathematics, may we hope that there will be intelligent reasoning instead of a blind groping amidst arbitrary rules?

Concerning geography, enlightened people are awakening to a sense of its importance, ranking it as an independent science. An address delivered before the British Association upon the subject of geography, fairly startles one with the new significance it imparts to it. Its value to the military man, to the soldier, to the statesman, is forcibly presented, and every loyal citizen is exhorted to pay more earnest heed to this much neglected branch. A prize was even offered by the Royal Geographical Society, and discontinued because of unsatisfactory results. An exhibition was given in which illustrations of life in foreign countries were shown in an attractive form to stimulate interest and research. One lecturer spoke of the location, outline, and surface of any section of country as actually determining the physical characteristics, the occupations and the prosperity of people. Just here lies our work. While insisting upon an accurate knowledge of location, a most difficult and dreary task, we can make it have a practical bearing and lively interest by genial conversations

upon these points, aided by books, which we may always have, illustrations of pictures and specimens where we can obtain them. Would it not be worth trying to lead these rising Americans to a realizing sense of the resources of their country, to an appreciation of its unrivalled natural beauties, and to the extraordinary difference in temperament and in occupations of the people subject to its one government?

Grammar, reading, composition and spelling are all cognate subjects; each helping the other and demonstrating its value. As for the set rules in grammar, we will not even allude to the endless question of their worth or otherwise. Since they must be learned, is there no advantage to be gained? If the work of scholars, they are worth knowing in their entirety, and the accuracy necessary to master them is a healthful discipline for the mind. It teaches that words have meaning, that one may not be omitted and another introduced, but that in the complete definition each part is essential to the whole. Our set rules in parsing may be applied to constantly occurring errors in writing and speaking, while in reading this analytical work is of great assistance. The knowledge of subject and predicate, of various modifiers, will inevitably lead to a more accurate understanding of the subject-matter, and establish a habit of investigating the meaning and relations of words so fixed that slipshod reading of prose and poetry will be in great measure prevented.

It is astonishing how quickly this commonplace work will reveal to the unthinking minds of children that a verse of poetry is something more than sound. It is well that amidst this superficial ease we may pause and see if there is the substratum of an idea. Unwittingly, if persevering,

we shall be cultivating a direct taste for languages and laying a good foundation for future accurate translations. We can, if we will, with our broader vision, point out these bright possibilities to the children and the future delights in store for them as well as the present good they are obtaining.

Fortunately, for reading, we do not have to enter a special plea. Matthew Arnold writes enthusiastically of a reading class he visited near Dresden. "At Trachenberg, near Dresden, I entered the *common* school with the inspector, and found the upper class at their reading lesson. The inspector took the book; the children were reading a well-known ballad by Goethe, 'Der Sanger,' and he began to question them about Goethe's life. They answered as no children in a similar school in England would answer about the life of Milton or of Walter Scott. Then the ballad was read and the children were asked to compare it with a ballad by Schiller which they had been reading lately, 'Der Graf von Hapsburg.' They were asked what gave to each of these ballads its charm; what the Middle Age was, and whence is the attraction it has for us; what chivalry was; what the career of a minstrel, and so on. They answered in a way in which only children of the cultivated class, children who had had all manner of advantageous influences, would answer in England."

While this is work of an "upper class," still the spirit can be emulated by us in our humbler work. In our Fifth Reader the word "stentorian" is explained as "derived from Stentor, a name given by Homer to a loud-voiced herald." Thereby hangs a tale difficult to confine within the limits of one lesson. Flaxman's illustrations will readily interest in the wrath of Achilles, and after the plot is briefly told, some children of twelve

or thirteen years would even listen to a portion of Bryant's translation giving the scene where the "white-armed Juno" sues the Thunderer for her beloved Greeks. They will appreciate the swift passage of her shining car drawn by steeds of which it is said:—

As much of space
As one who gazes on the dark blue deep
Sees from the headland summit where he sits.
Such space the coursers of immortal breed
Cleared at each bound they made with
sounding hoofs.

They will listen attentively when, "with step as light as timid doves," she moved among the armed host and called aloud:—

For now she wore the form
Of gallant Stentor, in whose brazen voice
Was heard a shout like that of fifty men.

Reynard, a fox, is explained as coming from the name of a fox in a celebrated German poem. If a simple translation of this were read or narrated, there could hardly be found a child over eight or nine years who would not be entertained in a lively manner by the clever exploits of this sly villain. At the same time they would be gaining knowledge of a witty and famous satire.

We may even in humble guise talk of Plato in learning the origin of the word "academy," since our reading takes us there. "Hercules" will open the door of mythology. "Huguenot" and "Druid" and the heroic knights will lead us into history. And so, by insisting upon every word's having significance, we arrive at a profitable and an unquestionably entertaining exercise. Can it be doubted, if growing boys and girls have truly opened their eyes, that their time will be well occupied, and that they will have something to say which, having resulted from observation or reading, will make writing as natural as speaking?

Drawing, as our one means of manual training, should receive its full educating value. In designing, the possibility of future remunerative employment will arouse these young workers to excellent effort. They realize that here is work which may become the source of a livelihood and find a faculty awakening whose exercise even in a humble way gives them keen pleasure.

In conclusion, it may be said that the value of *work* should receive emphasis. Interest will inevitably flag, one cannot always have amusement, and drudgery must come and not be shirked. With this as a fundamental principle strengthened by the rule of Alfred the Great, "to take what is closest at hand and make the best of it," may not young people of the transition period receive so helpful a stimulus in intellectual pursuits as to colour their subsequent career as students to make their lives beautiful

to themselves and helpful to others? May we not, in this manner, wage so vigorous a warfare against the empire of dullness that life may be a perpetual enjoyment? This world and all its resources will offer so boundless a field for investigation and study that, with Sir Arthur Helps, our boys and girls will exclaim:—

"What! dull, when you do not know what gives its loveliness of form to the lily, its depth of colour to the violet, its fragrance to the rose; when you do not know in what consists the venom of the adder, any more than you can imitate the glad movements of the dove. What! dull, when earth, air, and water, are all alike mysteries to you, and when, as you stretch out your hand, you do not touch anything, the properties of which you have mastered. Go away, man, learn something, do something, understand something, and let me hear no more of dullness!"

SOME USES AND ABUSES OF SCHOOL EXAMINATIONS.

BY S. C. STONE, MASTER OF HYDE SCHOOL, BOSTON, MASS.

LATHAM, in his work on the "Action of Examinations," says:—"If the subjects of examination are very numerous, the scholar loses singleness of purpose; he is always balancing the comparative advantages of investing his time in this branch of study or the other. Hence comes doubt, and doubt often leads to inaction—and inaction, by the way, is anything but rest; for, though the scholar may not stir, he is being pulled by conflicting claims in two or three ways at once. . . . I do not say that two such efforts would do absolute harm. More than two would usually impair the elasticity of the mind, and a series of them would cramp and enfeeble it. . . . The attempt to carry many subjects in the

mind at once is physically injurious; it results in languor and contempt for learning. . . . It is one of the drawbacks to the use of examinations in general that they tend to crush spontaneity, both in the pupil and the teacher; and this tendency is far greater when the examination is supreme and external to the teaching, than when the teaching and examining bodies are one. . . . When the examination is supreme the teacher is hampered, and feels that he is no longer an educator. . . . He is bound to prepare his pupils to pass a certain examination according to a detailed programme. We should be careful not to break down the independence of the teacher; with it will go his love of his work and his

faith in it. . . . If the programme contains eight or ten different subjects, in each of which the candidate must satisfy the examiners, the system is unwholesome in itself. Its evil effects will be intensified if the pupil perceives that his teacher is only helping him over an obstacle, which, for some unscrutable reason, he has to surmount."

The Superintendent of Cincinnati Public Schools says:—"I am wrestling with the question here (the examination of pupils for promotion). For over thirty years pupils have been promoted in these schools almost exclusively on the results of written examinations. . . . The influence on the teaching in the schools has been evil, and that continually. . . . My predecessors in this office did their best to resist and limit the narrowing and growing influence of the system. It has fostered, and almost necessitated, mechanical and stale methods of teaching."

Promotions are made in the Chicago Public Schools, from grade to grade, without "outside" examination; and to the high schools on the recommendation of the grammar school principals. Any pupils who apply for admission without the proper certificate of qualification are examined. This method was adopted years ago, and is highly satisfactory.

In Providence, substantially the same method is in operation. The superintendent says:—"I think the best way to promote pupils to the grammar and high schools is upon the combined judgment of the teacher and principal."

In St. Louis an examination is held for admission to the high school; but all pupils who are recommended by the principals of the grammar schools *are admitted*, if they *fail* in the examination. The "certificate," therefore, plays an important part in the St. Louis system.

The Superintendent of the Baltimore Public Schools writes:—"Principals should be allowed to promote without examination pupils whose conduct, attendance, and scholarship have been excellent during the year."

The Superintendent of San Francisco schools writes:—"I consider the principal, with the aid of the class teacher, best qualified to promote."

The witnesses whose testimony appears above, if I understand them, are a unit in opposition to the Boston plan of examinations by printed questions at the *end* of the primary, grammar, and high school courses. With these wise, progressive, educational experts stand an uncounted host, in solid column, opposed to the plan of "outside" examinations for promotion.

How are these tests regarded in our schools? All parties look forward to them with more or less anxiety, and many make strenuous efforts to prepare them. The result is hurry, worry, rush, cram, for weeks. By some teachers, more than the prescribed time is given for days beforehand. The ceaseless mill grinds on, in school and out. It is the one aim in all hearts.

The worst features of a ranking system are here in full force. The attempt to carry so many separate bundles of facts, at one time, along ever-diverging lines, overloads the memory, disheartens and disgusts the child. Their influence upon the teacher is even worse. He is strongly tempted to work for "marks." If he yields, he becomes a mere machine, a kind of intellectual gate-tender. We may well rejoice that English history has been taken out of the list. We can now study the record of the motherland for its own sake, and for ours as well. In view of these evils, and others that might be named, why not discontinue these examinations that are placed at the end of the primary,

grammar, and high schools, and adopt the certificate plan, now in successful operation in many cities and not a few colleges? Promote from one school to another, as we now promote from one class to another, from the lowest primary class through the highest high school class.

Tests should be given in a systematic manner, by the regular teacher, under the direction of the master, along the prescribed lines of work; and when the time for promotion comes, the record of this work, with the opinion of the teacher in charge, and the master, should settle the case, deciding the status of the scholar for the next school period, as is now done in all the grades of the primary, grammar, and high schools, except the highest.

I appeal to the record of promotions from class to class, in the Boston schools, for more than a quarter of a century. It is a clean record. It stands, and will forever stand, a monument of educational wisdom, unsurpassed. No better or wiser way has yet been found. On this point the school board, all school officials and teachers, and, indeed, the whole community, are agreed. Now, if this plan is good for ten years out of thirteen, why is it not good for all?

A word in regard to semi-annual, semi-monthly, or monthly examinations is in place here. If two or three of them are given in a day, or on successive days, the same objections may be fairly made to them as to the other class of examinations. They worry, wear, and confuse the pupils. There are scholars in our schools who, on examination week, are so overworked that they are ill and absent afterward. There is no question as to the standing of these pupils. They are in the first third of the division, and always pass the tests with credit.

This is a plain statement of well-

known facts. In some schools it is a crying evil. How much longer shall the imposition continue? Is there not a better way? Shall written examinations be wholly given up?

In answer to these questions, Latham says:—"Because of the widespread human frailty of laziness, some motive must be supplied to spur students to the salutary exercise of their minds. We should be glad to find such motives as sense of duty, confidence in teachers, and kindly encouragement sufficient for the occasion. Happily they are so in many instances, but they often require to be supplemented by some kind of coercion. The form in which this is most conveniently administered is that of a course of examinations so arranged as to supply constant and appropriate mental exercise."

The efficient master of the Sherwin School, Boston, has in successful operation such a course of examinations. In his school examination week and the dreaded semi-annual test no longer exist to worry and dishearten teachers and pupils. Instead of these, a test is given every Friday afternoon in the school year, varying in length from twenty minutes to an hour and a half. The papers are carefully prepared by the teachers, under general direction. If there are two or more parallel divisions of a given class, the teachers work together, each preparing a paper once in two (or more) weeks for all the divisions of the class. From three to five examinations a year are made in each of the subjects taught. The results are kept in permanent form, in appropriate books. They furnish a reliable record of individual work, and hence a proper basis for promotion.

I have for more than thirty years been looking for a satisfactory method of testing school work; a method that should be a healthy, gentle,

steady tonic to the pupil; should be practicable for teachers, and should also show, at the end of the year, how much and how good work each pupil has done. This method has been on

trial in my school several months. So far, it fulfils the conditions. I, therefore, cordially commend it to the attention of teachers.—*New England Journal of Education.*

GALILEE IN THE TIME OF OUR LORD.

BY SELAH MERRILL, D.D., LL.D.

IT is difficult for some minds to realize that Christ actually dwelt upon earth, that He was a child, that He had youthful companions, and that He grew up to manhood in a town which still exists, and in a region which even now a multitude of devout Christians visit every year.

Nevertheless, all these things are true; and Nazareth, Capernaum, and the Sea of Galilee are names that are specially dear to the Christian because they are so intimately connected with the earthly life of Christ. His birth-place was Bethlehem, and His burial-place was Jerusalem; but we do not think of either of those places when we think of the home of our Lord. Our thoughts turn rather to Galilee, with its picturesque hills, its quiet valleys, its beautiful lake, and its prosperous towns and villages that, almost without number, dotted and adorned the country from the Jordan to the Mediterranean, and from the Great Plain far up to the slopes of Hermon.

Had it been left to men to select the place where Christ should pass the years of his mission, a decision would have been impossible. Athens, Rome, or Jerusalem would have been suggested; but nothing short of Divine wisdom would have chosen the desert for the forerunner of Christ, and Galilee as the region best adapted for the home of Christ Himself. While we have no right to say what the designs of God may have been, we may—from what we know

of Christ's character on the one hand and the condition and character of Galilee on the other—discover such a wonderful harmony between the two as to convince us that this choice was nothing less than providential.

Galilee was not a country of great extent, since a district thirty by forty or thirty by fifty miles, at most, is all the territory that can be included within its limits. It was, however, by far the finest of the three provinces lying west of the Jordan. Judea was mountainous and rocky, scantily supplied with water, and in the large section lying near the Dead Sea it was wild, savage, and barren. Samaria was somewhat similar to Judea in character, though less rugged. Galilee, as compared with either of the other provinces, was like a garden, and the evidences of its superior fertility and beauty remain even to the present time.

Besides being exceedingly fertile, Galilee had a dense population. In the Gospels, there is frequent reference to "towns," "cities, and villages," as if they were numerous. Wherever Christ went, He found them. From independent sources testimony has been gathered as to their number and importance, which cannot now be given in detail. A few only of the larger places can receive our attention. Tarichea, on the shore of the Lake of Tiberias, had forty thousand inhabitants. Scythopolis, the Bethshean of the Old Testament, had as many more. Japha, a place not far

from Nazareth, is mentioned as one of the largest "villages" in Galilee. Its size we do not know; but we know that twelve thousand Jews, "fighting men," perished there in the vain attempt to defend it against the Romans. Tiberias, on the lake of the same name, was built during the life of Christ. Its warm baths were a great resort for persons seeking health or pleasure, and doubtless this fact led Herod Antipas, the ruler of Galilee, to transform the place into a second royal city. Antipas built here many public buildings, and among them a fine synagogue. Later the place could boast of thirteen synagogues and a race-course. We do not know the number of its inhabitants; but its strength was such that, thirty-four years after the death of Christ, Vespasian led against it three legions, which, however, were not brought into action, since its chief men had decided to surrender the city. Sepphoris should be mentioned, which was only three miles from Nazareth, and in full view from it. It was beautifully situated in the midst of a rich and fertile region, and its inhabitants were noted for their wealth. It was the capital of Galilee during the greater part of Christ's life. The archives of the province were kept there, and it had also a royal arsenal, in which at one time there were collected arms for no less than seventy thousand men. Ptolemais, the main seaport of Galilee, was a place of great activity; and there many ships of Egypt and Italy might any day be seen lying at anchor, or passing to and fro. If we could speak of places lying on the very border of the province, we should mention Gamala, Gardara, Hippos, and Cesarea Philippi,—all of them important in the annals of the country, the latter especially being noted for its beautiful situation, its royal palace, its wonderful foun-

tain, and its splendid fortress that guarded both the town and the ancient highway that led from the far East to the sea-coast, past Damascus, and under the southern slopes of Hermon.

It is a matter beyond dispute that, in Galilee, there were no unoccupied districts. There was, indeed, very little waste land. The cultivation of the soil had been carried to a high degree of perfection. Olive groves covered the hillsides, while wheat-fields and gardens crowded the landscape on every side. The Galileans were renowned for their skilful husbandry, which was rewarded by products that were famed far and near. Certain places were noted for their extensive store-houses of grain and oil. These products, equivalent to money, were sent in great quantities to the rich cities of Tyre and Sidon, to feed their own inhabitants, or to be shipped to other ports about the Mediterranean.

The abundance and variety of the fruits and other productions of the plain of Gennesaret it would be difficult to praise too highly. Some of them were produced the year round, and the fame of their richness went throughout the East.

The chief employment of the Galileans was the production of these necessities of life. This employment gave stability and independence to the population, and brought wealth to the province.

But there were other industries which can only be hinted at here. Among them should be mentioned the manufacture of special kinds of pottery that were highly prized; the fisheries of the sea of Galilee, fish from whose waters were celebrated throughout the world; and the manufacture, from native flax, of linen fabrics that had a wide reputation for unusual fineness and beauty. Ship-building also was extensively carried

on, and it was from the shores of Galilee that the glass-shops of Tyre, Sidon, and Alexandria were furnished with sand, vessels taking it as cargo to these different ports.

Galilee is deserving of special notice on account of its commerce and inland traffic. Besides the products sent out of the country, goods from Europe and Africa were landed at Ptolemais, and carried thence across Galilee to Damascus and to places further east.

A peculiar feature of this province was its great public roads or routes of commerce, on which were seen every day long caravans, carrying merchandise between the East and West. This carrying trade was largely in the hands of the Galileans. The sea of Galilee was likewise covered with boats engaged in pleasure and traffic with the thirteen cities and towns that surrounded it on or near its shores. All these facts contributed to the activity, enterprise, and business of the province, and affected in no small degree, while at the same time they serve to illustrate to us the character of the Galileans.

It will hardly be doing justice to the wonderful natural scenery and climate of Galilee to dismiss them with a single sentence. Yet more cannot be done. Both were charming beyond what we find in almost any other country. Sea, sky, and landscape combined in the most marvellous manner to render Galilee one of the loveliest regions on earth. The view from the hill at Nazareth, or from the summit of Mount Tabor, six miles eastward, presented more features of interest and beauty than could possibly be found grouped at once before the eye at any other point on the globe.

All this wealth of natural scenery, and all this loveliness of climate, were familiar to Christ; for, amid this great beauty of His Father's world, he grew up to manhood.

Hints have already been given as to the character of the Galileans. They were an industrious and enterprising people, and because of these facts this province had attained, under an efficient ruler, to an unusual degree of prosperity.

Much may be said also of their intelligence and bravery, and likewise of their religious character. The number of famous leaders which Galilee furnished in the time of the Jewish war with Rome, in evidence that, among the Galileans, men of marked ability were by no means the exception.

They did not enter blindly into that terrible struggle, but only after many heated discussions and many councils for deliberation had been held, did they decide to take up arms against the Roman power. They were not devoid of reason, and they must have foreseen that the engines and legions of their enemy would finally triumph. They knew that they could not achieve their independence: but they felt it to be better to die with honour than to submit disgracefully to a foreign yoke. Seldom has a people thrown itself more completely and unreservedly against an enemy than did the Galileans against the power that had come to crush out their national life. The readiness with which they sacrificed their lives and property was not dictated by prudence, but by desperation.

The Romans massed their troops at Ptolemais,—a force of sixty thousand men. Many of these had come in ships from Italy and Egypt, and from Nazareth the multitude of vessels that had brought them could be seen lying at anchor on the quiet sea. There also were the white tents of the enemy stretched along the beach. The Galileans, had they been veteran soldiers instead of intelligent yeomanry, might from their hills have looked down upon this

scene with dismay. But they were ready to face it all. Heroes in any age could not have acted with more courage and determination. They were alone in this struggle, in that they had no help from Samaria or Judea. The war was confined strictly to Galilee during the first year of its progress. The energies of the Romans under Vespasian and Titus were taxed to their utmost, and at the close of the Galilean campaign this great and proud army, although it had conquered, had to be allowed a period in which it might rest and recruit its strength because of the rough, bloody, and exhausting work through which it had passed.

But where were the men of Galilee, the countrymen of our Lord? Alas! one hundred and fifty thousand of her sons had been slaughtered upon her hitherto quiet hillsides. If their conduct extorted praise from the Romans who had fought with every kind of enemy in every land, we may regard such words of praise as having more weight and significance than any commendation of ours.

Certain traits in the religious character of the Galileans deserve notice in forming our estimate of the people from among whom Christ came. In this respect there was a marked difference between them and the people of Jerusalem. Between an industrious and intelligent agricultural people on the one hand, and those who are brought up in the refinements, luxuries, and conceit of city life on the other, there would naturally be a wide difference in their manners, customs, and ideas of conduct and life. The Galileans had their synagogues, schools, and learned doctors of the law, the same as the people of Jerusalem; but the latter were devoted to tradition, placing it first in their religious teaching, while the Galileans adhered more strictly to the law of Moses. In Jerusalem

there was a great deal of bigotry; in Galilee, there was much freedom of thought. In a word, there seems to have existed in Galilee a freer and healthier religious life than there was in Jerusalem under the shadow of the temple. In Galilee, a new teacher who brought health to the body, freedom to the mind, comfort and hope to the soul, was listened to with attention; in Jerusalem, a new teacher who taught contrary to the "tradition of the elders" was put to death.

Our space has been too limited to develop these interesting points at length. Galilee, we have seen, was the most fertile province of Palestine, full of towns and villages, and crowded with a dense population. Its climate and scenery were delightful. Its inhabitants were industrious, intelligent, and brave, engaged in agriculture, commerce, and many other peaceful employments, prosperous to an unusual degree, and characterized in their religious life by a certain degree of spiritual freedom, and a desire to receive and follow the truth.

This province was unlike Judea in almost every respect. It was unlike any other province or country on the globe. There in the north was the great white dome of Hermon,—in the west the infinite blue of the Mediterranean,—in the east the sea of Galilee and the charming hills about it, the river Jordan and its wonderful valley,—in the south the great Esdraelon plain; there were Carmel, Gilboa, Tabor, and the highlands of upper Galilee; there were the fields carpeted with flowers and the hills clothed with verdure; there was a centre of activity, business, commerce, and news; there were found men from all parts of the world; and there,—if men of many races and in every department of life were to be reached, was the most fitting place for the "messenger of glad tidings"

to appear. So it would seem to us. With all the facts we have mentioned Christ was familiar. How He was affected by them we do not

know. We know that such was Galilee, and that in one of its most beautiful towns Jesus had His home.—*Sunday School Times.*

NOTES FOR TEACHERS.

OUR readers will remember the hearty commendation with which we printed a portion of the judge's decision in the Taunton whipping case. We have since received some additional facts from the superintendent of schools in that city, which show more conclusively than before even, the righteousness of the teacher's cause, for the boy was punished for idleness and insubordination in refusing, after repeated warnings, to attempt to learn his lesson, and after full inquiry into the case on the part of the principal, Mr. Burt. We learn, moreover, that in the interval between the unfortunate sentimental decision of the district judge and its reversal in the superior court, trouble in school discipline was brewing rapidly, which has been checked at once by the later judicial action.

THAT stupid boy needs rather more intelligent attention at the hands of the school teacher. He may be veritably stupid—there are a good many such, boys in whom the physical greatly overrides the intellectual; but then, he may be simply an exceptional child. The work and ways of the school room are planned to meet the needs of the many, and they fail of reaching him because his needs are different. There are enough instances of distinguished men who were accounted dullards at school to warn us against hasty conclusions. Isaac Newton kept his place at the foot of his class; Wordsworth was a failure as a student, and it would not be difficult to swell to

large dimensions the list of distinguished literary men who were accounted far from brilliant at school; Francis Galton writes, "I am surprised at the mediocre degrees which the leading scientific men who were at the Universities have usually taken, always excepting the mathematicians. Being original, they are naturally less receptive; they prefer to fix of their own accord on certain subjects, and seem averse to learn what is put before them as a task." Now it is a puerile fallacy to argue from this the uselessness of the schools, and overlook the fact that probably much longer lists might easily be prepared of distinguished men in various walks of life who were also noteworthy for their success at school. The proper lesson to be drawn from such cases is not hastily to infer dullness or laziness because a boy does not draw well in the school traces. Try him somewhere else. Find out if there be not something he is interested in, something he knows and likes to work at. Put him at this. Let him feel the satisfaction of knowing that he is worth something, that his favourite lines of effort are worthy, and he will be transformed by the discovery. He may develop from this line into many others, but at least he will be started and cease to believe himself to be, what he in reality is not, that stupid boy. Discrimination, then, is needed in dealing with dull boys, insight, ingenuity to find out what there is in them; and for this a teacher must be willing to depart from the routine work of

the school and adapt himself to the character and needs of his pupils.—
Wisconsin Journal of Education.

PARENTS READ!—The Secretary of the Prison Association of New York, W. M. F. Round, has written a most valuable and timely article for the *N. Y. Independent*, on "Crime Beginning and Crime Prevention," which, did our space permit, we should be glad to transfer to our columns, but we must limit ourselves to an extract:

"Day by day I see criminals, hundreds of them—thousands of them in the course of the year. I see scores of broken-hearted parents, wishing rather that their sons had never been born, than they had lived to bear such burdens of shame and disgrace. I hear the wailing of disappointed mothers, and see humiliated fathers crying like children, because of the sins of their children. I see mothers growing gray between the successive visits in which they come to inquire about the boy in prison. And seeing these dreadful things till my heart aches and aches, I say to those mothers and fathers whose boys have not yet gone astray, to mothers and fathers whose little families are the care of their lives, teach your children *obedience*. I want it written large. I wish I could make it blaze here in letters of fire. I wish I could write it in imperishable, glowing letters on the wall of every home—*obedience, obedience, obedience!* Obedience to law—to household law; to parental authority; unquestioning, instant, exact obedience. Obedience in the family; obedience in the school. Wherever, from the beginning, from the first glimmering of intelligence in the child, there is expression of law, let there be taught respect for it and obedience to it. It is the royal road to virtue, to good citizenship; it is the only road. Teach also the clear

distinction between mine and thine. Let the line be unwavering. Let there be no quibbling with terms, and the distinction can not be taught in a family where it is not observed. Where debts are contracted carelessly and paid reluctantly, honesty can not be the dominating principle. In such a moral atmosphere there is contamination. There is poison that will come out in things counted more shameful than debts. Educate a boy in such a way that he shall think it of no consequence whether the milk bill is paid from one year's end to another, and you educate him to take his employer's money, with the vague intention of replacing it some time. Educate a boy to think better of himself in a fine coat, whether the tailor's bill be paid or not, and you so weaken his moral sense that he can not resist temptation, when the opportunity comes of gratifying his vanity by stealing. Make a boy think that a high social position is the first thing to be thought of in the world, and he will sacrifice his moral principles for that position. It is frequently said, in my hearing: "How strange it is that so many children of respectable parents go astray!" To which I always answer: "It is strange that so few of them go astray." But it is not respectability that sends them astray, it is sham respectability. It is a false, sentimental idea of the love due to children that makes them disobedient; the easy-going, tender-hearted, doting parent that can't bear the sight of a child's pain, and spares itself the sight at the peril of the child's future. It is the mother's and the father's cruel selfishness that spares the child. It is the sickening yearning after "gentility," the willingness to buy a sham social position at any expense, that ruins many a boy and many a girl. The parents would rather hear how well their children stand socially, than to hear how good and upright

they are. The children soon catch this tone, and think gentility is better than goodness; and make a sacrifice of goodness to gentility, whenever they think their social standing will be served by it. This is of course

not true of all so-called respectable families whose children go astray, but it is so often true that I always expect to find it so when such cases come before me; and alas! I am not often disappointed."

SCRIPTURE LESSONS FOR SCHOOL AND HOME.

NOTES ON ST. MATTHEW'S GOSPEL.

NO. 3. WISE MEN AND MURDER OF INNOCENTS.

To Read—*St. Matthew ii.*

I. **THE WISE MEN.** (Read 1—12.) Christ born in Bethlehem—meaning House of Bread—few miles south of Jerusalem—time of Herod the Great. Visit of Wise Men probably some months after birth. (a) *Their journey*—from the East—some think from Egypt—some from Persia. Magi, order of Priests, accustomed to observe and worship the stars. Must have come many hundred miles—great part desert—showing great earnestness. (b) *Their guide.* A strange star or meteor—prophesied by Balaam (Num. xxiv. 17), probably moved before them, like the pillar of cloud to the Israelites. (c) *Visit to Herod.* Herod hears of new king—naturally troubled—consults scribes learned in Scriptures as to birth-place of long looked-for Messiah—could be no doubt—Micah (v. 2) names Bethlehem. King speeds them on journey, pretending a wish to worship Christ himself. The Star re-appears—fills their hearts with joy—guides them to the very house (parents no longer in a stable) where Christ is. (d) *Their object*—1. To seek Christ the King. 2. To worship Him. 3. To give Him gifts—*gold*, tribute to a king, fulfilling Psalm lxxii. 15; *frankincense*—to Christ as God; fulfilling Isaiah lx. 6; *myrrh* for His burial, as very man

(St. John i. 14). Evidently under God's special protection, Who warns them not to return to Herod.

LESSONS. 1. To *copy* earnestness and faith of Wise Men. 2. To *let* no difficulties hinder our seeking God. 3. To *give* our best worship, love, offerings, etc. 4. To *obey* all God's teachings, e.g., conscience, His Word, etc.

II. **MURDER OF THE INNOCENTS.** (Read 13—23.) God directs Joseph to flee from Herod's rage—Egypt sixty miles distant—at night shows extreme peril—prophecy of Hosea fulfilled. (Hos. xi 1.) St. Matthew shows that Israelites' leaving Egypt was prophetic of Christ—their exodus connected with death of Pharaoh—so at death of Herod the Great, Christ returned to Holy Land. Meanwhile shocking massacre in Bethlehem and district—all male children under two murdered. These children unconscious martyrs. Prophecy of Jeremiah (xxxi. 15) now completely fulfilled—as Rachel was bidden not to weep for loss of her children, so Christ being saved would be source of blessing to the whole race.

Once more Joseph receives instructions by dream—returns to Nazareth—fulfilling various prophecies, Nazareth being a despised city (St. John i. 46), that Messiah should be despised and rejected of men. (Isa. liii. 3.)

LESSONS. 1. Even infants may suffer for Christ.

2. Christ's infancy of suffering prefigures sufferings of His life—He was to be a Man of Sorrows.

NO. 4. ST. JOHN THE BAPTIST.

To read—*St. Matthew iii.*

I. HIS MISSION. (Read 1—12.) St. Matthew omits his miraculous birth, told by St. Luke. (Luke i. 13—17.) Was a Nazarite—dedicated to God from his birth. Twofold mission—to preach repentance, and prepare for Christ. Begins by preaching repentance, *i.e.* confession of sin, contrition for sin—change from sin—declares also coming of the Kingdom of Heaven, *i.e.* of Christ the King.

St. John's mission prophesied of by Isaiah (Isa. xl. 3) as road prepared for a king, high places levelled and valleys raised, so preaching repentance prepared for coming of Christ by turning hearts to Him.

John's mode of life simple—living in wilderness of Judæa—*tunic* of camel's hair—*food*, locusts, allowed to be eaten by Jews (see Leviticus xi. 22), and wild honey, still gathered from trees in same wilderness. His mission a great success. Pharisees, great observers of the Law—Sadducees, aristocratic sect—came for Baptism—all alike warned and taught—must *amend* lives—*not trust* to privileges—*prepare* for future judgment—*believe* on Christ, Who should baptize with the Holy Ghost. Notice the numerous similes used by St. John—vipers, stones, trees, the slave, the threshing-floor.

Difference between baptism of John and that of Christ. 1. St. John baptized with water only. Christ

with the Spirit also. (St. John iii. 5.) 2. St. John baptized in name of Christ. Christ in name of the Trinity (xxviii. 19) 3. St. John's baptism did not bestow grace. Christ's baptism gave Holy Ghost. (Acts xix. 5, 6.)

LESSONS FROM ST. JOHN'S LIFE.

1. *Humility.* Thinks himself unworthy of a slave's part to Christ. (Verse 11.) 2. *Boldness* in attacking sins of rich and powerful.

II. BAPTISM OF CHRIST. 1. *Circumstances.* Christ came, was not urged—asked for baptism—proving exception to the rule, that the less is blessed of the better. (Heb. vii. 7.) Overcomes St. John's scruples—submits to baptism, the outward sign of the new life. St. Luke adds that the Holy Spirit descended in bodily shape, and that Christ was praying. (St. Luke iii. 21, 22.) Thus at beginning of public life, at age of thirty (St. Luke iii. 23), Christ anointed with the Holy Ghost and hears his Father's voice, and heavens opened above Him. 2. *Cause.* (a) *To set an example* of obedience—Christ passed through each kind of baptism, *water* now, the *Holy Ghost* (Acts x. 38), *fire* at His Crucifixion. (St. Luke xii. 50.) (b) *To be dedicated* for His work. Prophets, priests and kings all anointed with oil when set apart for their office, *e.g.*, Elisha (1 Kings xix. 16), Aaron (Ex. xxx. 25), Saul (1 Sam. x. 1). Christ combined all three offices.

LESSONS. 1. *Obedience* to Christian ordinances. 2. *Dedication* of ourselves to God's service.

EDITORIAL NOTES.

WE reprint this month an article which lately appeared in the *Week* from the pen of Mr. Haultain. Mr. Haultain acted this year as one of the examiners for the University of Toronto, and feels it to be his duty

to give to the public the benefit of the impression made upon his mind by the reading of the answers of candidates for junior matriculation and teachers' certificates. During vacation we made arrangements to have

a series of articles in the same line with that indicated in Mr. Haultain's contribution. It is high time that the phase of our school work referred to by Mr. Haultain should be carefully examined, and proper remedies applied in order to check the annual waste of power and means to which the country is subjected at our usual midsummer examinations. We shall not deal any further with the question at present, except to state that we do not agree with the writer in the inferences he draws as to the competence or efficiency of the teachers, based as these inferences are, upon the answers given to the questions proposed by the University of Toronto and the Education Department of Ontario. We hope examiners and sub-examiners will duly remember the old saying, "a fool can ask more questions than a wise man can answer."

But on two points we are in full accord with Mr. Haultain, viz., the smoothness of the running of the educational machinery and the cheapness of the conduct of these examinations. If Mr. Haultain had stated that the Secondary Schools are so used by the central authorities as to excite keen competition among them to prepare the largest possible number of candidates to try, and if possible, to pass these examinations either as matriculants or teachers, he would simply be referring to a state of things well known to teachers for years, but which hitherto they have found themselves powerless to remedy. The consequence is that young people in Ontario, both boys and girls, leave the farm or whatever work the parents may be engaged in, if it involves work with the hands specially, and betake themselves to school teaching, or bookkeeping, or whatever occupations promise a livelihood with the least possible use

of manual labour, and there is no improvement in this respect as far as we can see. The change made this summer in the qualifications necessary for obtaining a III. Class Certificate renders its acquirement all the easier for the candidate. Besides all the privileges set forth by Mr. Haultain, and secured by each candidate for the sum of \$2, there are many other matters to consider.

In the course of preparation for these annual examinations, naturally many enquiries will be made, many directions will have to be given (quite foreign to school work proper) to candidates by the principal of the school. These conferences require judgment and experience on the part of him giving the advice; consume much time and strength, and entail a considerable amount of worry. Then after the examinations, certificates are to be given, appeals to be considered, whether they should be made or not; information to be furnished in regard to every conceivable phase of examinations, failure, marks obtained, etc.—all these things and many more are called for, without the slightest conception on the part of the applicant that the master is not paid for all this extra work either by the candidate or the public. It will be seen, therefore, that the \$2 cover a great many more particulars than were enumerated by Mr. Haultain. The truth is that the fee should be a great deal more, \$10, as was suggested years ago, and a considerable portion of this amount should be given to the master of the school for his extra trouble, and another part should go to the funds of the College of Preceptors.

We thank Mr. Haultain for his paper, and invite the profession to read it carefully, and let us have their views on the whole question in the pages of this magazine.

SCHOOL WORK.

MATHEMATICS.

ARCHIBALD MACMURCHY, M.A., TORONTO,
EDITOR.

PROBLEMS FOR JUNIOR MATRICULATION, 1887.

Examiner—J. W. REID, B.A.

By R. A. GRAY, B.A., Math. Master, Coll. Inst., London.

1. From the obtuse angle of a triangle draw a straight line to the base, such that it may be a mean proportional between the segments of the base.

1. About ABC describe a circle; join A the obtuse angle to D the centre; on AB as diameter describe a circle, cutting BC in F ; join AF and produce to G ; then $GF=FA$.
 $\therefore BF \cdot FC = AF^2$ (III. 35). $\therefore BF : FA :: FA : FC$. Q.E.D.

2. $ABCD$ is a trapezoid, AD parallel to BC , show that $AC^2 - BD^2 : AB \cdot CD^2 = BC + AD : BC \cdot AD$.

2. Draw BE, CF at right angles to AD ; then $AC^2 = AD^2 + DC^2 + 2AD \cdot DF$, and $BD^2 = AB^2 + AD^2 + 2AD \cdot AE$.
 $\therefore AC^2 - BD^2 = DC^2 - AB^2 + 2AD(DF - AE)$, but $DC^2 - AB^2 = DF^2 - AE^2$.
 $\therefore AC^2 - BD^2 = (DF - AE)(DF + AE + 2AD) = (DF - AE)(BC + AD)$.
 $\therefore AC^2 - BD^2 : DC^2 - AB^2 = (DF - AE)(BC + AD) : DF^2 - AE^2 = BC + AD : BC - AD$. Q.E.D.

3. AB, AC are two tangents to a circle; PQ a chord of the circle which produced, if necessary, meets the straight line joining the middle points of AB, AC at R ; show that the angles RAP, AQR are equal.

3. M and N the middle parts of AB, AC ; G the centre of the circle; RL a tangent; GA cuts BC in K and MN in P , then
 $RL^2 = RG^2 - LG^2 = RF^2 + GF^2 - LG^2$
 $= RA^2 + GF^2 - FA^2 - LG^2$
 $= RA^2 + (GF + FA)(GF - FA) - LG^2$
 $= RA^2 + GA \cdot GK - LG^2 = RA^2$.
But $PR \cdot RQ = RL^2 = RA^2$,
 $\therefore AQR$ and APR are similar.—Q.E.D.

4. The side AB of a triangle ABC is touched by the inscribed circle at D , and by the escribed circle at E ; show that the rectangle contained by the radii is equal to the rectangle $AD \cdot DB$ and to $AE \cdot EB$.

4. F and R centres of inscribed and escribed circles, L, K and M, N where they touch AC and CB , and AC, CB produced; then $LM = KN$. $\therefore LA + AM = KB + BN$. $\therefore AD + AE = BE + BD$. $\therefore 2AE + ED = 2BD + ED$. $\therefore AE = BD$.

Again, angle $FAR =$ right angle, \therefore ang^c $FAD =$ angle ERA . $\therefore FDA$ and ARE are similar. $\therefore FD \cdot ER = AD \cdot AE = AD \cdot DB = AE \cdot EB$. Q.E.D.

5. ABC is a triangle having a right angle at C ; $ABDE$ is the square described on the hypotenuse; F, G, H , are the points of intersection of the diagonals of the squares on the hypotenuse and the sides; show that the angles DCE, GFH are together equal to a right angle.

5. G the centre of square $ACKL, H$ of $CBMN$; join MA, LB ; then MAB, HBF, CBD are similar. \therefore angle $MAB = HFB$ and angle $AMB =$ angle DCB . But $MAB + AMB = CAB$, $\therefore DCB + HFB = CAB$, also $GFA + ACE = ABC$. $\therefore DCB + HFB + GFA + ACE =$ a right angle, $\therefore ECD + GFH =$ a right angle. Q.E.D.

6. If

$$\frac{a + (a+y)x + (a+2y)x^2 + \dots \text{ad. inf.}}{a + (a-y)x + (a-2y)x^2 + \dots} = b$$

and if x receive values in H. P., show that the corresponding values of y will be in A. P.

6. The numerator $= a + ax + ax^2 + \dots$
 $+ yx + 2yx^2 + 3yx^3 + \dots = \frac{a}{1-x} + \frac{yx}{(1-x)^2}$
the denominator $= \frac{a}{1-x} - \frac{yx}{(1-x)^2}$,

$\therefore \frac{a(1-x) + yx}{a(1-x) - yx} = b$. This takes the form

$\frac{p}{x} + q = y$. If x receives values $\frac{1}{k}, \frac{1}{2k} \dots$

y becomes $pk + q, 2pk + q \dots$

7. Show that if (A) $aX + bY + cZ = 0$, and (B) $a_1X + b_1Y + c_1Z = 0$, where (C) $X = ax + a_1x_1 + a_2$, (D) $Y = bx + b_1x_1 + b_2$, and (E) $Z = cx + c_1x_1 + c_2$; then $X^2 + Y^2 + Z^2 =$

$$= \frac{\{a_2(bc_1 - b_1c) + anal + \}^2}{(bc_1 - b_1c)^2 + anal +}$$

7. Let $Y = mX$, $Z = nX$. From (A) and (B) we have $bm + cn + a = 0$, and $b_1m + c_1n + a_1 = 0$,

$$\therefore m = \frac{ca_1 - c_1a}{bc_1 - b_1c}, n = \frac{ab_1 - a_1b}{bc_1 - b_1c}$$

$\therefore X^2 + Y^2 + Z^2 = X^2(1 + m^2 + n^2) = say, k^2$

$$\therefore X = \frac{k(bc_1 - b_1c)}{\sqrt{(bc_1 - b_1c)^2 + anal}}$$

similarly for Y and Z.

Now $a_1X + b_1Y + c_1Z = x(aa_1 + bb_1 + cc_1) + x_1(a_1a_2 + \dots) + a_2^2 + b_2^2 + c_2^2$; but by squaring (C), (D), (E), and substituting (A) and (B) in terms of x, x_1 we have $X^2 + Y^2 + Z^2 = x(aa_1 + \dots) + x_1(a_1a_2 + \dots) + (a_2^2 + \dots)$

$$\therefore k^2 = a_2X + b_2Y + c_2Z$$

$$k^2 = k \frac{\{a_2(bc_1 - b_1c) \dots anal \dots\}}{\sqrt{(bc_1 - b_1c)^2 + \dots}} \quad \text{Q.E.D.}$$

8. If a, b, c, d be the roots of the equation $x^4 + 4px^3 + 6qx^2 + 4rx + t = 0$,

Find the value of $\frac{x^n}{x-a} + \frac{x^n}{x-b} + \frac{x^n}{x-c} +$

$\frac{x^n}{x-d}$ in terms of x, p, q, r, t .

8. The expression becomes

$$x^n [4x^3 - 3x^2(a+b+c+d) + 2x(ab+ac+bc) - (bcd + \dots)]$$

$$(x-a)(x-b)(x-c)(x-d)$$

now $a+b+c+d = -4p$; $ab+ac+\dots = 6q$; $bcd + \dots = -4r$; $abcd = t$ and $(x-a)(\dots = x^4 + 4px^3 + \dots$ Substitute and we get,

$$\frac{4x^n(x^3 + 3x^2p + 3qx + r)}{x^4 + 4px^3 + 6qx^2 + 4rx + t}$$

67. It is required to find the outside diameter of a hollow shaft of the same strength as a solid shaft ten inches in diameter, the inside diameter of the hollow shaft being six inches.

NOTE.—Will our readers send solutions to this problem.

CLASSICS.

G. H. ROBINSON, M.A., TORONTO, EDITOR.

BRADLEY'S ARNOLD.

BY M. A.

Exercise 29 A.

1. Quem cavere debeas, quem timere, jampridem te monco. 2. Scio patrem tuum virum optimum, liberis provisorum esse.
3. Fieri non potest ut tantum hoc scelus cuiquam probes. 4. Quærenti quid facerem, num eum et quemadmodum et quando offendissem, nihil mihi respondit. 5. Patriæ an vobismet ipsis consultum vultis? 6. Mu'ta ci ego peccata condonavi; non debuit adeo in te sævire. 7. Adolescenti ei adversabar; senem et imbecillum adjuvare volo. 8. Multas in republica tempestates prospicio; sed neque reipublicæ saluti, nec meæ timeo.

Exercise 29 B.

1. Ferunt cruentum pugionem siccario extorsisse, et alte sublato humi abjecisse.
2. Nolite ei qui tam bene de republica meritus est, ignobilitatem objicere. 3. Utrum mihi succenseas necne, nihil refert; saluti meæ nihil metuo; jam tibi licebit quotidie mihi mortem, si libebit denunciare. 4. Tibi et creditum et credendum fuit, constabat enim inter omnes nunquam te fidem fessellisse.
5. Magistratum quem sibi nuperrime permisisset, populus, non modo cum aliis communicatum sed totum sibi hac lege ademptum iri, conquestus est. 6. Libertatæ nostram ac jura absentibus nobis ademisti, cras nescio an vitas nostras ac fortunæ extorsurus sis.
7. Milites ad unum omnes occisi sunt; ab inermibus temperatum est. 8. Rex nostra mitissimi homo ingenii, cur civibus tantam vim frumenti ac pecuniæ imperaverit ignoramus omnes. 9. Nemini unquam qui sibi obstiterat parcebat nec, cuiquam qui sibi nocuerat ignoscebat. 10. Tibi cautum volui, nec tamen de hac re te, hominem incautissimum ac temerarium, consuli volebam.

Exercise 52.

1. Num igitur repugnantibus et tela in nos conjicientibus parcendum erit? 2. Num his etiam repugnantibus parcendum est? 3.

Quærentem te semel ac sæpius audivi num domum meam redituri essemus an Londinum ad patrem tuum ituri. 4. Urbem cunctam lætantium exultantiumque clamoribus personantem audivi. 5. Quum ab India senex rediisset domi suæ excessit vita; ægotantem ac deficientem circumstabant filii nepotesque morientis vultum mœsti intuentes, et futura præscientis verba memoria retinebant. 6. Querenti mihi fidem cum fecerit, nihil se ejusmodi fecisse respondit, sed tanti illi damni pœnas dare velle. 7. Milites tota urbe tela jactantes vidi, lætantium exultantiumque voces audivi; nuntiatae victoriæ manifestissima indicia cognovi. 8. Regi ad pedes projecti fidem ejus implorabant, ne homines neque ad id temporis nocentes et maxime olim reipublicæ profuturos certissimo exitio traderet. 9. Quum navem Neapoli conscendisset, salutem suam suorumque diffusis, Massiliam ad patrem meum confugit. 10. Et laudantis et increpantis verba præ indignantium clamore, et acclamantium convicio ac maledictis, audivi non poterant. 11. Meis ego auribus diffusis, nescio quem proprius ei adstantem interrogavi num recte audivissem; is interroganti recte me audisse respondit. 12. Nonne te omissi incepti, deserti amici, violatae fidei pudet pœniteique?

MODERN LANGUAGES.

Editors { H. I. STRANG, B.A., Goderich.
W. H. FRASER, B.A., Toronto.

EXERCISES IN ENGLISH.

1. Select the phrases in the following, and give their grammatical value and relation:—

The Judge rode slowly down the lane,
Smoothing his horse's chestnut mane.
He drew his bridle in the shade
Of the apple trees, to greet the maid,
And asked a draught from the spring that
flowed

Through the meadow across the road.

2. Select from the above extract at least four words that may have a different grammatical value from that which they have in it, and write sentences exemplifying these values.

3. Classify the words in the following according to their function:

(a) At last, like one who for delay
Seeks a vain excuse, he rode away.

(b) And, in the hereafter, angels may
Roll the stone from its grave away!

4. Show by examples that each of the following phrases and clauses may be used with different grammatical values:

"In this book," "to his friend," "to study his lessons," "who gave it to her," "where he found it," "that he might have a chance to see it."

5. Analyze the following simple sentences:

(a) Beneath the torn hat glowed the wealth
Of simple beauty and rustic health.

(b) Sometimes her narrow kitchen walls
Stretched away into stately halls.

(c) Around, in sympathetic mirth,
Its tricks the kitten tries.

(d) For in a wilderness obscure
The lonely mansion lay,
A refuge to the neighbouring poor,
And strangers led astray.

6. Parse the italicized words in the following:

(a) And *what is friendship but a name,*
A charm that lulls to sleep?

(b) *Surprised* he sees new beauties *rise*
Swift mantling to the view.

(c) *In humblest,* simplest habit *clad,*
No wealth nor power had he.

7. Select and write out in full (supplying the ellipses) the subordinate clauses in the following, and tell the grammatical value and relation of each.

(a) There, richer than the fabled gift
Apollo showered of gold,
Fair hands the broken grain shall sift,
And knead its meal of gold.

(b) And when the summer winds shall sweep
With their light wings my place of sleep,
And mosses round my headstone creep,
If words my lips once uttered, still,
In the calm faith and steadfast will
Of other hearts, their work fulfil,
Perchance with joy the soul may learn
These tokens.

8. Form (a) adjectives from, system, collect, pronoun, honour, joy, define, sense.

(b) Verbs from, draw, lead, go, turn, pure, captive, dark, critic.

(c) Nouns from, honest, brilliant, improve, decide, steal, apply, active.

(d) Adverbs from, due, merry, one, heroic, gay.

9. Write the following :

(a) The plural of enemy, Mary, oasis, mulatto, brother-in-law, shelf.

(b) The corresponding gender form of earl, niece, stag, hero, negro, abbess.

(c) The imperfect participle, and the 3rd sing. pres. per. indic. of forbid, choose, fly, break, teach, deny, befall.

10. Add predicates to the following subjects, using *is* or *are*, *was* or *were*, *has* or *have*, for the verbs :

"Nobody but Mary and her." "Nearly every one 'the trees in these two orchards.'" "Not on of the boys that." "Efficiency and not numbers." "More than one of the students." "It was you that." "Nearly two-thirds of the candidates." "Fully three-fourths of all this misery."

11. Distinguish between :

(a) Most men think so, most of the men think so.

(b) What book do you want ? which book do you want ?

(c) He rode in the park, he rode into the park.

(d) He divided it between them, he divided it among them.

12. Which is correct and why ?

When will you (shall you) be able to go ? It looks strange (strangely) to see you here.

It must have been John and not I (me) that you saw.

13. Correct any errors in the following, giving your reasons :

(a) Hoping for a early and favourable reply, I remain yours truly.

(b) The bird lit on the fence near where Henry and me were standing.

(c) It's not near as cold as it was yesterday, I don't think.

(d) There aint one of the scholars but what believes he took it.

(e) A high board fence is being erected around the lots recently purchased by the Agricultural Society, which will enlarge their grounds considerable.

(f) He was taken to Dr. K's office where the wounded member was stitched on and is likely to grow together again.

14. Condense into simple sentences :

(a) Before the art of printing was invented exact knowledge was impossible.

(b) After we had gone a little further we came upon a path which led down to the lake.

(c) He watched attentively the course which the bees took and then set off in the same direction.

15. Combine into a single sentence :

(a) The keys were lying on the table. The table stood by the side of the bed. He coolly took up the keys. He opened the bureau. Some money had been placed in it. He carried this off.

(b) He found himself obliged to leave home. He had not expected to go so soon. He sent them a message. In it he told the purpose of his journey. He wanted them to meet him at a certain place. He named this place.

16. Break up into as many separate statements as there are finite verbs :

On the fifth day after he had started on his journey he met with a Moor, who, though at first he wore a hostile appearance, ultimately received him and entertained him in a hospitable manner.

17. Change to indirect narrative :

"I have to apologize, sir," said he to the curate, "for the great liberty which I have taken in calling on you, and which, I fear, will appear even greater when I state to you its object."

SCIENCE.

SCIENCE TEACHING.

BY DAIE CHALEUR.

AN eminent American scientist is credited with saying that most of the science teaching of our secondary schools is a sheer waste of time. He points out what every tyro in teaching knows, viz. : that where pupils perform experiments, record their observations and attempt to draw conclusions for themselves, the conclusions reached are often entirely wrong, or if right, are the result of pure accident. In short, there are "bushels of guesses," and very small grains of science.

Having uttered this platitude, the old-fashioned scientist thinks he has settled the claims of science to be taught in our high schools. He would bundle it out of school, body and bones, and devote all the school time to the fine old studies—mathematics and classics. I may confess at the outset to a warm feeling for classics. Seven years' study of Latin and Greek before I saw even the outside of a university has left its influence upon me, and so I shall be sorry when the day comes—if it ever does—that these honoured studies shall be deposed from the position in which the highest culture of Europe has for ages enthroned them. There is a culture derivable from the study of language which can be obtained in no other way. Mathematics will not give that culture, and it is just as certain that science cannot. But while asserting that great benefit is obtained from study of the ancient languages, I must assert just as strongly that the study of science in our high schools is as important and necessary as that of the ancient or modern languages. Doubtless there are an appalling number of guesses registered in school note books every term. But it would be quite easy to equal them with the guesses of grown up children as to the cause of our periodic hard times. The guesses for "conclusions" are not by any means confined to children. Even ministers they have been kenned to guess, and to reach the most preposterous conclusions from very simple data. Intelligent and successful business men have been known to do the same thing. Take for example Andrew Carnegie's book, "Triumphant Democracy." It was read last year by thousands of America's most successful business men, and was universally praised as a marvellous array of facts and figures—all testifying to the wonderful progress of the United States, in population, in agriculture, in education, in literature, in manufactures, and in trade and commerce. So far as I have seen, few indeed have questioned the accuracy of the astonishing statistics which he has compiled and strung together in a rather interesting volume. But just as few would admit the correctness of the con-

clusion which this railroad millionaire teaches—that the rapidity and magnificence of the development of the United States have been entirely due to its Republican form of government. Mr. Carnegie's *guesses* are not exceptional; hundreds of instances of it could be found in the literature of every department of human activity. "Jumping at conclusions" has even become proverbial, and Macaulay's school boy is not responsible or the proverb. Business men, lawyers, doctors, clergymen, even judges, "jump at conclusions" occasionally; in fact often, and why not children? The truth is that if science were properly taught in all our schools there would be infinitely fewer "guesses for conclusions" than there are now amongst intelligent men and women. But science must be well taught; an ignorant teacher or a bungler in experimentation should never be allowed in a science room. In physics and in chemistry every pupil should experiment for himself, and should record his observations neatly and accurately in a note book. He should be encouraged to put down nothing but what he sees, and he should express it in his own language. Young students cannot be trusted at first how to make correct observations. They must be taught even this. After the experiment has been repeated by a pupil and he has written out his observations and "guesses," he must be subjected to a rigid cross-examination by his teacher to discover what knowledge he has acquired and how he has reached his conclusions. It will at first often be necessary to repeat the experiment, but the careful teacher will not consider that time thus spent is wasted. "Slow and sure" is a grand motto in all teaching. Make the pupil repeat the experiment, and then repeat the cross-examination. Don't aim at teaching theory. Theories are founded upon a study of facts. See therefore that your pupils master the facts. Some of those learned college professors with giant intellects and jaundiced faces, who now groan and lament that science is execrably taught in the high schools, will some day stumble across your patient work in the person of a brilliant pupil, and

will "jump at the conclusion" that the brilliancy is due to his teaching, not yours; but no matter, teach the facts, lay a foundation broad enough or wide enough for an Agassiz or a Newton or a Helmholtz to build on, and science teaching will soon need no defence, if it needs one now. But let it ever be remembered that the facts are to be learned by the pupil—not from books, not from teachers, but from the face of nature, the handiwork of God.

CLASS-ROOM.

L. B. DAVIDSON, Head Master Public School, Sault Ste. Marie, Editor.

ENTRANCE EXAMINATION
LITERATURE.

DISCOVERY OF AMERICA, 4TH READER,
PAGE 115.

Synopsis of paragraphs; the figures in the margin refer to their numbers.

1. Columbus leaves the Canary Islands.
2. Awe and dismay of the sailors at losing sight of land.
3. Effect of the trade winds.
4. The sailors become alarmed; they fear that the trade winds will prevent their return; they become mutinous.
5. The admiral's method of maintaining discipline.
6. Revived hopes caused by signs of land.
7. Hope deferred causes a more determined resistance to Columbus; his mode of restoring order.
8. Columbus uses the increasing evidences of land to raise the spirits of his crew.
9. A night of watchfulness followed by a morning of joy.
10. The Pinta gives the signal of land. The Spaniards' first impressions of the New World.
11. The landing, thanksgiving and appropriation of the land for Spain. Impressions made by the air, sea and vegetation. The island is named.
12. Joy, apologies and promises of obedience on the part of the sailors.
13. Astonishment of the natives.
14. Reason for the name West Indies.

EXPLANATORY REMARKS.

The marriage of Ferdinand and Isabella put an end to civil discords among the Christians of Spain, and enabled them to drive out the Moors. This event was the chief cause of Spanish enterprise at this period. Columbus was a native of Genoa. The republics of northern Italy were the most enterprising commercial communities of the Middle Ages. It was therefore natural that citizens of these States should be good navigators.

Note.—Owing to the length of the extract, only a few paragraphs at the beginning are dealt with in detail.

EQUIVALENTS, NOTES AND QUESTIONS.

1. *Profound*—great, give equivalents for *profoundly* and *profundity*; *loitering*—lingering; state accurately the meanings of *to loiter*, *loitered*, *loiterer*, etc.; *flagging*—fluttering; *distance*—space; form a noun, a verb and an adjective from *distance*; *sprang up*—arose; *gradually*—slowly;

Early. . . . *vessels*—vary the construction.

Locate Canary Islands and Ferro.

2. *On losing sight*—when they lost sight, having lost sight. *Losing*, *loosing*—distinguish meaning and pronunciation; *trace*—evidence; *crews*—spell and give meaning of word pronounced like it; *literally*—actually; *chaos*—confusion; *mystery*—profound secret; *rugged*—hardy; *lamentations*—sorrowful outcries; vary the inflections of *lament*, and state accurately the meaning of each variation; *inspire*—fill; *anticipations*—hopes.

Behind. . . . *Peril*, note the contrast.

3. *Influence*—sway; *tranquil*—calm; *tropics*, name and locate; why are they so called?

4. *Extremely*—very; *voyage*—sail, trip; distinguish *voyage*, *journey*, *ride*, *drive* and *tour*. *Continued*—kept; *apparently*—seemingly. Give equivalents for *to appear*, *appearing*, *appearance*, and *apparent*; *conjured*—raised; *prevail*—continue; *vague*—undefined; *harassed*—annoyed; *incessant*—continuous; *murmurs*—complaints; *mutiny*—insurrection; distinguish *mutiny*, *riot*, *row* and *rebellion*; *desperado*—madman.

5. This paragraph furnishes a good example of balanced sentences:

6. *Flights of birds.* Why not flight?

Stood. Note the force of the word.

Why should the presence of birds be a sign of land?

7. *Turbulent*—noisy; *insisted upon turning*—determined to turn.

Why should this last effort of Columbus to maintain discipline succeed?

8. Give equivalents for *at open defiance, sanguine expectation, impressive address and make land.*

Discuss the value of the signs of land mentioned.

9. *Ranging*—a term borrowed from rifle shooting.

10. How long did this voyage last? Gestures, *g* soft. How do you account for their being able to see that the people were naked consistently with the statement in sentence 2?

11. What evidence is there that Columbus himself began to doubt whether he would ever reach land?

12. Are the statements in this paragraph fully in accord with human nature?

13. What is referred to in the *crystal firmament beyond the horizon*? What were the *wings, lightning and thunder*? Who were the *marvellous beings*, and what the *glittering steel*?

CONTEMPORARY LITERATURE.

THE MAGAZINES.

ONE is never disappointed in the *Critic*. It is always good and does good work as a literary authority.

Science has lately appeared in a new form, and continues to give useful scientific information and news on a great variety of subjects.

NOT a few readers of the *Atlantic* will feel grateful to Dr. Holmes for his "Realism for Realism's Sake" in the "Contributors' Club."

AN interesting feature of the September *Overland* is the diary of H. W. Bigler, giving a history of the discovery of gold in California.

THE *Living Age* (Littell & Co., Boston) continues to present in its weekly numbers the best of current reading. The page of verse is always good.

THE *Youth's Companion* is especially noted for its anecdotes, which one often sees copied in the pages of other publications. It is a good illustrated paper for young people.

Wide Awake for October contains stories and verse by the best writers. The illustrations add much to its appearance, and the magazine is sure to become a favourite wherever it is known.

THE *Quiver* has thoughtful papers on

"The Growth of a Character," "The Exhaustiveness of City Life," "The Sages of all Ages." Such papers alone would mark the present as a good number, and there is much else to read with profit.

THERE are some good names on the list of contributors to the *American Magazine*. But an objectionable story (even without the powerful assistance of execrable illustrations of the "tin-type" variety) is quite enough to spoil any magazine.

Education, under the able editorship of Dr. Wm. A. Mowry, publishes excellent papers on various educational topics. There may be mentioned, among others, "Historic Illustrations of Superior Teaching," and "The Air Supply of School Rooms."

THE *Eclectic* for October is more than an average number. The reader will find, among other items in a tempting table of contents, "The English and American Press" from the *Nineteenth Century*, "The Roman Matron and the Roman Lady," by Mrs. E. Lynn Linton, and "The Home of the Aryans," by Prof. F. Max Müller.

A RECENT issue of *The Popular Science Monthly* contains several very important papers, e.g.: "Manual Training in School Education," by Sir Philip Magnus; "The Progress of Science From 1836 to 1886," by Grant Allen; "Educational Endow-

ments" and others. The "Correspondence" and "Editor's Table" are also extremely interesting.

"**JOSIAH ALLEN'S WIFE,**" with her strong good sense, gives her opinion of expensive funerals in a short story which appears in the October *Lippincott*. Needless to add that it is clever and funny. Among the verse are two pretty love poems. There is also a complete story by Louise Stockton.

THE KINDERGARTEN DRAWING COURSE, PARIS I AND II. Toronto: Selby & Co.

These elementary drawing books, authorized by the Minister of Education for use in Public Schools, are well adapted to supply a want felt for some time in our schools. The examples are carefully graduated and many of them are familiar objects, while the execution is excellent.

THE BRITISH COLONIAL POCKET ATLAS. London: John Walker & Co. Maps by John Bartholomew, F.R.G.S.

An invaluable little book.

NOTES ON THE HIGH SCHOOL READER. By R. Dawson, B.A., T.C.D., H. M. Weston High School. Toronto: Rose Pub. Co. Pp. 347. 75cts.

A useful book of reference, containing explanatory and critical notes on all the lessons in the High School Reader, with Biographical sketches of authors. It will meet with a cordial reception at the hands of teachers and students.

HIGH SCHOOL BOOKKEEPING AND PRECIS-WRITING. By H. S. McLean, of Clinton High School. Toronto: The Copp, Clark Co. Pp. 209. 65cts.

This will be found a thoroughly practical text book. The definitions are particularly good. The part devoted to Précis-Writing contains all that is necessary on the subject, with a number of examples.

UN PHILOSOPHE SOUS LES TOITS. Edited by W. H. Fraser, B.A. *Ibid.*

This will be the students' favourite edition of the "Philosophe." Numerous notes and a sketch of Emile Souvestre's Life are given. The book is a credit to its Canadian author and publishers.

THE EARTH IN SPACE. By Edward Jackson. Boston: D. C. Heath & Co.

A good primer of astronomical geography.

THE ESSENTIALS OF BOTANY. By Prof. Charles Bessey, of Nebraska University. New York: Henry Holt & Co.

A third edition of this valuable work, now authorized by the Minister of Education for Ontario, has lately been issued. It is intended as a guide to the practical study of the subject, and is evidently written by an experienced and enthusiastic teacher.

I. JULIUS CÆSAR. Edited by W. Aldis Wright. The Clarendon Press. New York: Macmillan & Co.

II. JULIUS CÆSAR. Edited by Wm. J. Rolfe. New York: Harper & Brothers.

Students of English will not need to be told that either of the above editions is good, and that he will be fortunate indeed who possesses both.

ENGLISH LITERATURE FOR UNIVERSITY AND DEPARTMENTAL EXAMINATIONS.

(1) Edited by John E. Bryant, M.A. Warwick & Sons. (2) Edited by Hugh I. Strang, B.A. Copp, Clark & Co.

Both these editions will be found very suitable for class work.

A HISTORICAL GEOGRAPHY OF THE BRITISH COLONIES. By C. P. Lucas, B.A. Oxford: The Clarendon Press.

We have seen no book on this subject of the same scope and value as this. It is a very good book of reference.

THE PUBLIC SCHOOL GRAMMAR. Toronto: The Canada Publishing Co.

A good deal of attention is devoted to composition in this text book. It is written in a clear and simple style, and numerous exercises are given, which will be found useful by teachers of elementary classes.

THE HIGH SCHOOL WORD-BOOK. By J. W. Connor and G. Mercer Adam. Toronto: Copp, Clark & Co.

Another good Canadian text-book. The sections devoted to synonyms and derivatives are particularly good.

HISTORY OF ENGLAND FOR BEGINNERS.
375 pp. By Arabella B. Buckley. London: Macmillan & Co.

An interesting presentation of the facts of English History by an authoress of high reputation.

COMPLETE BOOKKEEPING. Rochester: Williams & Rogers.

The "Complete Bookkeeping" is used as a text-book in several business colleges and is remarkably well adapted for students who are working without the aid of a teacher.

MR. HUGH I. STRANG, B.A., for many years Head Master of the Goderich High School, was lately presented with a handsome silver service by many pupils and ex-pupils, who gathered from different parts of the country to express in this way their grateful remembrance of their teacher's work and worth. We sincerely congratulate Mr. Strang. The pupils and ex-pupils of the Goderich High School have done themselves credit, and such a timely recognition of Mr. Strang's merits must be exceedingly gratifying to him and to all his friends.

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