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## THE QUARTERLY;

# A Periodical in connection with the Collegiate Institute Literary Society. 

## Nous travaillerons dans l'esperance.

Vol. V.]
HAMILTON, JULY, 1879.
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## ANCIENT AND MODERN CIVILIZATION.

First Prize Essay, June, 1879-By a. Lawson, Member of Upper 5 th Form, Aged 16.

WHEN we read the history of bygone empires, and the pictures of their magnificence and power are passed before the mind in succession, first, the crude, yet stately monuments of Egyptian grandeur, then passing in pompous brilliancy the regal splendor of Assyria's courts, followed by the classic refinement of intellectual Greece, and the undying glory of Imperial Rome, we are apt to form an opinion of ancient civilization prejudicial to that of modern times ; and this error-for it is an error-is the more easily fallen into because of the deep contrast it makes with the darkness and ignorance of the middle ages; while on the other hand, there are some who, without attempting either to appreciate the greatness of the ancients, or to examine the defects of modern progress, come to the conclusion that we have arrived at the acme of perfect civilization, and proclaim their opinions accordingly. We shall notice briefly a few of the leading features of ancient and modern civilization; and while it may be evident that the modern is greatly superior to the ancient, we will endeavor to show that the latter is by no means to be despised, but that it has many points well worthy the study, if not the imitation of our own age.

In attempting to form a correct
estimate of the social progress of a people, there are three considerations presented to the mind, viz :--their physical surroundings, their religion and their education; for, under these general heads may be classified all the circumstances which can possibly affect the mental, moral, or physical improvement of man.

By the expression physical surroundings (which we use for want of a better), we wish to refer not so much to man's position with regard to geographical and climatic influences, as to the extent to which he has controlled and made use of the otherwise latent forces of nature; for, although the geographical position of a country exerts a great influence on the social condition of its inhabitants, yet this would enter rather into an investigation of the comparative civilization of two contemporary nations, than that of two separate ages in the world's history. Leaving therefore, this part of the question, we shall proceed to consider the relation between social progress and man's control of the forces of nature. It has been said, that the civilization of a country has a strong tendency to vary directly as the length of its coast line. Now, for whatever truth there may be in this theory there is only one assignable cause, viz: that those countries
which have an extensive sea-board, have been almost without exception, great commercial nations; and consequently not only much wealthier than their less active inland neighbors, but also, by coming in constant contact with other people, not less advanced than themselves, have necessarily made more rapid social progress. From this ther we would infer, that social intercourse is one of the most powerful agents for the propagation of civilization. Why is it then, that this theory is less true of the nations of the present day, than those of antiquity, or indeed, of a hundred years ago? The reason is simply this : that while in ancient times navigation was almost the only means of social intercourse, to-day it occupies but a secondary place in our immense systems of travel and transport. The attainment of perfection in all means of intercomimunion has been the great object of this century. For this has science searched and art labored. To this task has. the mind of man been bowed. And how stupendous are the results. How overpowering is the feeling which comes aver us, as we contemplate the achievements of human intellect. First and grandest of these, is the subjugation to the service of man of steam, at once one of the subtlest and most irresistible forces in the universe. By attending to the laws of science, man is now enabled to take hold of this tremendous power, which since the creation has been idly expending its strength in rending rocks or upheaving mountains, and subdue it to his will. With it he transforms stretches of sea into fertile land, or makes the barren desert a miniature ocean. With it he tears the rocks out of the sea, or travels fathoms beneath its bottom. With it there is no limit to what he may do. Already he is girding the continent with roards of steel, over which with the speed of the wind, he diffuses throughout the whole worid the ,productions, of every clime. Physical obstacles are as nothing to him. He tunnels the Alps as: a boy woulda snow-
bank. He outrides the wildest storm of the Atlantic as calmlyas theinfantsleeps in its cradle. We who live jn the midst of these victories of mind over matter, cannot appreciate them at their true value. They have become the every day events of our lives. But with what reflections would the shade of Aristotle regard them. How mighty the contrast would appear to him between the slow, sleepy life of his own times and the tremendous vim of the nineteenth century. Nay, how aghast would he stand to see the thunderbolts of his own Jove curbed to do the errands of man ; to see the very lightning quietly illuminating the darkest recesses of a coal mine, or speeding its way along the bottom of the ocean, with pledges of peace and good will between the different continents. Howscepéically he would shake his head when told, that with our telephone he might have disputed with Plato though they were miles apart, or that we have a means by which the eloquence of Demosthenes might have been bottled up and handed down to all posterity. Ah yes! Aristotle, if we cannot surpass thine zge in purity of language and true delineation of nature, we have far outstripped you in the real business of life. Surely and speedily we are ascending the incline to perfection. Man's comforts are multiplying, and his social happiness is becoming more refining and elevating. Steadily barbarism is vanishing before the combined advance of steam, electricity, and the hundred other forces of nature which human intelligence is daily becoming master of. And, judging by the immense strides we have taken since George Stevenson laid the first railroad, we cannat but believe, that e're anather century have elapsed, universal civilization shall no longer be the dream of the philanthropist, but a fact to stir the soul of the Macaulay of the future as he records it in the pages of the world's history.

By a knowledge of the established religion of a country, we can always
estimate its standing in the scale of civilization. For instance, if we are told that the inhabitants of a certain part of the world are fire-worshippers, we are at once able to form an idea of their mental tendencies, their manner of life and social condition. We know, that as they have no conception of a supreme ruler their every action will, to a great extent, be controlled by their own selfish desires, that having no ideal of purity and goodness, they cannot be otherwise than in a state of moral and physical degradation, and that their reasoning and imaginative faculties must have sunk low indeed, before they could bow in adoration to one of the commonest phenomena of nature. But if we learn that those same people have embraced Christianity, how sweeping is the revolution which we know must have been effected in the condition of their lives; law and order. substituted for licentious freedom; peace and love replacing hatred and broils, and their souls reclaimed from the darkness of death, to live in the pure effulgence of a merciful and everlasting God.

Concerning the origin of the religion of Greeks, which the Romans also subsequently adopted, there are two existing theories; the one, which is of recent date, holds that the Grecian mythology is but a corruption of the old religion of the Hebrews. The other, and by far the more generally accepted, maintains that the whole system is a highly poetic creation, representing nature in all her various forms. Now, the force of argument by which both of these theories are supported is so great, that neither of them can be set aside in preference to the other; and this being the case, there is only one conclusion that we can come to, that both theories are to some extent true, and that the Grecian religion is in reality a corrupted form of the religion of the Old Testament, greatly augmented by a worship of the many beauties and phenomena of nature, which were being constantly presented to the Hellenic mind. Hence
might be explained the fact, that with the exception perhaps of the people of Ancient India the Greeks and Romans. possessed a loftier and nobler conception of a supreme being than is to be found in any other nation in heathendom, and that amid all their intricate beliefs, thei heautiful fictions and enchanting imagery they always maintained a clear distinction between right and wrong and an abhorrence of low deceit. Their high sense of honor and love of integrity was certainly not inferior to that of modern times. Virtue was to them a source of real delight. Their principles of government too, were just and sound. Yet notwithstanding the existence of all these qualities so material to social progress, the civilization both of Greece and Rome began to wane, and this is more remarkable from the fact that the beginning of the decline in both nations forms the most brilliant intellectual epoch in their respective careers. This relapse may be accounted for partly by the lack of education among the masses, which will be treated of farther on, and partly by the following considerations. The religion of the ancients, however conducive it might have been to the advancement of literature and the plastic arts, was not of a nature to promote that most essential feature of true civilization-social harmony. Fear and selfishness were the principal incentives to religious worship. Brotherly love formed no part of their creed. Each individual found in himself all that was worth living for. In private. life his pleasures gave way to nothing; in public he scrupled not to ruin whoever stood in the road to his own success. To this there are indeed some noble exceptions, but these only serve by the contrast to show more strongly. the characteristics of the age they lived in. How brightly do the names of the two Gracchi stand forth from the pages of Roman history, and yet only to show in their true colors, the bloodyy greed of their patrician assassins and the cow,
ardly meanness of the plebians for whom they died. But how, it may be asked, did the ancients under such a state of affairs attain to such heights of national greatness? It was the natural result of the individual characters of the people. The Gods lived in sensuous luxury, and their worshippers could not do better than imitate them. Wealth was the great means to the gratification of every desire. For wealth the poor became soldiers, and the upper classes politicians. By subduing and oppressing neighboring peoples they obtained wealth. With wealth came luxury, and in luxury they prospered-for a time. Meanwhile, in the great cities where were the seats of learning and schools of philosophy, the scales began to fall from the eyes of the people, and the hollowness and falsity of their religion became manifest. From the cities, the sceptecism spread among all classes. In vain was it that philosophy attempted to fill the blank. Licentiousness and disorder took possession of all men. Then too the effects of generations of luxury were made plain. Mental imbecility and physical weakness became the characteristics of these mighty nations, and they began their downward course. But amid the darkness of this moral nightthere suddenly appeared the star in the east, the welcome harbinger of the day, which with ever increasing brightness, has been dawning upon the world for the last eighteen hundred years. The star of peace and good will among men. The dawn of Christianity which is the essence of our civilization, and whose qualities require here neither our description nor our praise.

Having now treated of two of the leading elements of social progress, we come to the third and most important-popular education. And keeping in view the fact, that by education we mean not simply the instruction of children, but the development in every class of the people the true idea of their own welfare, it will not be difficult to see, that in the abundance of this element in modern society
lies the true distinction between ancient and modern çivilization. For it is an element, the scarcity of which has undermined the greatest monuments of national power, and the wide-spreaddiffusion of which alone, can form a solid basis for the successful structure of all systems of social happiness. We do not by any means assert that the civilized people of antiquity were utterly devoid of education. But it will be allowed by every student of history, that nearly all the refinement of the ancients centered in their large cities, while the agricultural portion of the population, which in Greece and Italy constituted the great body of the nation, continued to live in a state of the crudest simplicity. Moreover, even the refinement and learning which flourished so promisingly in the capitals of the ancient world, was not favorable to the vigorous growth of civilization. . For, as has already been mentioned, their culture was of a purely æsthetic nature, which might not inaptly be compared to the brilliant growth of a hot-house plant, which blooms and withers long before its kind have made their appearance in the course of nature's laws. In their appreciation of the beautiful and the sublime, and in theirattempts to give utterance to that appreciation, the anciente have never been surpassed. They produced a literature the purity and beauty of which, have been a fountain whose waters have been drawn in an unceasing stream by the writers of all succeeding ages. Their sculpture and architecture too have become universal models. Added to such refining tendencies were the absence of all actual restraints on the expression of public opinion, and a physical and mental hardihood which did much to build up their greatness. Possessed then of all the advantages and means of intellectual improvement, the average Athenian or Roman cannot well be said to have been ignorant. But familiarity with literature and the fine arts does not imply education in our sense of the term. For with all their æsthetic culture, the entire
energies both of the Athenians and Romans, when not engaged in war,were directed to the pursuit of sensuous pleasures. The circus in Rome and the theater at Athens were the great resorts of their citizens. In these they satisfied the desire of their hearts; and by obtaining control of these, their statesmen swayed the people at will. If the policy of these statesmen were successful, the orators harangued the people about their national glory; they had a grand series of spectacles, and again subsided into their usual dreamy mode of life. If unsuccessful, the people bore the burdens, and the politicians were no losers, save, perhaps, the expense of another spectacle. In private concerns they were no better off. Selfishness ruled all. Every man lived for himself alone without a thought for the comfort of his fellow-beings. Poverty was the curse of the poor, and luxury the ruin of the wealthy. And thus they continued to live until their social fabric in all its rottenness toppled upon them, crushing out their national existence.
As we leave this picture of the social condition of the ancients, to contemplate that of the civilized nations of - to-day, we are struck by the contrast as one who turns from looking at the pale moon setting in the west, to gaze upon the cloudy splendor of a rising sun. It is a principle of the age, that the education of the people is necessary
to all advancement. In every political system, the education of the youth of the country is one of the first things to be provided for. From infancy to manhood, there is furnished for the citizens of all civilized nations a course of mental training such as will best fit them to discharge the duties of life towards their country and mankind in general. Nor is this all. If we had only schools, we had little reason to boast our superiority over the ancients. But we have other and mightier means of diffusing knowledge and elevating the minds of the masses. Chief among these is the press; and who shall attempt to compute the immensity or scope of its power, as it goes on ministering to the comfort and happiness of the human race; as it lays daily before all men the cause and effect of every public action, that, profiting by the results of the past, they may advance with confidence in the paths of individual and national prosperity; as the bright rays of reason and truth which illumine its pages, go on dispelling the clouds of prejudice and error, that have hung so long on the world's mental horizon; as, most beautiful of all, it goes on teaching mankind that,

Not enjoyment and not sorrow, Is our destined end or way; But to live, that each to-morrow Finds us farther than to-day.

## FLATTERY.

> [written for the quarteriy.]

Commencing with Eden and downward descending, In every age it has always held sway,
It encourages evil, and with the good blending, Its birth was with Eve, and it thrives still to-day.

How many there are who with honest intention, In life started out to do that which was right,
But flattery stepped in and with artful invention, Succeeded in luring the unfortunate wight.

The comely youth and the too trusting maiden, Have each in their turn been deceived by its charm;
it comes in such guise, with such sweetness is laden, That e'en the most timid will ne'er take alarm.
'Tis used by the noble, likewise by the lowly, Who seek by its glamour their ends to attain,
But the end must be false and the mission unholy, That, to flattery would stoop, its object to gain.

Oh! why will the world turn with scorn from true merit, And lavish its praises on that which is base.
Is it that from Eve the old sin we inherit, And flattery still has the most pieasing face.

It may for a season bewitch the receiver, And cause the poor dupe its praises to sing, But truth in its might will expose the deceiver And naught will remain but the sorcerer's sting.

Then let us determine to crush the offender, And spurn the deceiver away from our path, Lest right in its might may become the avenger And crush us instead in its righteous wrath.

## HOME.

First Prize Essay-Junior Literary Society-George F. Beli., Lower 5th Form, Aged 15.

HOME is a little word but like many other little words it can express alone the strongest feelings in a human heart. "There is magic in it-it is a mystic circle that affords comforts and virtues never known beyond its hallowed limits."

Now, if home were to be defined as one's place of constant residence, we would be far from ascribing to it its true meaning, for home is not merely our unchangeable abode, and to be enabled to perceive this we must derive assistance from another word, the contrary of home, and that word is, homeless. Homeless means without a home, and without a home we are without friends who would shelter us, clothe us if naked, give us drink if thirsty, nurse us if sick, love and protect us. And if homeless we are in need of these blessings; we muist surely have a home if we are in possession of them. Yes! Home is a little word, but of all places it is most beloved, to all nations it is most endearing. There we are with our dearest friends and earliest and nearest connections, there we are with those we love, with those whocare for and protect us. "Home! sweet home!" What an ocean of words of love, of friendship, of endearment can be expressed in this simple phrase. What man, woman or child doés not revere home, does. not think of it with tenderness. Whether it be in a princely mansion or a hut in the wilderness, " Be it ever so humble,there is no place like home."

> "There blend the ties that strengtheu Our hearts in hours of grief, .The silver links that lengthen Joy's visits when most brief."

From the commencement of our career until we have arrived at the age of discretion, we are directly under
home influences. From the time we are taught to lisp the word mother these influences either tend to direct aright our pathway in life or to prove our ruin. It is at home we learn obedience-that one great virtue. Every man, from the highest to the lowest, has to obey in some measure. Disobedience has been the downfall of man. Had not Eve plucked the forbidden fruit,this would have been a paradise. There would have been no sin, no pain, no sorrow, all happiness. The poet Wordsworth says, "The child is father of the man," and if home makes the child it must also make the man. The greatest influence at work at home is that of a mother. Although the words of the father have great power, yet the gentle, loving accents of the mother reign supreme. Children are naturally loving creatures, and if they find their love at home not returned they will bestow it elsewhere, perhaps rest it on some unworthy object whose influence will work them much evil. To avoid this, the mother must strive to make home their chiefest joy, obedience a pleasure, and must in every way study their present happiness, instil virtue in their minds and make plans for their future development and ultimate prosperity. A great deal then depends upon the pains taken by the mother for the benefit of her children. She has been entrusted by the Almighty with the lives of one or more little, innocent creatures, she has undertaken the duty of bringing them up in the path of righteousness, and her inability or failure to do this may lead to most serious consequences. "If a child is brought up and put on the right track, he will ne'er depart from it, but the slothful
and the ignorant will turn aside and be lost." "The right road only is straight and narrow, the wrong crooked and wide." To illustrate the love of the mother for her children, we cannot do better than quote the words of Benjamin West, the great painter, who said, "His mother's kiss made him a painter." Can we doubt then that home is the place where the greatest influences are at work, where thoughts are instilled in our minds which continue there throughout our whole career. Though outside influences have grea $i$ power over us, yet none can equal those exerted at home.

There is no person in this wide world who does not look back and think with tenderness of his childhood, of the home of his youth. There is no man or woman living who does not respect its many sweet memories, childish pleasures and blessed attachments that bind them to their native hearth. Be he king or peasant, the ties that bind him to home are so strong that nothing can efface them from his memory. The very thought of home has the power to move the proud man, to check the downward path of the drunkard, the liar and the thief. If men would remember all the good they learned when as children they gathered around the table, in the family circle, and listened to the words of the gospel, how much crime would be undone, how many fewer criminals there would be in our prisons, how much better and wiser would be the people, how much greater would be our "Fair Canada." If those principles we then upheld had been used to smooth our pathway in life, thousands of the lives and souls of our fellow-creatures would have been saved, hundreds would have turned out great and greater men; how much wrong would have been undone ? It would have proved the salvation of our country.
When men, we feel we are being led away from the path of righteousness, let us throw our thoughts back to our
youthful home, to the principles we held when beginning our onward career, to those principles which were instilled in our minds by the counsels of a good father, by the gentle admonitions of a mother.

> "Let no mean hope your sou's enslave ; Be independent, generous, brave! Your father such example, gave, And such revere ! But be admonished by his grave, And think, and fear!"

Home, kindred, friends. How dear the words, how reverently they are spoken by the wretched outcast who is exiled from his native country, who is forced to live a life of bondage and misery in a strange land, where he is alone, unfriended, perhaps despised and ill treated. Then it is that many a thought is directed to home, that many a tear of sorrow and repencance is shed and many a thought given to his beloved friends and kindred far away in his own dear native country. Many a cruel taunt and cowardly blow are patiently and bravely endured for the sake of those loved ones, and many a miserable exile's life is sared by thoughts of home. The hope that he will once more see his native land has buoyed him up through many a fit of dejection and many a peril. His cherished wish is to be once more at home-that he may see the old beloved faces, that he may hear them speak and hear them express their joy at his return. Then he will be happy, then he will be content to die. Oh! the spells of home, far greater are they than other socialities, they bind us to our country, they bind us to our honor, they are everything.

We will now peep through the bars of a prison cell. In the cell is a man steeped deeply in crime, who has offended the laws of his country and rendered himself despicable in the sight of his fellow-creatures. Let us take a peep at this man, this convict, and in his face we think we see all that is sinful, we think we see the hard morose countenance of a man into whose heart no
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good can ever penetrate. But lo! he is weeping, the strong frame of the supposed hardened wretch is shaking with suppressed sobs. What can have produced this change, what could so have worked upon his better feelings, for no strong man weeps without a just cause. Aye! he has just cause for such emotion. For though a convict and in a convict cell, he was once as pure and innocent as the sweetest babe, he once had a home the thoughts of which are now pressing themselves on his crowded brain. There is a voice whispering to him of that home and calls to his memory the time when temptation and sin had not claimed him as their victim, when he was young, bright, happy and innocent and the hand of time and the bitterness of the world had not yet attempted to mar the sweet pleasures of his youth and break up the peace of a home unequalled in heavenly virtue. He is thinking of his father, of his mother, of his brothers, of his sisters. His better nature is aroused, Satan is for the time put to flight and the gentle voice of God's messengers is whispering in his ear. They are appealing to him by the memory of his younger days, to repent and reform; and they call to his mind memori $\cdot$ of a mother, who is now mouldering in the cold grave, whose parting words to her son when dying are ringing in his ears. Her careful training has at last been rewarded. The words of the good, kind, patient mother are flowing with overwhelming force through the excited brain of the ex-convict, for though a convict in the sight of man, he is not so in the sight of God, he has been redeemed, redecmed through spells of home.

Let us take the farmer and his life. Of all occupations, his is the most pleasant and fruitful. Of all lives, his is the happiest. Away from the toil and moil of a bustling throng of a crowded city he lives a life of freedom and breathes the pure country air. He is beholden to no man. He tills his land, tends his cattle, and earns his
sustenance by honest toil. He rises with the sun and labors till its setting, with the blessed blue of heaven above him, the green fields of corn, the tall trees waving in the summer breeze and the sweet singing of the summer birds. The greatest works of nature are immeasurably around him spread. Who can but envy the farmer's life? Away with works of art. God made Eden Adam's home. In it were no works of art, only nature, the art of God alone. Man built the city, God made the country. The city abounds in art, the country in nature. The true farmer would not exchange his simple honest life to don a kingly crown, he would not change his home for the lordly realms of the great, he would not barter his happiness for gold. We find that the most renowned orators, the most brilliant statesmen, and the boldest warriors the world has ever seen, who have fought nobly in their country's cause and are unable longer to stand the toil of public life, retire to the country and there end their woeful career in peace and happiness. Cincinnatus the Roman Dictator who delivered his country from the Æquians, carried back the golden crown. with which his countrymen awarded his skill and valour, back to his rustic home, and settled down again to the humble toils of a rural iife.

Men who are public favorites, who have publicly shown themselves to be true minded, and are considered as of the genuine stamp, are often found to be regular tyrants at home. They are often found to be stern and severe to their relatives, tyrannical to their inferiors and unmanly in private life. Many of these shining stars of society are perfect brutes at home. Their honeyed smiles and smooth words are merely the cunning of the man, and the mind is merely prepared to hide the guilty interior by fine words and dress. To know a man's character perfectly, we must take him at home as well as in public life, and if we find him thegentleman there, if we find him respected
there, and not feared, we may feel assured that he is of the right character, that he is in every way worthy of our consideration and deserving of our greatest respect. He is as Eliza Cook describes him :
" He wounds no breast with jeer or jest, yet bears no hongyed tongue,
He's social with the grey-haired one and merry with the young;
He gravely shares the council speech and joins the rustic game,
And shines as mature's gentleman in every place the same."
While on the other hand the public may misjudge a man. His success in public life issmall. He is either deemed a fool, a rogue, or no notice whatever is taken of him. This damps the spirit of many an honest man who is striving hard to make his way in the world, who even if unable to make his way among the public still, shines as a man and a gentleman in his home circle, still is loved and respected there.

Can we picture to ourselves the delight of the schoolboy on returning fome from college We can see his ruddy face light up with love and pleasure when his paternal roof appears in sight. How eagerly he leans forward aṇd hails with joy the many familiar spots where he is wont to play when at home. With what affection he returns the fond, loving caress of the mother, the warm welcome of the father and the loving greetings of his brothers and sisters. Safe at home and under its protection, with the addition of a hearty supper which makes the schoolboy's eyes water, he is enabled to sive an account of his school-life with its joys and ills, and the many little battles he had to overcome. We notice the proud glance of the sire, the gentle loving eye of the mother, and the wonderments and delight of his brothers and sisters at the tale he reveals. But first among his pleasures and woes seem to be thoughts of home, the schoolboy's paradise.

We, in our native country are surrounded by people of our own national-
ity, but there are many in our midst who are foreign to us, whose native language we are not familiar with, whose homes are many thousands of miles away. We may find them agreeable acquaintances and good friends, we may make them love us but it is impossible to make them feel a deep interest in our country's cause. From him whose home is in a foreign land, the country of their birth, we ever hear the praise of that land, the many virtues which it possesses, the many attachments which render it so dear to him, and among these adherences we hear the glory of a home. In fact his home appears to be his chief delight, and we can detect the tender and the soft light of love in his eye when speaking of it. What can be a better example of the above than the little' Italian Savoyard boys who play on their violins and sing for our amusement, and those who can understand their language hear them pour forth in song and music such strains as,

> Italia! Italia! Swect homeacross the sea, Poor wanderer on a distant shore, My heart is still with thee.

> Italis ! Italiá! 0 for thy golden strand ! 0 for thy sky of softest blue, My own dear native land!

God bless our liomes, and heaven's choicest blessings descend on the head that has made them so dear to us. It is at liome that we first experience the love of a mother, for what can equal the mother's ever undying devotion to her child. How many sleepless nights, how many nights of agony and woe she has spent over the sick bed of her child, and can we count the many silent prayers she has offered up to the Almighty to spare her helpless child. How often has she denied herself of many pleasures and deprived herself of many comforts for his sake. God alone knows how she has striven to make him happy, to provide him every comfort to make him happy, and to lead him in the path of virtue. All her thoughts are centered
in her boy. He is her hope, her pride, her joy and comfort.
"The sharpest of pain, and the saddest of woes, The darkest, the deepest of shadows might come Yet each wound had its balm, while my heart could repose
On the heart of a mother, the star of my home!"

But there is still another home, a home above us, a home in the heavens where the Almighty sits on a golden lurone with his legions of angels around him. A home where the good shall live forever and ever and the weary and penitent shall be at rest.

## YOUTH'S DREAMS.

How bright the untried future seemed,
When years ago we sat and dreamed,
In youth's sweet morning hours ;
With not a thought of weary pain, Which riper years bring in their train, To blight Hope's fairest fowers.

With eager eyes, yet half afraid, We scanned the time then just ahead, When happy girlhood o'er; School-days all past, books thrown aside, We'd launch our barque upon Life's tide And unknown shores explore.

Those years rolled on, we have attained To womanhood; those heights are gained

Which once seemed far away:
Do hopes in full fruition lie ?
No, they were only born to die-
Frail blossoms of a day.
Oh! we have learned that human life, Is one of care, and pain, and strife:

That only now and then
A sunbeam o'er our path will stray To cheer awhile our darkened way,

Then quietly fade again.

## SCHOOL ADVERTISEMENTS.

FEW of our readers, probably, have devoted much attention to that species of literature known as School Advertisements, as effusions of this character are, from their nature, dry, uninteresting and repellant to the ordinary reader, abounding as they do with references to examinations, success of students, and details incidental to scholastic affairs. These advertisements though neglected by the general public are yet perused by the prospective student who carefully cons over the announcements of the various schools for the purpose of selecting the one best suited to meet his requirements. As the period for the re-appearance of these advertisements is close at hand, we propose to investigate the character of some of those that have heretofore appeared. It is unnecessary in a brief paper like this to enter upon an extended enquiry as to what these advertisements should co:"ain, and what they should not; it will suffice to say that they should contain nothing calculated to mislead, that, in our humble opinion, their most prominent quality should be strict fidelity to truth. From the perusal of some of the advertisements of certain High Schools and Collegiate Institutes we would infer that this opinion is not entertained by their Head Masters, who, actuated, no doubt, by the laudable desire of toning down the uninteresting features of these scholastic announcements, with a view to add some of the lighter graces of style, to invest their subject with a certain poetic interest, have seen fit to adorn their advertisements with embellishments of a fanciful and figurative character in a way that is highly creditable to their literary taste, but that does not betoken any undue concern for truth.

In illustration of these remarks we may point to several of the advertise-
ments that have made their appearance within the last two or three years. Let us refer to a recent one of a certain High School, we read "This school claims to have sent more boys to Toronto University than any other High School in the Province. Some of the successes for 1877 are two gold medals, one silver medal, and at least a dozen first-class honors." Exception might be taken to the first statement as being untrue under its present management, und in regard to the second, we are surely not given to understand that University Medals are awarded to mere High School pupils. We read further about the "excellent location, wellappointed buildings, library, laboratory, museum, military drill, ample facilities for cricket, boating, \&c., convenient to the school." We do not intend to criticise this paragraph too closely; we believe that it does possess a museum of some dried plants and stones undetermined, unnamed, and consequently unknown to the student who would take the trouble of examining them in various out of the way receptacles; and as to where the ample facilities for cricket and boating are to be met with in the vicinity of a school having only a yard of the usual dimensions, situated nearly two miles from the lake, the advertisement is, with characteristic modesty, reticent.

Let us now take up the advertisement of one of our large Institutes. We find there that "since July, 1877 , SEVENTYTWO students of this school obtained second-class certificates. At the late examinations TWENTY-EIGHT passed. ONE HUNDRED AND EIGHT have passed the Intermediate." The unsophisticated reader after perusing the above and making a simple calculation would come to the conclusion that some one hundred and eighty pupils had passed the Intermediate and Second-class exam-
inations. Orie hundred and eighty! What a host! His astonishment would decrease when informed that the seventytwo second-class pupils were included in the one hundred and eight Intermediates, and that the latter is the total number of those who have passed these examinations since their inauguration up to the time when the advertisement appeared.

Another Institute advertises that " at the recent Junior Matriculation of the University of Toronto, this Institute received twelve first-class Honors,-a larger number than was obtained by any other High School or Collegiate Institute in Ontario." It is well known that its best candidates attended this school only a few months, and the assertion that it ranked first in honors at the examination referred to, is not supported by the official record. We notice further that "At the July Intermediate and Second-class Examination, thirtysix obtained certificates, being the largest number passed by any school in the Province." We have only to refer to the school paper, published by the Masters of that Institute, to ascertain that six of the thirty-six were not students of the school during the session ending with this examination, and consequently for whom not a cent of the Government Grant could be obtained by the School. We are also informed that in the town where this Institute is situated, board is twenty per cent. cheaper than in the cities, leading to the inference that whatever may be the deficiencies in the quality of tuition, they are amply atoned for by tlie cheapness of board. If the inhabitants of this favored spot were to publish extensively this great reduction in the cost of living, it could not fail to add immensely to their population, apart altogether from the additional attraction of free tuition in their Institute.

But the palmiest efforts of those Headmasters to whom we have referred are completely thrown into the shade by certain effusions purporting to be
bona fide advertisements of another Western Institute. "From a mind capacious of such things," facts and figures are evolved that do not appear to have any existence outside of the inner consciousness of their originator. For example, we read in an advertisement appearing in September, 1876, that, "Save in one solitary instance, no pupil has ever failed in successfully passing." We are of the opinion that this one solitary instance must be held accountable for a good deal, in view of the wholesale failure of the candidates of this school at the preceding Intermediate Examination. Take a more recent advertisement (Nov. I, 1878), wc there read "The Headmaster would refer to the recent Matriculation Examinations in Toronto University, at which the —— Institute gained more First-class Honors than any other Institution, one pupil carrying off five first classes." We scarch the class-list of Toronto University in vain to find anything bearing out either of the above statements. Then we find the style of advertising varied somewhat, as in an announcement (of this same school) we are informed that "At the Intermediate Examination of July, 1877, this school passed fifteen pupils purely Intermediate ...... and this number stands in opposition to the numbers 5,3 and I on the part of some leading schools." All that need be said with reference to this style of advertising is that it is contemptible for its meanness. We cannot refrain from noticing one more characteristic advertisement (Oct. 1878) emanating from the same source, and in it we learn that, "At the Matriculation Examination in the Toronto University during this year twelve firstclasses and eight second-classes were gained, being the largest number of honors won by any educational establishment in Ontario." Bearing in mind the claim of another Institute to which we have referred with regard to this same examination, we have THEN the edifying spectacle of two Headmasters,
over their own signatures, contradicting not only each other, but also the official returns. Then this advertisement proceeds to narrate the triumphs of its former pupils, recounts how one got a prize in Logic and Metaphysics; another a Medical Scholarship in the third year of his University course; three, wonderful to relate, passed as barristers; one graduated at McGill University with a medal, \&c. The object of all this is no doubt to demonstrate the careful
training its former pupils received in Logic, Metaphysics, Medicine, Law, \&c., or possibly to assure us that the time spent in the above Institute by its former pupils did not render them wholly incapable of passing their professional and university examinations afterwards.

Enough has now been said to call attention to the ad captandun character of some of these school advertisements, and we would like our readers to draw their own conclusions.

## STRUGGLE.

Great strength is bought with pain from out the strife,
From out the storms that sweep the human soul-
Those hidden tempests of the inner life-
Comes forth the lofty calm of self-control.
Peace after war, although the heart may be
Trampled and ploughed like a torn battle-field, Rich are the fruits that follow victory,

And battle-grounds the fullest laurels yield.
Strong grows his arm who breasts a downward course,
And stems with steady stroke the mighty tide
Of his own passions. Sore the wrench may seem,
Yet only he is strong whose strength is tried.
To toil is hard-to lay aside the oar,
To softly rise and fall with passion's swell
Is easier far-but, when the dream is o'er,
The bitterness of waking none can tell.
To float at ease, by sleepy zephyrs fanned,
Is but to grow more feeble day by day,
While slips life's little hour out sand by sand,
And strength and hope together melt away.
He only wins who sets his thews of steel
With tighter tension to the prick of pain;
Who wearies, yet stands fast ; whose patient zeal
Welcomes the present loss for future gain.
Toil before ease-the cross before the crown-
Who covets rest, he first must earn the boon.
He who at night in peace would lay him down,
Must bear his loads amid the heats of noon.

## A STUDY OF MILTON.

JOHN MILTON was a man of vast knowledge, close logic and grand -passion. He possessed a noble selfrespect and high ideal views. In studying his life, we must consider his character in two aspects-as a poet and as a reformer. As a reformer he was concerned with the church, the state, and education. In church matters he was opposed to the government by bishops, like all Puritans, and wished the church to be set upon a Presbyterian basis. In his latter days he was an Independent. In politics he was a Republican, and he wished such a course of education adopted as would make men good citizens, rather than classical scholars. It will be seen that his early life tended to develop such a character. His home was one of peace, piety and comfort. His father was a man of Puritan leanings, and had been disinherited for changing his religion. Milton, knowing this fact, always maintained the rights of conscience and liberty. His mother was a most amiable and charitable woman. His father possessed a considerable fortune, and found his chief pleasure in fostering and watching the genius of his son.

On going to the University, Milton had been destined for the church, and for this purpose he went through the usual course of rhetoric, logic and theology. He did not enter the church, as his great zeal for religious and intellectual freedom could not endure the bigotry of Laud. On leaving college, he spent five years at Horton, in Buckinghamshire, reviewing ancient and modern literature, and enjoying the quiet rural beauty of the neighborhood. Here he wrote L'Allegro, Il Penseroso, Arcades, Cornus and Lycidas. The first two are companion poems: the one contains the cheerfulness of the Cavalier; the other the
thoughtful sternness of the Puritan. In them the principles of the two parties are weighed in the balance of pleasure. His productions during this time are small in volume but exfuisite in quality. "He was thinking of immortality, and the wings are already growing that were to soar above the Aonian mount."

On the death of his mother he obtained his father's permission to make a continental trip with the especial desire of visiting Italy. He went to Par is where he met the learned Grotius, the Swedish Ambassador to France. He then went to Geneva by way of Nice, then to Florence where he met Galileo. He visited Rome and Naples, and was everywhere favorably received by the artists and men of letters. He intended to visit Sicily and Greece, but the outbreak of civil war at home induced him to return. His visit to Italy increased his knowledge, and his desire to leave something so written to aftertimes as they should not willingly let it die.
His life may be divided into three parts :-
I. The first poetic period; ending with his return from the continent in 1638.
II. The prose period; from 1638 to the restoration.
III. The second puetic period; from the restoration to the end of his life in 1674.

During the twenty years of his middle life or manhood, he was a polemical prose writer on behalf of liberty and the Puritan cause. His doctrine of divorce, grounded on four texts of scripture he believed was a part of the true theory of liberty. He held that contrariety of minds or moral incompatibility was a sufficient ground for divorce. He wrote a timely defence of the execution of Charles I. in a pamphlet called "The Tenure of Kings and Magistrates."

For this the council of the commonwealth appointed him Latin Secretary. Besides his official duty of writing Latin letters to foreign kings and ambassadors, Milton wrote a number of pamphlets in defence of the government. "Eikonoklastes" (Image-breaker) was written to counteract the influence of the "Eikon Basilke" (Royal Image), a work written by the friends of Charles I. and purporting to be compiled from his own private papers. It represented him as a saint on his knees during hours of solitude and misfortune. In the matter of the execution he wrote his "Defences of the people of England" against Salmasius a professor of Leyden University, who wrote on behalf of Charles II.

His blindness, the great calamity of his life, came on in I652 though hissight began to fail in 1644. He sacrificed his sight to the "noble task" and says he did it in the spirit of Achilles who preferred honor to life.

The Restoration came in 1660 ; his obnoxious writings were burned by the hangman and he himself was constrained to hide. His second poetic period lasts for fourteen years.
"Paradise Lost" had been begun in 1658 when the nation seemed entering on a long peace. The greater part of it was written in the time of Charles II. If any one will consider the anti-Puritan manners, morals and literature of this reign he will not be surprised that Milton should say he was born an age too late. He looked back to the national pride and literary activity of Queen Elizabeth, when the Armada was driven away by Divine Providence. Besides being a time of great spiritual and literary degeneracy the reign of Charles II. is noted for the rise of ma: thematical and physical. science. Sir Isaac Newton was born in I642, and the Royal Society, dates from 1662. Even Charles himself studied science. Milton says of this period:-

[^0]It will-be seen that the poetry of his second period differs from that of his first, which has a wealth of mythology, fancy and nature, in being more learned, in having greater length and therefore greater dignity; in dealing with subjects of historic interest. In fact the effects of twenty years prose writing.are seen in this period. It is natural that such should be the case. Poetry.requires the exercise of the imagination and the results of the imagination depend upon the character and contents of the mind.

It would be useless if not impossible to detail the beauties of "Paradise Lost." They should not be accepted second hand. It is one of the world's masterpieces and to be properly appreciated needs to be read often. No one catches the spirit of Homer on the first reading. The difficulties with regard to the idioms and the references will disappear, and the wondrous beauty of the thoughts will be realized.

It will be seen that Milton and his great work were , peculiarly fitted to each other. An artist's reputation depends in some degree on the choice of his subject, and Milton's subject is one of the greatest that canengage the mind of man. The work he had in view was "not to be raised from the heat of youth or from the vapors of wine, nor to be obtained by the invocation of Dame Memory, but by devout prayer to that Eternal Spirit who can enrich with all utterance and knowledge." He had grand ideal views, and his nature was morally sublime; he had nething in common with the society of the time of Charles II.; he was blind; he had great learning, both classical and theological, and •was therefore driven to communion with objects and intelligences that were unseen. He adopted the Biblical account of the creation, but expanded it, and his powerful intellect enabled him to keep within the bounds of true philosophy.

On the other hand he lacked humor and levity, and the power of delineating
such characters as would be suitable to a story, and these, the nature of the subject precluded. With regard to what he could do and what he could not do, Milton was fitted for his subject.

According to Addison, "The moral of." Paradise Lost" is that obedience to the will of God makes men happy, and that disobedience makes them miser-
able. Besides this great moral which may be looked on as the soul of the fable, there are an infinity of under morals which are to be drawn from the several parts of the poem, and which make this work more useful and instructive than any other poem in the language."

## LATIN GRAMMAR QUESTIONS ON EXAMINATION FOR ASSOCIATE IN ARTS AND SCHOOL CERTIFICATE. McGILL .UNIVERSITY, MONTREAL, MAY, 1879.

(1.) Render into good English: (a) Natus est loco nobili ; (b) Quaestio legitima; (c) Quum praetextatus tum esset; (d) Resignare testamentnm ; (c) Ad aerarium delatus est; $(f)$ Audiebatur a M. Emilio (explain allusions to ancient usages in (c) and (d.)
(2.) Derive and translate the words: Acroama, tropaea, simulacrum, vinculum, exsilium, apricus, penitus,contagia, tegmen, praesepe, culmen, solstitium.
(3.) (a) Write down (1) The English; (2) the genitive singular; (3) the gender of:-ros, palmes, caespes, lac, frons (a leaf), vellus, (b) Compare:-Malus nequam, uber, ultra, tenax, prope; (c) Name the several classes of numerals, and give the Latin for 13,23 rd seven apiece, a hundred times; (d) Name, giving one example of each, the various classes of pronouns. When do you use vestri and vestrum (genitive) ?
(4.) Turn into Latin:-(1.) He conducted himself as a citizen at Antioch; (2.) He came to Rome in the consulship of Marius and Catulus ; (3.) Hostages having been received he crossed the river; (4.) He continued to live at Rome for many years and died there; (5.). He was slain by the enemy.

ANSWERS.
(x.) (a.) He was born of honorable
parentage ; (b.) A matter strictly legal ; (c.) Although he was at that time a mere youth; (d.) To open a will (to ascertain its contents); (e.) His name was carried to the public treasury i.e. He was made honorable mention of to the home government; (f.) He (in his recitals) was listened to by Marcus Æmilius.

Praetexiatus.-The toga praetextatus, at once recognized by its broad hem of purple, was worn by the Roman youth who had passed the limits of infartia, but had not yet attained to pubertas for then he assumed the toga virilis. The youth clad in the praetexta was styled a practextatus.

Resignare testamentnm.-The testamentum was usually deposited with a friend or in some temple for safe-keeping. On the death of the testator and the acknowledgment of their signatures by the witnesses, the will was.opened (resignare testamentum) and read, a copy taken and the original deposited in the Archium.
(2.) Acroama, Gr. akroama, akroamai; (r.) "A musical or otherwise entertaining recital" ; (2.) " A reciter," "a performer."

Tropaea, tropaeum Gr. fropaion, trope, trepo; "trophies."

Șimulacra, simulacrum, simidis, simul
(Gr. homos and hama) and a-crum, images."

Vinculum-vincio; "a bond."
Exsilium-usually derived from ex, and solum, but also ex, and root 'sol' (solium) =" sed" as in sedeo ; 'exile.'

Apricus. $=$ Apericus, aperio, from $a b$ and pario ; "sunny."
Penitus root 'pen' as in Penates; "deeply," "wholly."

Contagia-cantagium for contagio from con and root 'tag' as in tango Gr. thiggano ; "infectious diseases."

Tegmen, for tegimen from tego, Gr. stego and 'men'; "covering."

Culmen, for columen, akin to collis, Gr. kolone and 'men.' The root is 'cel' as in celsus; " the summit."

Solstitium-sol, and sisto (sto) ; "the solstice," generally the summer.
(3.) (A) (a) Ros, dew, roris, masc ; (b) palmes, a branch, a shoot, palmitis, masc; (c) caespes turf, caespitis, masc: (d) lac, milk, lactis, neut ; (e) frons, a leaf, frondis, fem; $(f)$ vellus, a fleece, velleris, neut.
(B) (a) Malus, pejor, pessimus ; (b) nequam, nequior, nequissimus; (c) uber, uberior, uberrimus ; ( $d$ ) ultra, ulterius, ultime ; (e) tenax, tenacior, tenacissimus; (f) prope propius, proxime.
(C) Numerals comprise two classesnumeral adjectives and numeral adverbs. Numeral adjectives are further classified into : (I.) Cardinal numbers; (2) Ordinal numbers; (3) Distributives. Two other classes, Multiplicatives and Proportionals are sometimes added. 13, tredecim or decem et tres; 23rd, vicesimus tertius; 7 apiece, septeni ; (4) Classes of Pronouns; (a) Personal Pron Ego, I; (2) Possessive-tuus, your ; (3) Demonstrative, hic, this ; (4) Relative, qui, who ; (5) Interrogative quis, who; (6) Indefinite, quidam, certain one.

Vestrum is common in a partitive sense, otherwise vestri is the usual form.
(4.) ( I ) Antiochiae se civem gessit; (2) Romam consule Mario et Catulo venit or Romam consulibus Mario Catuloque venit ; (3) Acceptis obsidibus flumen transiit; (4) Romae multos
annos vivebat et ibi obiit ; (5) Ab hostibus interfectus est.

## LATIN PROSE. <br> MATRICULATION EXAMINATION, TORONTO UNIVERSITY, $186_{3}$.

Lævinus, when he heard that the Saminites were approaching, having given up the siege of the city which he was attacking, having merely ravaged the lands, departed to his winter quarters, and returned into Apulia. The ravaging of the sea coast called off the Lucanians also from that place. The King of the Illyrians, having entered the bay with sixty vessels, was devastating the maritime parts. The siege of the citadel, also, was succeeding but badly for the Romans; although they had laid bare a considerable portion of the temple, by battering the walls in several places, they were not able to penetrate, for with equal speed a new wall was presented, instead of that destroyed, and armed men, standing on the ruins, were like a fortification.

Lavinus, ubi appropinquo Samnis audio, omitto obsidio urbs, qui oppugno, depopulor, tantum ager, hiberna excedo, atque in Apulia redeo. Et Lucanus inde avoco populatio maritimus ora. Illyrius rex, cum sexaginta navis simus inveho, maritimus vasto. Arx obsidio Romanns parum procedo ; quamquam, plus locus quatio aries murus, aliquantum templum nudo, non tamen penetro possum. Nam et par celeritas novus pro dixuo murus objicio, et armatus, ruina supersto, instar munimentum sum.
Lævinus ubi appropinquare Samnites audivit omissa obsidione urbis quam oppugnabat depopulatus tantum agros hibernis excessit atque in Apuliam rediit Et Lucanos inde avocavit populatio maritimae orae. Illyriorum rex cum sexaginta navibus sinum invectus maritima vastabat. Arcis obsidio Romanis parum procedebat ; quamquam pluribus locis quassis ariete muris aliquantum templi nudaverant, non tamen penetrare potuerunt, nam et pari celeritate novus pro diruto muro est objectus et armati ruinis superstantes instar munimenti erant.
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BILLS of Exchange and Promissory Notes are called negotiable instruments by mercantile men, because the legal property secured by them is transferrable from one man to another by delivery after having been endorsed if necessary.

A Bill of Exchange is a written order for the payment of a certain sum of money unconditionally; the person making this order is called the drawer; the person, or persons to whom addressed, the dravee, and if he accept it the acceptor; he to whom it is made payable, the payee

A Promissory Note is a written promise to pay a certain sum of money unconditionally and requires only two parties namely: the maker, and the payee, to whom the instrument is made payable.

A bill or note is called inland when made and payable in this country; foreign when made payable abroad.

No particular form of words is necessary to constitute a bill or note, and if its designation is doubtful, it may be treated as either, provided it fall within the definition given above, that is to say it must be either a promise or an order to pay a certain sum of money. If conditions are embodied in the bill or note it ceases to be such, and is more properly an agreement, nor will contemporaneous parole agreements ever be admitted to vary its terms in the hands of bona-fide holder for valuable consideration who has no notice or knowledge of fraud in relation thereto. If a word be fraudulently introduced into a negotiable instrument for the purpose of destroying its legal proportions, it will have no effect, as for example, where the maker of a note commences thus: "I promise not to pay." he is still liable.

The amount of the bill or note is frequently expressed in figures at the left
hand side, and should a difference occur in the writing in the body of the note, the written words will prevail.

According to a recent act of the Parliament of Canada, the stamp is a necessary part of negotiable instruments, being one cent for amounts varying from $\$ 25$ to $\$ 50 ; 2$ cents for $\$ 50$ to $\$ 75$; 3 cents from $\$ 75$ to $\$ 100, \& c$., without the stamp it is a nullity, and cannot be given in evidence, even as an admission of a debt from one of the parties to the other.

The omission of the date will not vitiate the instrument, which would then simply date from the time of making.

If a particular place for payment is mentioned in the note, it must be presented at that place for payment when due if you intend to hold parties liable who are only secondarily liable, such as drawers or endorsers. If no time for payment is mentioned, it is payable on demand.

The bill or note may be made payable to an individual or bearer or order. When an individual is mentioned a mistake in his name is of no importance if it be sufficiently understood who was meant. If an instrument be made payable to a person, without further words, it will not be negotiable ; if payable to a person or order it will require endorsement ; if payable to a person or bearer it will be transferrible by delivery and will not require endorsement, yet for the purpose of obtaining additional security it is always better to have the endorsement of the transferrer.

The name of the maker or drawer must be inserted or subscribed by himself or his agent, but there must be no uncertainty either about payee or maker or draver, thus a note must not be signed A. B., or else C. D.

The parties to a bill or note must be such as are capable of entering into any
other kind of contract. An infant, that is a person within the age of $2 I$ years, cannot be a party to such instrument, yet an infant may be the legal agent of one competent to contract, and as such may sign a note or other document so as to bind a principal, but in such case the infant is not a party, but only the agent of a party. An infant can enter into a legal contract with an adult and enforce his contract, but on the other hand an adult cannot enforce the contract against the infant without the consent of such infant.

There are two kinds of endorsements, namely :-blank and special. A blank endorsement is where the party to whom the instrument is payable simply writes his name across the back, which renders the bill or note negotiable by delivery. A special or endorsement in full is where the payce orders the proceeds to be paid to a person named by such endorser. An endorsement may be so worded as to restrain the negotiability of the instrument, and is then called a restrictive endorsement, thus:-"pay the conients to I. S. only." The proper time to transfer a bill or note is before it becomes due, if negotiable after it becomes due the holder $\mathfrak{i} a k e s$ it subject to all the equities
with which it was encumbered, however, it is negotiable after it is due subject to the above.

The person to whom a bill is addressed, or in other words, the person drawn on, should accept, which is done by his writing the word "accepted" across the face of the bill and signing his name under it. This acceptance may be absolute or conditional, absolute when in accordance with the tenor of the draft, conditional when varying from it.

Every holder of a bill or note should present it in due time for acceptance if necessary, and in all cases for payment, and give notice of dishonor to any party who would be entitled to bring an action on it after paying it. If he should omit any of those particulars, such parties will be discharged. The maker or acceptor is not entitled to presentment unless the instrument be either payable at or after sight or be made payable at some particular place. In all cases in which it is sought to charge the endorser or any party who would have a right to bring an action on it after paying it, the instrument must be duly presented to the maker or drawee. The presentment must take place notwithstanding the insolvency or bankruptcy of the party.

## EXAMINATION IN CHEMISTRY.-FIRST-CLASS CANDIDATES. MAY, 1879.

1. Describe fully Nessler's Test for Ammonia. Give tests for Sulphurous, Chloric, Hydrochloric, and Nitric Acids.
2. A solution contains Potassic Chlorate and Potassic Chloride ; a precipitate of 2.87 grammes of Silver Chloride is produced when Silver Nitrate is added and separated by filtration; the remaining solution is acted on by nascent Hydrogen, when a further precipitate of 0.359 grammes of Silver Chloride is produced by Silver Nitrate. Calculate the amount of Potassic Chloride, and Potassic Chlorate present.
3. Write equations for the manufacture of Carbonic Oxide, Nitric Oxide, Iodine, Bromine, Chlorine.
4. Describe the manufacture of "Bleaching Powder", giving equations. Explain fully its bleaching power.
5. 560 litres of Chlorine act on slacked lime what weight of "Bleaching Powder" is produced ?
6. II20 litres of Hydric Sulphide at $15^{\circ}$ c. and 720 m . m. pressure are required; how much Ferrous Sulphide will just yield this quantity. What weight of Oxygen would be required to burn up the above gas?
7. Describe the preparation of Coal-gas; what is its composition ; name the principal waste products of the decomposition of coal by destructive distillation.
8. Represent by equations; (a) the reaction between Bone-ash and Hydric Sulphate; (b) the manufacture of Phosphorus.
9. How much Bone-ash would be required to produce 3Io kilgrammes of Phosphorus, making no allowance for waste.

## SOLUTIONS TO THE ABOVE QUESTIONS.

I. Nessler's test for Ammonia consists of a solution of Potassic Iodide saturated with Mercuric Iodide, and added to a strong solution of Potassic Hydrate. This solution produces a reddish precipitate with solutions of Ammonia or any of its salts. If only traces be present a yellowish coloration of "Tetramercurammonia Iodide" ( $\mathrm{N} \mathrm{Hg}_{3}$ I) will be produced. Nessler's test is so delicate that it will detect one part of Ammonia in many thousand parts of water.

Sulphurous Acid is recognized by its producing a white precipitate with Baric Chloride soluble in Nitric Acid, and by producing a white precipitate with Argentic Nitrate which turns black on boiling.

As all Chlorates are soluble in water, it is necessary to reduce Chloric Acid ( $\mathrm{H} \mathrm{ClO}_{3}$ ) to Hydric Chloride ( H Cl ), by means of nascent Hydrogen liberated from Hydric Sulphate by Zinc, and then test for (H.Cl.) Hydric Chloride.

Hydrochloric Acid or Hydric Chloride produces a white flocculent precipitate (Ag. Cl.) with Argentic Nitrate, which is soluble in water.

Nitric Acid is easily detected by adding strong Hydric Sulphate, and then adding slowly drops of solution of Ferrous Sulphate, when brown rings will be produced on the surface-these will disappear on the liquid being shaken.
2. Argentic Nitrate precipitates only the Chloride.

$$
\begin{gathered}
\mathrm{K} . \mathrm{Cl} .+\mathrm{Ag} \cdot \mathrm{~N} \cdot \mathrm{O}_{3}=\mathrm{K} . \mathrm{N} \cdot \mathrm{O}_{3}+\mathrm{Ag} \cdot \mathrm{Cl} . \\
(39+35 \cdot 5)+(\mathrm{IO}+\mathrm{I} 4+48)=\underset{\mathrm{I}}{(39+\mathrm{I} 4+48)}+\underset{\mathrm{IOI}}{(\mathrm{IO}+35 \cdot 5 \cdot)}+\mathrm{I} 43 \cdot 5
\end{gathered}
$$

From this equation we see that I43.5 parts Ag. Cl. correspond to 35-5 of Chlorine or to 74.5 of Potassic Chloride (K. Cl.) ; therefore, 2.87 grammes of Silver Chloride, the precipitate from the solution of Chloride, would, by proportion, correspond to I .49 gram of (K. Cl.) Potassic Chloride.

Now the Potassic Chlorate ( $\mathrm{K} . \mathrm{Cl}, \mathrm{O}_{3}$.) is reduced to the Chloride ( $\mathrm{K} . \mathrm{Cl}$.) by nascent Hydrogen.

$$
\begin{aligned}
& \mathrm{K} . \mathrm{Cl} . \mathrm{O}_{3}+3 \mathrm{H}_{2} \\
&=\mathrm{K} . \mathrm{Cl} .+3 \mathrm{H}_{2} \mathrm{O} . \\
&(39+35.5+48)+6=(39+35.5)+3(2+16 .) \\
& 122.5+6=74.5+54 .
\end{aligned}
$$

From this equation it is seen that every 74.5 parts of Potassic Chloride, (K. Cl .) correspond to $\mathbf{1 2 2 . 5}$ parts of Potassic Chlorate, ( $\mathrm{K} . \mathrm{Cl}_{3} \mathrm{O}_{3}$ ). Above, it is found that 143.5 of Ag . Cl. correspond to 74.5 of $\mathrm{K} . \mathrm{Cl}$., therefore, 143.5 parts of $\mathrm{Ag} . \mathrm{Cl}$. correspond to 122.5 parts of Potassic Chlorate, ( $\mathrm{K} . \mathrm{Cl}^{2} \mathrm{O}_{3}$ ); therefore 0.359 grammes of Ag. Cl. precipitated represents 0.306 grammes of Potassic Chlorate K. Cl. $\mathrm{O}_{3}$ in the original solution.
3. (a) Oxalic Acid + Hydric Sulphate-
$\left(\mathrm{C}_{3} \mathrm{O}_{3}, \mathrm{H}_{2} \mathrm{O}.\right)+\mathrm{H}_{2} \mathrm{~S} . \mathrm{O}_{4}=\mathrm{C} . \mathrm{O} .+\mathrm{C} . \mathrm{O}_{2}+\left(\mathrm{H}_{3} \mathrm{O}+\mathrm{H}_{3} \mathrm{~S} . \mathrm{O}_{4}\right)$ The mixed gasses are passed through a solution of Potassic Hydrate ( K . $\mathrm{H} . \mathrm{O}$.) when the $\mathrm{C} . \mathrm{O}_{2}$ (with a little C.O.) is absorbed, leaving pure Carbonic Oxide, C. O.
(b) Copper + Hydric Nitrate $=$ Cupric Nitrate + Water + Nitric Oxide. $3 \mathrm{Cu} .+8 \mathrm{H} . \mathrm{NO}_{3}=3 \mathrm{Cu} .\left(\mathrm{NO}_{3}\right)_{2}+4 \mathrm{H}_{3} \mathrm{O}+\mathrm{N}_{2} \mathrm{O}_{2}$.
(c) $\mathrm{Mn} . \mathrm{O}_{2}+2 \mathrm{~K} . \mathrm{I} .+2 \mathrm{H}_{2} \mathrm{~S} . \mathrm{O}_{4}=\mathrm{Mn} \cdot$ 'S. $\mathrm{O}_{4}+\mathrm{K}_{2} \mathrm{~S} . \mathrm{O}_{4}+2 \mathrm{H}_{2} \mathrm{O}+\mathrm{I}_{2}$.
(d) $\mathrm{Mn} . \mathrm{O}_{2}+2 \mathrm{~K} . \mathrm{Br} .+2 \mathrm{H}_{2} \mathrm{~S} . \mathrm{O}_{4}=\mathrm{Mn} . \mathrm{S} . \mathrm{O}_{4}+\mathrm{K} 2 \mathrm{~S}_{2} \mathrm{O}_{4}+2 \mathrm{H}_{2} \mathrm{O}+\mathrm{Br}_{2}$
(e) $\mathrm{Mn} . \mathrm{O}_{2}+2 \mathrm{Na} . \mathrm{Cl}+2 \mathrm{H}_{3} \mathrm{~S} . \mathrm{O}_{4}=\mathrm{Mn} . \mathrm{S} . \mathrm{O}_{4}+\mathrm{Na}_{3} \mathrm{~S}_{4} \mathrm{O}_{4}+2 \mathrm{H}_{2} \mathrm{O}+\mathrm{Cl}_{2}^{2}$ and $\mathrm{Mn} \mathrm{O}_{2}+4 \mathrm{H} . \mathrm{Cl}=\mathrm{Mn}_{3} . \mathrm{Cl}_{2}+2 \mathrm{H}_{2} \mathrm{O} .+\mathrm{Cl}_{2}$.
4. Chlorine gas is passed through slacked-lime and is absorbed. The reaction is represented by

2 Ca . O., $\mathrm{H}_{2} \mathrm{O} .+4 \mathrm{Cl}=\mathrm{Ca}. \mathrm{Cl}_{2}+\mathrm{Ca} . \mathrm{Cl}_{2} \mathrm{O}_{2}+\mathrm{O}_{2}+2 \mathrm{H}_{2} \mathrm{O}$., the whole forming a dry powder called Bleaching Pozder. It is only the Calc̣ic Hypochlorite $\mathrm{Ca} . \mathrm{Cl}_{2} \mathrm{O}_{2}$ that serves the purpose of bleaching.

Bleaching powder has liberated only the presence of an acid, free Hydric Hypochlorite (H. Cl. O.) The Calcic Chloride present is inert as far as bleaching is concerned. Now, if we take the Calcic Hypochlorite ( $\mathrm{Ca} . \mathrm{Cl}_{2} \mathrm{O}_{2}$ ) and act on it with Hydric Sulphate, thus:-

$$
\mathrm{Ca.Cl}_{2} \mathrm{O}_{2}+\mathrm{H}_{2} \mathrm{~S}, \mathrm{O}_{4}=\mathrm{Ca} . \mathrm{S} . \mathrm{O}_{4}+2 \mathrm{H} . \mathrm{Cl} . \mathrm{O} .
$$

we get Hydric Hypochlorite H . Cl. O. which is easily decomposed by vegetable colors giving up its Oxygen in a nascent state to bleach the dye, and leaving the H. Cl.
5. 560 litres of Chlorine weigh 1,775 grammes, (iI. 2 litres of Chlorine weigh 355 grammes.)

$$
\begin{aligned}
& 2 \mathrm{Ca} \text {. } \mathrm{O}, \mathrm{H}_{2} \mathrm{O} .+4 \mathrm{Cl} .=\mathrm{Ca} \mathrm{Cl}_{2}+\mathrm{Ca} . \mathrm{Cl}_{3} \mathrm{O}_{2}+2 \mathrm{H}_{2} \mathrm{O} . \\
& 2(40+16+2+16)+142=(40+71)+(40+71+32)+2(2+16)
\end{aligned}
$$

Bleaching Powder is a mechanical mixture of all the substances on the right side of the equation ; then 142 gram. of Chlorine would produce 290 grammes of Bleaching Powder, and 1,775 grammes of Chiorine would yield 3,625 grammes of Bleaching Powder.
6. II 20 litres of Hydric Sulphate, at $15^{\circ} \mathrm{c}$. and 720 m . m. pressure, become

The
charc a gas
there
there
3 IO g or, as needs
$1120\left(\frac{I}{I+\frac{1}{27545}}\right) \times \frac{720}{75}$ or 1005.78 litres at Zero C. and $760 \mathrm{~m} . \mathrm{m}$. pressure.
I1.2 litres of Hydric Sulphate weigh 17 grammes, therefore, 1005.78 litres weigh 1526.63 grammes, the weight of gas required.

$$
\begin{aligned}
& \text { Fe. S. }+\mathrm{H}_{2} \mathrm{S.O}=\mathrm{H}_{3} \mathrm{~S} .+\mathrm{FeS.O} \\
& \left.\begin{array}{cc}
(50+32)+(2+32+64) & =(2+32)+(56+32+64) \\
98
\end{array}\right)
\end{aligned}
$$

34 parts of Hydric Sulphide require 88 parts of Ferrous Sulphide, therefore, ${ }_{S} 1526.63$ grammes of Sulphuretted Hydrogen require 3951.28 grammes of Ferrous Sulphide.

Each molecule of $\mathrm{H}_{2} \mathrm{~S}$. requires three atoms of Oxygen to completely burn it.

$$
\begin{gathered}
\mathrm{H}_{2} \mathrm{~S}+\mathrm{O}_{3}=\mathrm{H}_{2} \mathrm{O}+\mathrm{S} . \mathrm{O}_{2} \\
(2+32)+48=(2+16)+(32+32) \\
34+48=9
\end{gathered}
$$

therefore, evèry 34 parts of $\mathrm{H}_{2}$ S. require 48 of Oxygen, or 1526.63 grammes requirt 2155.24 grammes of Oxygen for cemplete combustion.
7. Coal-gas is made from caking Bituminous Coal by keeping it at a red heat for several hours. The longer the heating is continued with slow caking the more free Hydrogen there will be in the gas. The principal components of Coalgas are Light $\left(\mathrm{C} . \mathrm{H}_{4}\right)$ and Heavy $\left(\mathrm{C}_{2} \mathrm{H}_{4}\right)$ Carburetted Hydrogen, free Hydrogen, Carbonic Oxide, besiaes other Hydro-carbons, Carbonic Acid, etc. The principal products of the cecomposition of coal are water and ammonia, coal-tar, coal-gas, and coke. Coal-tar is a very complex mixture of Hydrocarbons, etc.
8. Bone-ash consists of Tribasic Calcic Phosphate.

$$
\mathrm{Ca}_{3} \mathrm{P}_{3} \mathrm{O}_{8}+2 \mathrm{H}_{3} \mathrm{S.} \mathrm{O}_{4}=2 \mathrm{Ca.S.} \mathrm{O}_{4}+\mathrm{Ca.} \mathrm{P}_{2} \mathrm{O}_{6}+2 \mathrm{H}_{3} \mathrm{O} .
$$

The Hydric Sulphate takes away two-thirds of the lime leaving a monobasic Calcic Phosphate (called Superphosphate).

Phosphorous is prepared by distilling this monobasic Calcic Phosphate with charcoal, when the following reaction occurs, Carbonic Oxide also passing off as a gas. $3 \mathrm{Ca} . \mathrm{P}_{2} \mathrm{O}_{6}+10 \mathrm{C} .=\mathrm{Ca}_{3} \mathrm{P}_{2} \mathrm{O}_{8}+\mathrm{roC}$. $\mathrm{O} .+\mathrm{P}_{4}$.
9. From above, we require-

$$
\begin{aligned}
& 3\left(\mathrm{Ca}_{3} \mathrm{P}_{2} \mathrm{O}_{8}\right)+6 \mathrm{H}_{2} \mathrm{S.}_{4}=6 \mathrm{Ca} . \mathrm{S} . \mathrm{O}_{4}+3 . \mathrm{Ca} . \mathrm{P}_{2} \mathrm{O}_{6}+6 \mathrm{H}_{2} \mathrm{O} . \\
& 3(120+62+128)+6(2+32+64)=6(40+32+64)+3(40+62+96)+108 \\
& 930+588=8 \mathrm{I} 6+594+108
\end{aligned}
$$ therefore 930 grammes of bone-ash yield 594 grammes of monobasic Phosphate.

$$
\begin{aligned}
3 \mathrm{Ca} \mathrm{P}_{2} \mathrm{O}_{6}+10 \mathrm{C} & =\mathrm{Ca}_{3} \mathrm{P}_{2} \mathrm{O}_{8}+\mathrm{IOC.O}+\mathrm{P}_{4} \\
3(40+62+\mathrm{O})+120 & =(120+62+128)+10(12+16)+\mathrm{I} 24 \\
594+120 & =310
\end{aligned}
$$

therefore 594 parts of monobasic Phosphate yield 124 parts of Phosphorous, and 310 grammes of Phosphorous will require $\frac{310}{124} \times 596$ parts of monobasic Phosphate, or, as this corresponds to 930 of bone-ash, the required quantity of Phosphorous needs $\frac{1}{1} \frac{1 \pi}{2} \times 930$ or 2,325 kilogrammes of bone-ash.

## SOLUTIONS TO THE EXERCISES IN TODHUNTER'S EUCLID.

## [Continued fran the April Number.]

162. Let $O$ be the centre of the gn. $O$ and $A$ the gn pt. Join OA and draw a diam BOC $\perp$ to $\mathrm{A} O$ from centre $A$ with rad AC desc a O This shall be the O req.
163. Each of the lines will pass through the cen. of the O by III, 1 cor.

I64. Let $A$ and $B$ be the pts. of section CAD and EBF $\|$ chds. Through $O$ and H the cents. of the $\mathrm{O}^{\text {s }}$ draw MOF and GHK 1 to CD and EF. MFKG is a $\square . \therefore \mathrm{MG}=\mathrm{FK}$ and $2 \mathrm{CD}=\mathrm{MG}$ and $2 \overline{\mathrm{EF}}=\mathrm{FK}$.
 meeting $B P$ in $R$ and $\overline{B N} \| H K$ meeting $A H$ in $N$. Then $A R=B N$ (I. 26) and $\mathrm{DE}=2 \mathrm{AR}, \mathrm{FG}=2 \mathrm{BN}$.
166. In fig. of 165 draw a $\mathbb{I}$ ine $\|$ to $A B$, this line is $=2 A B$ and is $\therefore$ gr. than any other line.
167. Let $A B$ be the diam. $F$ the cen. $D E$ the $\|$ chd. and $\mathrm{Ca} . \mathrm{pt}$. in AF . Join $\mathrm{DF}, \mathrm{EF}$ and draw EH and $\mathrm{DG} \perp$ to $\mathrm{AB}, \mathrm{CE}^{2}=\mathrm{CF}^{2}+\mathrm{FE}^{2}+2 \mathrm{CF}$, $\mathrm{FH} ; \mathrm{DC}^{2}=\mathrm{CF}^{2}+\mathrm{FD}^{2}-2 \mathrm{FGFC} \therefore \mathrm{DC}^{2}+\mathrm{CE}^{2}=2 \mathrm{FB}^{3}=\mathrm{BC}^{2}+\mathrm{CA}^{2}(\mathrm{II} . g$.
168. Join $A B$, bisect $A B$ in $D$ and join $D$ to the cen. of the $O$ cutting oce in $P$ and let $S$ be another pt. then $A^{2}+P B^{2}=2 A D^{2}+2 \mathrm{DP}^{2}<2 \mathrm{AD}^{2}+2 \mathrm{DS}^{2}$
169. Let AB and CD be\| diam, H and K cens. of the $\mathrm{O}^{s}$ and E the pt. of contact. Join HK, $\mathrm{BE}, \mathrm{EC},<\mathrm{BHR}=<\mathrm{HKC},<\mathrm{KCE}=<\mathrm{KEC}$ and $<$ $\mathrm{HBE}<\mathrm{HEB} ; \therefore<\mathrm{HEB}=<\mathrm{CEK} \therefore \mathrm{BE}$ and EC are in the same str. line.
170. The chds. are equally dist. from the cen. and the distance betw. the middle pt. of each and their common pt $=$ radius of smaller $0 \therefore \& c$.
171. Draw it at rt. <s to the line joining the gn. pt. to the cen. Then any other chd thro. this pt. is.nearer the cen. and $\therefore$ gr:
172. Produce the bisecting line to meet the Oce in A. Draw AOB, $<$ NPA $=$ $<\mathrm{APO}=<\mathrm{PAO} \therefore \mathrm{AB} \|$ to PN $\therefore<A O N$ is a rt. $<\therefore$ the bisecting line must pass thro. either extremity of the diam. drawn $\perp$ to the gn. diam.
173. Let O and H be the cens. of the Os AB and AC , join OH and produce OB , HC to meet in $\mathrm{K} ; \mathrm{K}$ in the cen. of OBC. Join DK, EK $\therefore<\mathrm{s} \mathrm{KDB}$, $\mathrm{KBD}, \mathrm{OBA}$ are all $=\therefore<\mathrm{BOA}=<\mathrm{DKO} \therefore \mathrm{OH}$ is $\|$ to DK similarly KE is $\|$ to $0 \mathrm{H} \therefore \mathrm{DK}$ and KE are in the same str. line.
174. The lines joining the cens. form a $\square$ and comm. chd. of $2 \mathrm{O}^{\text {s }}$ is $i$ to the line joining their cens.
175. Let $Q$ bethe cen. of gn. OAB the gn. line and $A$ the gn. pt. Draw $O E$ || to AB meeting Oce in E. Join EA cutting Oce in F. Produce OF to meet $A B$ in $B, B$ is the cen. of $O$ reqd.
176. In fig III I7 prod. TD to meet outer O in IH. Join EH cutting inner O in K join AK for reqd tan. To prove them $=$ use I. 47.
177. From cen. of $\mathbf{O}$ draw a line $\perp$ gn. line and thro. pt. where it cuts $\mathbf{O}$ draw a line || to gn. line.
178. Draw a diam: $\|$ to gn. line and from its extremity draw alline $\perp$ gn. line.
179. Draw a tan. $\frac{1}{\text { this prod. diam: make it the reqd. length, join its end to }}$ cen. of $O$ and where this cuts $O$ draw a tan. this shall cut prod. diam. in reqd. point.
180. They are equally dist. from the cen.

18r. In gn. O place a line $=$ gn. line draw another $O$ with same cen. to touch this line and draw a line thro. gn. pt. to touch this new 0
182. $\mathrm{AC}, \mathrm{BC}$ bisect $<\mathrm{s} \mathrm{A}, \mathrm{B} \therefore \mathrm{CAB}, \mathrm{ABC}=$ one rt. $<\therefore \mathrm{C}=\mathrm{rt} .<$.
183. Draw a line \|gn. line at dist. of gn. rd. and on the side of gn. line remote from gn. $\mathbf{O}$ desc. a $\mathbf{O}$ touching this line and the gn. $\mathbf{O}$ this will be the $O$ reqd.
184. The pt. is the ext. of the diam. $\perp$ to the gn. line.
185. See page 295.
186. Place in one of the gn. $\mathbf{O}$ a line $=$ gn. line and from same cen. draw $\mathbf{O}$ to touch this line; the line drawn to touch the one gn. 0 and this new 0 is the reqd. line.
187. Modify 185.
188. The four sides are formed by 8 tangents drawn from 4 pts. wh. are $=2 \& 2$

189: By 188 one pair of opp. sides $=$ other pair $\therefore$ each side $=$ adjacent side.
190. For if DE do not touch the O draw DF touching the O and meeting AE in $F$; there $D F=D B \div C F$ to each add $F E$; then $D B \div C E=D F+$ FE . But $\mathrm{DB}+\mathrm{CE}=\dot{\mathrm{DE}} \therefore \mathrm{DE}=\mathrm{DF}+\mathrm{FE}$ wh. is absurd.
191. $A B C D$ the $41 ; E$ the centre then each of the $<s A, B, C, D$ is bisected $\therefore$ $\mathrm{EAB}+\mathrm{EDA} \div \mathrm{EBC} \div \mathrm{ECB}=2 \mathrm{rt} .<\mathrm{s} \therefore \mathrm{AED} \div \mathrm{BEC}=2 \mathrm{rt} .<\mathrm{s}$.
192: $\mathrm{AB}, \mathrm{AC}$ radii. prod. $\mathrm{BD}, \mathrm{CE}$ tans. draw fr. BE ; since A is a rt. $<\therefore$ $\mathrm{ABC}, \mathrm{ACB}$ are together $=\mathrm{art}<$ and $<\mathrm{s}$ at B and C are bisected $\therefore$ DBC and BCE $=2 \mathrm{rt} .<\mathrm{s} \therefore \& \mathrm{c}$.
193. AB the touching line $\mathrm{C}, \mathrm{D}$ resply cens. $\mathrm{AE}, \mathrm{BH}$, gn. chds., then $\mathrm{AC}, \mathrm{BD}$ are $\| \therefore<\angle \mathrm{ACE}=\mathrm{BDF} \therefore \mathrm{CAE}+\mathrm{CEA}=\mathrm{DBF}+\mathrm{DFB} \therefore \mathrm{CEA}=$ $\mathrm{DFB} \therefore \& c$.
194. $A B C D, 4^{2} A B$ touching $O s$ in $E, F$ and $D C$ in $G$, II $P Q R$ double tan. touching in $Q$ then $A D=A E, D G$ and $B C=B F, C H \therefore E F+G H=$ dife. and these are resply double PA, QR.
195 Draw DOE from the tan. $\perp \mathrm{AB}$ and COF rad. of $\frac{1}{2} \mathrm{O}$. Then $\mathrm{DE}=$ rad. of $\frac{1}{2} \mathrm{O}=\mathrm{CF}$ and $\mathrm{OE}=\mathrm{OF}$ ( F be gn. pt. of contact) $\therefore \mathrm{OD}=\mathrm{OC}$.
196. $\mathrm{AB}, \mathrm{AC}$ tans. CDE diam, D cent. join BD then $\mathrm{BDC}+\mathrm{BAC}=2 \mathrm{rt} .<\mathrm{s}$ $=\mathrm{BDC}+\mathrm{DBC}+\mathrm{DCB} \therefore \angle \mathrm{A}=\mathrm{DBC}+\mathrm{DCB}=2 \mathrm{DBC}$.
197. AB the diams. $\mathrm{AC}, \mathrm{BD}$ tans. and CD the tan. touching () in E., F cen. join EF,FC, FD then FD biserts EFBD, and CF bisects AFEC $\therefore$ CFD $=$ $1 / 2 \mathrm{ABDC}$, but CFD $=1 / 2$ rect CD, $\mathrm{EF} \therefore \mathrm{ABDC}=\mathrm{CD}, \mathrm{EF} \therefore$ \&c.
198. The line thro. the cen. can easily be shown to be $1 / 2$ sum of \| sides and $\therefore(\mathrm{I} 88)=\frac{1}{4}$ sum of sides.
199. AE the fixed st. line, BE the fixed \| line, AB a line $\frac{1}{\text { to both, } \mathrm{A} \text { the }}$ pt. where Os.touch, C a pt. where one of the $O$ cuts $B \bar{C}, C E D$ a tan. to this $O A D \perp$ to $C D$. Join $A C$, then EA, EC are both tans. and $\therefore=$ $\therefore \angle E C A=E A C=B C A$ and $B$ and $D$ are rt. $\angle \mathrm{s} \therefore A D=A B=$ const. $\therefore$ all such tans. touch a $O$ having $A$ for cen. and $A B$ for rad.
200. Tod. page 306.
201. $\mathrm{CAB} \div \mathrm{CBA}=\mathrm{rt} . \angle=\mathrm{CDE}$, but $\mathrm{CAB}=\mathrm{CDB} \therefore \mathrm{BDE}=\mathrm{CBA}=$ DBE $\therefore \& c$.
202. Hi the cen: join $A C, C H$ then $A C=A F(=H P) \therefore A \in E$ is equilat $\triangle \mathrm{CHA} \rightarrow \mathrm{CEA}=2 \mathrm{rt} .<\mathrm{S} \therefore \mathrm{CED}=\mathrm{CHA}$ and $\mathrm{CBH}=\frac{1}{2} \mathrm{CHA}=1 / 3$ rt. $<\therefore \mathrm{BDA}=\frac{2}{3} \mathrm{rt} .<$.
203.
$\mathrm{A} \div \mathrm{D}$ const. $\therefore \& \mathrm{c}$.
204. By $58 R=1 / 2(P \div Q) \therefore \& c$.
205. $\mathrm{A} S \mathrm{~B}, \mathrm{ADB}$ are constant $\therefore \mathrm{PCQ}, \mathrm{PDG}$, are each const. $\therefore \mathrm{Q} \div \mathrm{P}=\mathrm{const}$. $\therefore Q$ is const.
206. I.et $A . Q$ and $R B$ meet at $D \therefore \angle A D R=\angle P R B-A Q B$ wh. are consts.
207. $<\mathrm{ABO} \div \mathrm{ADC}=\mathrm{ODE} \div \mathrm{ADC}=2 \mathrm{rt} .<\therefore \& \mathrm{~A}$.
208. $\angle \mathrm{BA} \mathrm{C}=\mathrm{BDC}$ (in same seg.) DO is com. $\therefore \& \mathrm{c}$.
209. ABCD the $\square$ then $\mathrm{A} \div \mathrm{C}=2 \mathrm{rt} .<\mathrm{s}$ but $\mathrm{A}=\mathrm{C} \therefore=\mathrm{rt} .<\therefore \& \mathrm{c}$.

2 10. The $<s$ in the segs. extr. to the $\Delta 1$ together with the $<s$ of the $\Delta 1$ are $=$ to $6 \mathrm{rt} .<5$ III. 22 \& ç.
21I. The four ext. <s together with two opp. <s of the quadrilateral $=$ to. 8 rt. <s $\therefore \& c$.
212. From any pt. in circe $\cdot \mathrm{AB}, \mathrm{AC}$ at $<\mathrm{s} 60^{\circ}$ meeting 0 in $B, C$ jöin $B C, B C$ shall divide the $O$ as reqd.
213. Read $30^{\circ}$ for $60^{\circ}$ in 212.

2I4. By 207 a o can be desc. about quadl. $\therefore \& c$.
215. In hex $A B C D E F$ let $A B \| D E$ and $A C \| E F$ join $B E$ then $<s, A B E=$ $B E D$, and $A F E \div A B E=2 \mathrm{rt} .<S=B E D \div B C D \therefore A F E=B C D$. $J o i n F C$ there since $F E \| B C \therefore E F C=F C B \therefore$ remdr $=A F C=F C D$ \& $C$.
216. Let the bisecting lines meet at $G \therefore Q G P=Q P B-\frac{1}{2} P: \frac{1}{2}$ $Q$ also $Q \mathrm{GP}=\mathrm{ADC} \div \frac{1}{2} \div \frac{1}{2} \mathrm{Q} \therefore 2 Q G P=A B C \div \mathrm{AD} \dot{\mathrm{C}}$ $\therefore \& c$.
217. In fig 216 let the line make $=<$ with $A B$ and $C D$, it must then be $\perp$ $P G \therefore \| Q G$ and $\therefore$ makes $=$ * with $A D, B C$.
218. The sides of the quadl. when produced become tans. to the inner $0 \therefore$ st. lines joining opp. pts. of cont. make $=\mathrm{s}$ with the sides and are $\therefore$ at rt. .ss by 217.

## ALGEBRA.

## First-class certificate i87i.

1. Find the G. C. M. of $8 a^{3} b^{=}-24 a^{2} b^{3}+24 a b^{4}-8 b^{5}$, and $12 a^{4}-24 a^{3} b+12 a^{2} b^{3}$. (Text book.) $4(a-b)^{2}$.
2. Solve the equations-
(a) $3+1 \cdot 72 x-2 \cdot 21 x=\cdot 203 x$. (Text book.) $\frac{1 \cdot 200}{23}$. .
(b) $x+y=\mathrm{x}, x^{2}+y^{3}=7$. Ans. $-x=2$ or $-1 y=--1$ or 2 .
(c) $\frac{1}{x} \div \frac{x}{y}=\frac{4}{x^{2} \div y^{2}}, \frac{5}{x}-\frac{5}{y}=\frac{8}{y^{2}-x^{2}} x=\frac{9}{10}$ or $\frac{3}{10} y=\frac{3}{10}$ or $\frac{9}{50}$
3. "The sum of two fractions is $1 \frac{1}{2} \frac{4}{5}$; and the sum of their reciprocals is $2_{1 \frac{5}{2}}$. What are the two fractions?" [Text book.] $\frac{3}{3}$ and $\frac{4}{3}$
4. The distance between $A$ and $B$ is twelve miles. A traveler sets out from $A$ to walk to $B$; and, half an hours afterwards, another starts from $B$ to walk to $A$, proceeding at a uniform pace. They meet at $C$, the middle point between $A$ and $B$. The first, after resting at $C$ for 10 minutes, proceeds at a rate faster by $\frac{3}{3}$ of a mile per hour than previously, till he reaches $B$. The second waits at $C$ for 40 minutes, then goes forward towards $A$ at a rate
faster by one mile per hour than previously. He reaches $A$ at the same time that the first traveler reaches $B$. Find the rate at which the travellers set out from $A$-and $B$ respectively. $2 \frac{5}{5}$ and 3 .
5. (a) Investigate a rule for finding the sum of an arithmetical series, whose first term, common difference, and number of terms, are known.
(b) Find the limit to which the sum of the Geometrical series-

$$
. O I+. O O I+. O O O I+\& C .
$$ approaches, as the number of terms becomes indefinitely great.

(c) There are three numerical quantities in Harmonical Progression ; but the series consisting of the first of these quantities, of the second multiplied by $\frac{5}{2}$, and of the third multiplied by 4 , is in Geometrical Progression; and creased by $\frac{5}{2}$, and of the first of the same quantities, of the second ingression. Find the numbers $\frac{30}{9}, \frac{8}{2}$ and $\frac{5}{8}$.
6. (a) "In how many different ways can six different counters be arranged ?" 720.
(b) "How many different sums can be formed with a guinea, a half guinea, a crown, a half crown, a shilling, a sixpence, a penny, a half penny, and a farthing ?" Text book. 29-1.
7. Write down the value of the expression-
 where $m$ and $n$ are whole numbers.
S. (a) The value of $n$ in the quadratic equation, $x^{2} \div 2 m x \div n=0$, being fixed, the roots of the equation are imaginary for every value of $n$ betwix a certain quantity $N$ and $\div$ infuity, but real when $n$ either is equal to $N$, or lies between $N$ and - infinity. What is the value of $N$ ? And how are the roots related to one another when $n=N$ ? $N=m^{2}$.
(b) If the equations, $x^{2}+p x+q=0$, and $x=+r z+s=0$, have a common root, $r-p$ is the difference, and ${ }_{s}^{n}$ is the quotient of their other roots.

SOLUTIONS.

$$
\begin{align*}
& \begin{array}{l}
(x+y)\left(x^{2}+y^{2}\right)=S x y \quad(x) \\
5(x-y)\left(x^{2}-y^{2}\right)=8 x y \text { (2) }
\end{array} \quad \therefore \frac{x+y^{2}}{(x-y)^{2}}=\frac{5}{2}  \tag{I}\\
& 3 x_{i}^{2}-10 x y+3 y^{2}=0 \quad \therefore 3\binom{x}{y}^{=}-10\binom{x}{y}+3=0 \frac{x}{y}=3 \text { or } \frac{\pi}{3} \\
& \begin{array}{cc}
\text { Substitute one of these values of } x \text { in (1) and we have } 40 y^{3}=12 y^{2} \\
=12 & y=I^{2} 0
\end{array} \\
& \therefore 40 y=12 \quad x \quad y=T^{2} \quad x=9 \\
& \text { or } \operatorname{taking} \frac{x}{y}=\frac{1}{y} \text {, we have } x=r_{r^{3}}^{3}, y={ }_{1}^{\frac{9}{0}}
\end{align*}
$$

4. Let $x=$ rate of rst $y=$ rate of and

$$
\begin{aligned}
& \text { then } \frac{1}{x}-\frac{1}{y}=\frac{1}{1_{3}}(1) \therefore y=\frac{12 x}{12-x} \\
& \frac{1}{x+\frac{3}{5}}-\frac{1}{y+1}=I^{1}(2)
\end{aligned}
$$

therefore, substituting in (2) we have

$$
\frac{5}{5 x+3}=\frac{\mathrm{I} 2-x}{\mathrm{II} x+\mathrm{I} 2}=\frac{1}{\mathrm{I}^{2}}
$$

therefore, $3 x^{2}-\mathrm{II} 7 x+25^{2}=0$

$$
\text { therefore } x=\frac{117 \pm \sqrt{13 b 89-5040}}{20}=21 \text { or } 2.4
$$

but $2 I$ is impossible, for it gives a negative value for $\dot{y}$

$$
x=2: \frac{3}{5} \quad y=3
$$

5. (c) Let $x y z$ be the numbers

$$
\begin{equation*}
\frac{1}{x}+\frac{I}{z}=\frac{2}{y}(x) \quad: 4 x z=\frac{25}{4}-y 2 \tag{2}
\end{equation*}
$$

From (1) and (2) $\quad z y+x y=\frac{25}{8} y^{2} \quad \therefore z+x=\frac{25}{8} y$

$$
\begin{align*}
& 8 z+5 x=25 y \\
& 8 x+8 z-16 y=8 \tag{3}
\end{align*}
$$

8. (a) $x^{2} \div 2 m x \div n=0 \quad \therefore x=-m \pm \frac{9}{\sqrt{m^{2}-n}}$

For all values of $n>m^{2}$ the roots are imaginary, and for all values of $n<m^{2}$ the roots are real $\therefore \mathrm{N}=m^{3}$ and when $n=\mathrm{N}$ the roots are $=l$
(b) If the roots of (r) are $a$ and $b$ and those of (2) $a$ and $c$ then $a+b=$ $-p, a+c=-r, \therefore b-c=r-p ;$ also $a b=q$, and $a c=s$ $\therefore \frac{b}{c}=\frac{q}{s}$

## UNIVERSITY OF TORONTO, 1879.-FIRST YEAR.-ARITHMETIC

 AND ALGEBRA.r. Define a fraction. Prove that the value of a fraction is not altered by multiplying the numerator and denominator by the same quantity.
2. Prove the rule for checking the correctness of the product of two numbers by casting out the nines.
3. Prove that $(a-b)(c-d)=a c-b c-a d+b d$.
4. Shew that
and that

$$
\frac{33 x^{2}+11 x^{2} y-38 x y^{2}-40 y^{3}}{I 5 x^{3}-17 x y-4 y^{2}}=2 x+3 y+\frac{7 y^{2}}{5 x+y}
$$

$$
\mathrm{I}-\frac{w^{2}+x^{2}-y^{2}-z^{2}}{2(w x+y z)}=\frac{(w+y+z-x)(x+y+z-w)}{2(w x+y z)}
$$

5. Shew that the remainder, when $x^{4}+p x^{3}-q x^{2}+r x+s$ is divided by $x-a$, may be determined without performing the division.

$$
a^{4}+p a^{3}-q a^{2}+x a+s
$$

6. Shew that in performing the operations for finding the H. C. M. of two quantities, at any stage either the divisor or dividend may be divided by any factor not common to both.

Find the H. C. M. of $2 x^{+}+11 x^{3}-13 x-99 x-45$ and $2 x^{3}-7 x^{2}-46 x-21$, and the L. C. M. of $(x-1)^{2}, x^{4}-\mathrm{I}, 3^{x^{3}}+7 x+3$ and $x^{3}+\mathrm{I},\left(3 x^{6}-\mathrm{I}\right)(x-\mathrm{I})$
7. Add together

$$
\begin{aligned}
& \frac{a-b}{a+b}+\frac{(a-b)\left(a^{2}-b^{2}\right)}{(a+b)\left(a^{2}+b^{2}\right)}+\frac{(a-b)\left(a^{2}-b\right)\left(a^{3}-b^{3}\right)}{(a+b)\left(a^{2}+b^{2}\right)\left(a^{3}+b^{3}\right)} \\
& 3 a b-3 a^{5} b-a^{4} b^{2}+2 a^{3} b^{3}-a^{2} b^{4}+a b^{5}-b^{4}
\end{aligned}
$$

and simplify

$$
\frac{\frac{a+b x}{a-b x}+\frac{b+a x}{b-a x}}{\frac{a+b x}{a-b x}-\frac{b+a x}{b-a x}}
$$

8. Find the cube root of $\frac{a^{3}}{27}+\frac{9}{4 a^{3}}+\frac{27}{8 a^{6}}+\frac{I}{2}$

$$
\sqrt{125} ; \sqrt{128}-2 \sqrt{50}+\sqrt{72}-\sqrt{48}
$$

9. Reduce to their most simple forms

$$
\frac{a+\left(a^{2}-2\right) 1 / 2}{a-\left(a^{2}-2\right) 1 / 2}-\frac{a-\left(a^{2}-2\right) y / 2}{a+\left(a^{2}-2\right)^{1} / 2}=2 a \sqrt{a^{2}-2}
$$

and extract the square root of $4-\sqrt{7}-\sqrt{2}+(\sqrt{2} 7-1)$
10. Find to four places of decimals the value of $\frac{32^{\prime} 5}{\sqrt{5}-\sqrt{3}}$

$$
=16.7459 b 66
$$

11. Solve the equations

$$
\text { (ii) } \frac{2-\left\{4-(16-4 x)^{1 / 2}\right\}^{1 / 2}}{2+\left\{4-(16-4 x)^{1 / 2}\right\}^{3 / 2}}=1
$$

(iii) $\left\{\begin{array}{l}\frac{a}{x}+\frac{b}{y}=c \\ \frac{b}{x}+\frac{c}{y}=d\end{array}\right.$
(iii) $3(x-3)^{2}=18-(7-8 x)$.
12. Find the sum of $n$ terms of the series $\mathrm{I}+3+5+7+8 \mathrm{c}=1 n^{2}$

Shew that the square of the Geometrical mean between two numbers, is equal to the product of the Arithmetical and the Harmonical means between those numbers.

## MISCELLANEOUS PROBLEMS.

I. If $f(x)$ on division by $x-a$ and $x-b$ respectively leaves remainders $R S$, show that $\frac{f(x)}{(x-a)(x-b)}$ will leave for remainder $\frac{R-S}{(a-b)} x+\frac{a S-b R}{a-b}$ $\frac{f(x)}{(x-a)(x-b)}$ will be in the form of $Q+\frac{m x+P}{(x-a)(x-b)}$
$\frac{f(x)}{x-b}=Q(x-a)+\frac{m x+P}{x-b}=Q(x-a)+m+\frac{m b+P}{x-b}$ $\frac{f-(x)}{x-a}=Q(x-b)+m+\frac{m a+P}{x-a}$.
$\begin{aligned} \text { Now } m a+P & =f(a) \\ \text { and } m b+P & =f(b)\end{aligned} \quad \therefore m=\frac{f(a)-f(b)}{a-b} \quad P=\frac{a f(b)-b f(a)}{a-b}$
$\therefore m x+P=\frac{[f(a)-f(b)] x}{a-b}+\frac{a f(b)-b f(a)}{a-b \ldots}$
and $f(a)=R$ and $f(b)=S$
$\therefore \& c$.
2. If $\frac{a}{l x(m z-n y)}=\frac{b}{m y(n x-i z)} \frac{c}{n z(l y-m x)}$
then $\left(\frac{a^{3}}{x^{3}}+\frac{b^{3}}{y^{3}}+\frac{c^{3}}{z^{3}}\right) \quad x y z=\left(\frac{a^{3}}{l^{3}}+\frac{b^{3}}{m^{3}}+\frac{c^{3}}{n^{3}}\right)$ linn
Dividing numerator of the three identities by $l m$ and $n$ respectively we have

$$
\begin{aligned}
& \frac{a}{l} \\
& \frac{x(m z-n y)}{m}=\frac{\frac{b}{m(n x-l z)}}{y}=\frac{\frac{c}{n}}{z(l y-m x)}=k \text { suppose, } \\
& \therefore \frac{a}{l}+\frac{b}{m}+\frac{c}{n}=k\{x(m z-n y)+y(n x-l z)+z \cdot(l y-\min \}=0
\end{aligned}
$$

$$
\begin{aligned}
& \text { Similarly } \frac{a}{x}+\frac{b}{y}+\frac{c}{z}=0 \therefore \frac{a}{x}+\frac{b}{y}=-\frac{c}{z} \\
& \qquad\left(\frac{a}{x}\right)^{3}+\left(\frac{b}{y}\right)^{3}+3 \frac{a b}{x y}\left(\frac{a}{x}+\frac{b}{y}\right)=-\left(\frac{c}{z}\right)^{3} \\
& \therefore \frac{a^{3}}{x^{3}}+\frac{b^{3}}{y^{3}}+\frac{c^{3}}{z^{3}}=-3 \frac{a b}{x y}\left(\frac{a}{x}+\frac{b}{y}\right)=3 \frac{a b c}{x y z} \\
& \text { Similarly } \frac{a^{3}}{l^{3}}+\frac{b^{3}}{m^{3}}+\frac{c^{3}}{n^{3}}=3 \frac{a b c}{l^{l} m n} \\
& \therefore\left(\frac{a^{3}}{x^{3}}+\frac{b^{3}}{y^{3}}+\frac{c^{3}}{z^{3}}\right) x y z=\left(\frac{a^{3}}{e^{3}}+\frac{b^{3}}{m^{3}}+\frac{c^{3}}{n^{3}}\right)
\end{aligned}
$$

## TO ADVERTISERS.

We desire to call the attention of advertisers to the following advantages offered by The Quarterly as an advertising medium. The first and most important consideration is, we offer the great desideratum in advertising-very low rates. Our paper circulates amongst the very best class of the community, viz : students, teachers, minis ters, and friends of education. We endeavor to make our paper so attractive that it will be preserved for future reference instead of being destroyed as soon as read as is the case with the majority of papers. It is our intention to continue to expend all that we make out of it in improving it and extending its circulation, so that each advertiser will share the profits of our labors. We already publish a thousand copies, and confidently anticipate, with the projected improvements in the next issue in view, and the rapid increase of our subscription list, that we will be able at the close of the present volume, to announce double this circulation.' With this circulation and our rates, we know of no other medium that will offer the same advantages to advertisers.

## SCIENCE.

In this issue we give a large number of Questions in Chemistry with Solutions. This and the other branches of Science will clain a larger share of our attention in future than it has done heretofore.

## WESLEYAN FEMALE COLLEGE.

This excellent Ladies' College, an advertisement of which appears in another column, has now finished its first year under the able management of $\mathrm{D}_{\mathrm{r}}$. Burns. Were any person sceptical as to the Dr's ability to conduct successfully such an institution he needed only to witness the closing exercises of the year, which took place a few weeks ago, to be convinced of his competency to do so with the highest degree of success. We will not, however, attempt to praise either the Dr. or the College, but will advise all interested in anything of this kind to send for the College Circular, which will be out shortly. This we can do confidently, as, we have seen the advance sheets, and are sure it wiil well repay perusal.

## MATIEMATICS.

We trust our Mathematical Department will still claim the same attention from our readers that it has in the past. In this issue we continue the Solutions to Deductions which was commenced in the October number of last year, and which have proved so acceptable to many of our readers. We also give our usual quota of Examples in Arithmetic and Algebra, with Solutions.
It is our intention tu keep this Department up to its present standard, sc that Students who are subscribers may rely on getting much from it that will add to their knowledge of Mathematics and assist them in passing their Examinations.

## UNIVERSITY SCHOÔL EXAMINATIONS,

Held by McGill University, Montreal, and the University of Bishop's College, Lennoxville.

These Examinations were held in Montreal and other centres in the Province of Quebec simultaneously with the Examinations in Hamilton. They were conducted by printed papers which were sent to the presiding examiners under seal of the University, and were opened in the presence of the Candidates at the time appointed for the Examination. These questions were posted in Montreal so as to reach Hamilton on the morning of each day of Examination; the answers of Candidates were sent under the seal of the school to MicGill University, immediately at the close of each day's Examination.

The subjects of Examination are divided into two classes :
A.-Preliminary.-Consisting of those subjects in which every Candidate must pass: these subjects are Reading, Dictation, English Grammar, Arithmetic, Gencral Geograply, British and Canadian History, and Gospels.

One-third of the total number of marks in each of the above subjects is required.
B.-Optional.-Consisting of three Sections:
I.-Languages.-Latin.-Grammar and Prose Composition.

Cæsar-Belleum Britannicum.
Cicero-Pro Archia.
Virgil-Eclog. I, IV, VI, VII, IX.
(2) Greek.-Grammar.

Homer-Iliad, bk. VII.
Xenophen-Anabasis, bk. II.
(3) French.-Grammar.

Extracts from Moliere.
Translation from English into French. •
Vicar of Wakefield, Chaps. i and 2.
(4) Germant.-Grammar. Adler's Reader, Section II. Translation from English into German.
II.-Mathematics and Natural Philosophy.
(I) Geometry.-Euclid I, II, III.
(2) Algebra.-Elementary Rules, Involution, Evolution, Fractions, Simple Equations.
(3) Plane Trigonometry- - Measurement of Angles, Trigonometricaliratios of a single angle and of two angles, Complimentalland Supplemental Angles, and the solution of right angled triangles.
(4) Natural Plilosophy.-Mechanics- nd Hydrostatics:
(5) Geometrical and-Free-hand Drawing.

## III.-English.

(1) The English Language.

Elements of Philology-(Peile). Trench's Study of Words.
(2) Englis/ Literature.

English Literature--(Brook's). Scott's Lady of the Lake-Cantos I to 5 inclusive. Milton's Paradise Lost, Books I and 2.
(3) History-Outlines of.

Greece.
Rome.
General History-(Collier).
II.-Natural Science.
(1) Zoology-(Nicholson's).
(2) Botany-(Gray's.)
(3) Geology-(Dana).
(4) Chemistry-(Miller's Inorganic.)

Every Candidate must pass in at least one, and not more than three subjects in each Optional Section ; the minimum for passing is 25 per cent.; all above 50 per cent. are ranked in Honors.
Senior Certificates are awarded to those who pass in at least two languages. in Section I.; funior Certificates to those taking only one language in Section I.

The following is the Class List showing the standing of the different Candidates ; those in italics are from Hamilton.

## STANDING IN THE EXAMINATIONS, 8 87.9.

| James Charles Allen (a).. |  | Subject. | 1157 | Marks. |  | per ct |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Charles Edward Bland (a) | 9 |  | 1140 |  | 80 |  |
| Geo. W. Hambley | 7 | " | 1012 | " | 84 | " |
| 7 Fohn C. Fizelds. | 8 | " | 920 | " | 72 |  |
| R. Norman Hudspeth. | 10 | " | 915 | " | 64 | " |
| Louisa McDonald. |  | " | 859 | " | 77 |  |
| Wyatt G. Johnston (b) | 8 | " | 85 I | " | 67 | " |
| Robert Little |  | " | 846 | " | 70 | " |
| Henry J. Petry (b). | 10 | " | 843 | " | 55 |  |
| Edward J. K. Noyes (a) | 9 | " | 829 | " | 63 | " |
| Edith Durdan | 7 | " | 813 | " | 70 | " |
| Adolph Kraft. | 7 | " | 796 | " | 68 | " |
| Richard F. Morris (b) | 9 | " | 785 | " | 55 |  |
| William Morris (b). | 9 | " | 7.84 | " | 55 | " |
| Duncan D. McTaggart (a) | 9 | " | 764 | " | 58 | " |
| Archibald McK. Mechan.. | 8 | " | 763 | " | 65 | " |
| Donald J. Fraser (a). | 8. | " | 746 | " | 57 |  |
| Fohn Coutts | 7 | " | 738 | " | $6{ }^{6}$ | * |
| Thomas Crawford. | 7 | " | 734 | " | ${ }^{61}$ |  |
| Jessie McConnell (c). | 7 | " | 723 | " | 65 | " |
| Devereux Emmett (b). | 9 | * | 688 | " | 48 | " |

Standing in the Examinations, 1879, Associates in Arts.-Continued.

| Alfred E. A. Barlow (a). | 8 | Subject. | 682 | Marks. |  | er ct. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Elizabeth Smith. | 7 | " | 678 | " |  |  |
| Claude L. Wheeler (a). | 8 | ، | 676 | " | ${ }^{9} 53$ | " |
| Charles McP. Holt (b). | 9 | " | 654 | " | 48 | " |
| Maggie Osgood (d). | 8 | " | 644 | " | 53 | ، |
| George S. Baker (e). | 5 | " | 630 | " | 65 | " |
| Arthur G. Weld (b). | 8 | " | 616 | " | 48 | " |
| William L. Murray (a). | 7 | " | 611 | " | 52 | " |
| Christina J. Galt ( ${ }^{\text {d }}$ ) | 6 | " | 597 | ". | 56 | " |
| George R. Mills (e) | 5 | " | 593 | " | 6 r | " |
| Alexander Malcomson. | 5 | " | 590 | - | 61 | " |
| Thomas J. Tait (a) | 5 | " | 515 | " | 56 | " |
| Kenneth D. Young (a). | 4 | " | 430 | * | 53 | " |
| Albert W, Haldimand (a). | 5 | " | 418 | ، | 46 | " |

## junior certificates.

| Margaret McCoy |  | Subject. | 715 | Marks. |  | er ct. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ina Sutherland | 6 | " | 685 | " | 67 |  |
| Hattie Dalley. | 6 | " | 627 | " | 62 | " |
| Grace Darling ( $f$ ) | 4 | " | 57 I | " | 70 | " |
| Margaret Wilson (f) | 4 | " | 496 | " | 54 |  |
| Augusta Pedersen ( $f$ ). | 3 | " | 492 | " | 73 | " |
| George Corey Thomson. | 5 | " | 480 | " | 50 |  |
| Georgina Iles ( $f$ ). | 5 | " | $44^{61}$ | " | 50 |  |
| Mary Mitchell ( $f$ ). | 4 | " | 425 | ${ }^{\prime}$ | 46 |  |
| Arthur Mercer ( $g$ ) | 4 | " | 381 | $\cdots$ | 68 | " |



STANDING IN THE SEVERAL SUBJECTS.
PRELIMINARY SUBJECTS.


Standing in the Several Subjects. Preliminary Subjects Contimued.

| Geography Contin'd. | Geography Contin'd. | History Continued. | Gospexs. <br> (Passcd with credit.) |
| :---: | :---: | :---: | :---: |
| Bland | Burrall | Coutts | Allan |
| Fields | Cravoford | Cravoford | Baker <br> Bland |
| McMechan | Dalley | Mcillechan Mills | Bland |
| Petry | Darling | Mills , | Coutts |
| Noyes | Durdan |  | Darling |
| Tait Barlow | Larlo | Kraft | Durdan |
| $\left.\begin{array}{l}\text { Barlow } \\ \text { Little }\end{array}\right\}$ | Mralcomson Fraser | Malcombon | Emmet |
| Morris 1. | Fraser McConnell | Smith E. | . Fraser |
| Galt | Pedersen $\}$ | Weld | Garth |
| Garth | Young $\}$ | Iles | Haldimand |
| Johnston | Hes | Mercer | Hambley |
| Campbell | Short | McTaggart | Iles |
| Hambley | Mitchell | Morris R . | Johnston |
| Smith E. |  |  | Kraft |
| Sutherland weld | History. | Fields | Malcomson |
|  |  | Hudspeth | McCoy |
| Coutts | Alan | Noyes Smith R. | McDonald |
| Holt McDonald | Bland | Smith R. | Mc.Mechan |
| Murray | Hambley | Dalling | Mercer |
| Reddy | Sutherland | Wilson | Mills |
| Haldimand | $\left.\begin{array}{l}\text { Fraser } \\ \text { Petry }\end{array}\right\}$ | Young | Mitchell |
| Mills | Petry $\}$ | Morris C | Morris C. |
| Morris W | $\left.\begin{array}{l}\text { McConnell } \\ \text { Oscood }\end{array}\right\}$ | Taylor | Morris R . Morris W. |
| Wheeler | $\left.\begin{array}{l}\text { Osgood } \\ \text { Tait }\end{array}\right\}$ | Thomson | Noyes |
| Baker | Morris W. $\}$ |  | Osgood |
| Morris C | $\left.\begin{array}{l}\text { Morris W. } \\ \text { Galt }\end{array}\right\}$ | Durdan | Pedersen |
| Taylor | Galt ${ }_{\text {MoConnell }}$ | Murray | Petry |
| Wilson | MoConnell |  | Reday |
| McCoy | Baker | Short Wheeler $\}$ | Smith |
| McTaggart | Barlow | Wheeler $\}$ | Sutherland |
| Mercer | Holt | Haldimand | Taylor |
| Smith E. | Johnston | Mitchell | Wheeler |
| Thomson | McCoy | Pederson | Young |

OPTIONAL SUBJECTS.

| Lexin. | Latin Continued. | Greex. | Fremor. |
| :---: | :---: | :---: | :---: |
|  | *Fraser | -Hambley | *McDonald |
| ${ }^{-}$Hambley | $\stackrel{\text { Weld }}{\text { Campbell }}$ | - Allan | - Petry ${ }^{\text {- }{ }^{\text {Purdan }}}$ |
| ${ }^{\text {*Bland }}$ | Holt | - Morris | ${ }^{-B l a n d}$ |
| * Coutts | Morris c. $\}$ | - Johnston | -Johnston $\}$ |
| * Petry |  | ${ }^{*}$ *Litudspetli | ${ }_{\text {MaConnell }}$ |
| * *Rorris R. | $\underset{\text { Emmet }}{\text { Young }}$, | ${ }^{\text {Petry }}$ | - Suther ${ }^{\text {andand }}$ |
| *Mills | Thomson $\}$ |  | *Morris R. |
| * ${ }_{\text {* Little }}$ |  | ${ }_{- \text {Mrorris }}{ }^{\text {Fraser }}$ W. $\}$ | * Young $\}$ |
| * Crawford | Wheelor |  | - Mc clyechan $\}$ |
| * Hchechan | Barlow | *Coutts | Darling |
| * Fields | Mercer |  | - Morris W. $\}$ |
| *-Kohnston | ${ }_{\text {Tapylor }}^{\text {Hallimand }}$ ( | $\underset{\text { Mrawford }}{\text { Mrathan }}$ |  |
| - Baker | Rcday |  | Smithe. |
| ${ }_{*}^{*}$ * Morris W. | ${ }_{\text {Smith }}$ E | Emmet | Dalley |
| *Galt | Murray | Ficlds | Reddy |

Optional Subjects Continued.


## Optional Subjects Continued.

| General IIistory Continued. | English Literature Continued. | English Literature Continued. | Geography Contin'd. |
| :---: | :---: | :---: | :---: |
| $\left.\begin{array}{l} \text { Mercer } \\ \text { Garth } \\ \text { Wheeler } \end{array}\right\}$ | $\left.\begin{array}{l} \text { Coutts } \\ \text { McConnell } \end{array}\right\}$ | Smith R. | $\left.\begin{array}{l} \text { Galt } \\ \text { McDonald } \\ \text { Morris C. } \end{array}\right\}$ |
|  |  |  |  |
|  |  | Geograpiy. |  |
|  | MalcomsonCravoford |  |  |
| Englisi |  | * Fields | $\left.\begin{array}{l}\text { Haldimand } \\ \text { Petry } \\ \text { Tait }\end{array}\right\}$ |
| Itterature. | Earle | *Fields |  |
| * Bland | Garth |  |  |
| *Allan | Morris C. |  | $\left.\begin{array}{l}\text { Cravoford } \\ \text { Murray } \\ \text { Smith R. }\end{array}\right\}$ |
| *McDonald | HudxpethWheeler | *Sutherland <br> *Emmet <br> * Hambley |  |
| * Osgood |  |  |  |
| *McMechan | ReddyCampbellWeld | * Hambley | Durdan |
| *Trylor |  | * Noyes | Campbell 7 |
| *Hambley $\}$ |  | * Dalley | Weld |
| * Mc:Coy | DalleyGalt |  |  |
| *Noyes |  | McTaggartMorris R. | $\left.\begin{array}{l} \text { Earle } \\ \text { Osgood } \end{array}\right\}$ |
| * Petry | Durdan |  |  |
| * Holt |  |  | Thomson |
| * Fields | Johnston | McMechan Morris IV. Sinith $E$. |  |
| * Kraft ${ }^{\text {Smith E. }}$. $\}$ | Murray Haldimand |  | Holt |
| Tait | Haldimand |  | Young |
| Emmet | Sutherland | $\left.\begin{array}{l}\text { Barlow } \\ \text { Garth }\end{array}\right\}$ | $\left.\begin{array}{l} \text { Reddy } \\ \text { Wheeler } \end{array}\right\}$ |
| Barlow | Little |  |  |
| Fraser | Morris R. | Coutts |  |
| McTaggart | Morris W. | Kraft | Taylor |

*Those who obtained over 50 per cent.
From the foregoing it will be seen that 8 schools sent up 56 candidates; that 45 passed; 32 seniors and 13 juniors; that Hamilton sent up 16 , all of whom passed, winning the first place in each of the following subjects: English Grammar, Arithmetic, General Geography, Greek, French, German, Geometry, Algebra, Natural Philosophy, Chemistry, Trigonometry. Eleven girls passed this Examination, 6 of whom are Hamilton pupils, and rank ist, 2,nd and 4 th among the Senior Candidates, and ist, and and 3rd among the Junior Candidates.

## MACAULAY AND HIS MODELS.

The style is the man ; it exhibits the order, nature and sequence of his thoughts, and the accuracy and refinement of his taste and culture. As a manthinks, so he speaks and writes; for what is language but the expression of thought? Accurate and consecutive thinking will produce accurate and consecutive language. Is there then such
a thing as an Art of Composition? If, indeed, the mere logical expression of our thoughts were all that is required of language, thought would naturally produce its own expression in the mature mind, and the cultivation of style would be merged in that of thought. But no two minds think alike. Words in different minds suggest very dissimi-
larideas; here then we find the task of language immeasurably increased, and indeed, in this respect it must ever prove inadequate to that task, which is, to transfer to the minds of others the precise idea that exists in our own. Hence the many expedients by which the efficiency of language is increased, and by which it is made capable of expressing our thoughts, not only on concrete notions, but on forms that the imagination bodies forth-expedients, the knowledge and correct use of which constitute the chief ingredient in style, and which lie at the foundation of the science of rhetoric. Language, then, will be the most powerful instrument in the mouth of him who has most thoroughly acquainted himself with these aids. Yet, it must be remembered that all these expedients, all the principles on which rhetoric is founded, are nothing but the spontaneous effort of thought after more accurate expression. There must necessarily be a close connection between thought and the expression of it, and thought is always the same and always works by the same laws. Here, then, we see the advantage of a wide range of literature to the orator. He falls heir to the garnered wisdom of many ages, and gleans from many nations. All are alike levied under contribution, and yield him their most embellished expressions, which he imitates and adopts. The style of a man will thus be seen to depend on that of his models as much as on the nature of his own thought; in other words, style can be cultivated. Style is an art, and its principles have been deducted from the study and analysis of the works of those great minds who from age to age had the greatest influence on mankind. All are sifted and compared and criticized. This must be done by everyone who wishes to become possessor of an oratorical or eloquent style, but in this criticism we must proceed by rule, if we would gain the greatest benefit. It will not do to imitate blindly any other
writer in the vague attempts to acquire a good style. There are varieties of good style, each depending on its own rules, and these rules depending on psychological principles. Yet, while adhering generally to the precepts of rhetoric, every great writer will be found to have some peculiar method that he uses more powerfully than others, and in which other writers strive to imitate him. In examining the writings of an author for literary purposes we should investigate what peculiarities he exhibits in each of the elements of style.

Let us now examine the style of Macaulay and that of some of his models, as Milton, Johnson and Addison. Of course, the first thing in importance in an author is his thought. In prose writers this is of paramount importance, but it is not our intention to discuss that subject at length here. Yet, the opinions given by each of these authors may be shown to fail in some particular. Macaulay aimed more at brilliancy than accuracy, was superficial as a literary critic, and often unreliable as an historian. Seeki-g to become famous as an historian, as a narrator, and as an essayist, he dissipated his strength, that might have, if rightly employed, placed him at the very top of any one of these departments. Milton's opinions are often partizan, owing to the fierce party spirit then raging. Johnson is open to the same accusation. His literary and political prejudices frequently cloud his strong judgment. Addison was of a weakly constitution, and lacked vigour of thought. "He thinks justly, but he thinks faultily," said Johnson of him. His literary criticisms are thought to be superficial. But let us return to Macaulay, and investigate his style, and ascertain, if we can, the secret of his great popularity. In accounting for this fact it would be an oversight to neglect hispersonal qualities, his hearty. genial good humour, his buoyant, hopeful disposition, his.love of justice and
honour, and his intense patriotism. He was no idle day dreamer, but a man " radiant with pepticity," an optimist in all his anticipations. His warmest friends do not claim for him a great degree of aesthetic culture. Facts and the best mode of using them in argument to support his favorite theories, were his chief weapon. He had no time for culture. His poetry lacked soul, is often in bad taste, and generally captivates only by its impetuosity.

It has been said by a eulogist of Macaulay's that from his youth he aspired to be "the continuator of Hume's History of England," and that he dedicated his whole life to that end. It is certain at least, that most of his numerous "Essays". are on subjects directly connected with the period covered by his history, and his political life would greatly assist him in that preparation. Whether this be true or not, we may rest assured that he sedulously devoted his time to the acquirement of that fund of information and brilliancy of expression that placed him so high as a man of letters. In this he was aided. by an extraordinary memory, carefully cultivated and assisted by method; indeed, it will be found, that nearly all great writers and orators have been the possessors of great memories, that, when called upon, never failed to respond, whether with an apt allusion, a striking similitude, an expressive phrase, or a happy epithet. A writer's vocabulary is generally commensurate with his memory, which stands ever ready to yield her store. An author's command of language is a chief factor in our estimation of him as a writer. Macaulay's chief feature in this respect is his copiousness; he uses words as other people do and is content to make the best use of our common vocabulary without destroying it by any of those literary eccentricities that disfigure the pages of many modern writers. In many of these respects he may be compared with his models. Like him Milton devoted his whole life to the
preparation for a great literary task. Milton's language is also embellished by many an apt expression and happy epithet drawn from the treasury of a great memory ; but, Milton found the language incapable of supporting the grandeur of his theme; he therefor borrowed and invented what he found wanting, and is never eccentric for the sake of being so. His very deviations, as for instance his use and arrangement of the adjective and participle, the usc of prepositions, his metonymy and his condensations add an additional dignity to his style. Addison is musical and sweet; his endeavour was to pleaṣe by the easy flow of his thought expressed in melodious sounds and in a natural order. He often exhibits a carelessness in his sentences and repeats favoritc expressions too often. Johnson had great command of language, but used it as a pedant. He is the tyrant of words, yet used but few of his own introduction. His fondness for Latin abstract terms to express his generalizations is well known.

After an author's use of words next in order comes his employment of them in sentences. The form of the sentence will, to some extent, vary with the subject, but it is more frequently made to vary with the manner in which the writer means to affect the reader, A sentence is merely the smaller division of a paragraph. And the nature and amount and the arrangement of the information given in it and its connection with other sentences give occasion for the display of the highest art. Hence the form of the sentences used by an author is of the first importance. Macaulay's sentences arehighly artificial and of endless variety. He sometimes shows toc great a desire to surprise by abruptness, sometimes by startling and pointed antitheses and has perhaps carried the even balance and periodic climax too far.
That Macaulay is one of our most popular prose writers few will deny, and perhaps no other author owed so
much of his success to the mere style of his writings. We have seen that he was not noted for any of his own original opinions and consequently he left but little literary criticism of any value. But, no man knew better how to utilize facts, or to compare other people's opinions and set them out in clear colors. He startles the mind by a rapid succession of ideas and a wealth of illustration consisting mainly of a series of frequent analogies. In investigating his style we are first struck by his surprising copiousness, which however, does not luxuriate like that of Shakespeare in associating synonyms or using odd words in phrases, but, rather in saying a thing over in different ways always with a view to make a deeper impression on the mind. His style is truly "artificial" and was acquired after laborious effort and after the careful study of the great writers of ancient and modern times. This we see from his early literary attempts, criticisms, and comparisons of the style and works of Dante, Petrarch, Cowley, Milton, and the Grecian orators. Following the order of Prof. Bain's "Rhetoric," we might now investigate his sentences and paragraphs, associating the two together, for a sentence is merely a short paragraph. One of the most consecititive of popular writers, he is at the same time one of the most pointed and abrupt, these latter qualities being acquired by the balanced sentence, abrupt transitions and pointed figures of speech. The following is a frequent form of Macaulay's sentence; he is speaking of Johnson:-"His constant practice of padding out a sentence with useless epithets till it becomes as stiff as the bust of an exquisite; his antithetical forms of expression, coustantly employed even where there is no opposition in the ideas expressed, his big words wasted on little things; his harsh inversions so widely different from those graceful and easy inversions which give variety, spirit and sweetness to the expressions
of our great old writers, all these peculiarities have been imitated by his admirers and parodied by his assailants till the public has become sick of the subject."

Here we have first the periodic style shown by the chief words being held through a long sentence. The accumulation of concrete, objective circumstances, another peculiarity of Macaulay; we see also his fondness for strong statements, his comparison with familiar objects, his antithesis and his formal balance at the close. In some respects indeed, the sentence contains the very peculiarities he points out in Johnson, whose style he imitated to a considerable extent.
With regard to Macaulay's paragraphs we may remark that he generally preserves the first rule, that is, the explicit reference and natural sequence. His most striking peculiarity is his method of beginning by a general statement that has apparently no reference to anything already said; often this assumes the form of an obverse statement, just the opposite of what the paragraph proves. From these general or obverse statements he brings us back to the subject by a "but." Examples of this are very numerous in the essay on Johnson. This peculiarity gives an abruptness to his style which is further increased by his short abrupt sentences without connectives, mere qualifying phrases being often thrown into separate independent sentences. In both of these peculiarities he somewhat resembles Johnson, they are used for the purpose of catching the attention by a surprise. Very often instead of making the first sentence a clue to the paragraph he prepares a surprise by telling us what might have happened or what ought to have been done or what was done elsewhere under similar circumstances before he tells what really happened.

No writer, however, excels Macaulay in the use of the parallel structure; a similarity of form is seen in the clauses
of most of his oratorical sentences, and in most of his eloquent paragraphs. He sometimes dwells too long on a simple suoject and makes a subordinate statement occupy too inuch space in the paragraph.

Let us now glance at his use of the figures of speech. Strange to say Macaulay is not profuse in his employment of these aids to the rhetorician ; those he employs are chiefly figures of similarity and contrast. No writer makes greater use of comparisons, and hence similitudes abound, often brilliant and noble; sometimes they are abbreviated into synecdoche or antonomasia. But he deals more frequently with contrasts. This contrast he gets by antithesis, in word, phrase, sentence and paragraph, or by the obverse statement. It is this desire for strong statements and contrast that led him to exaggerated statement. He sought strong contrasts at the expense of truth, hence a frequent figure is hyperbole. Naturally associated with antitheses is the epigramindeed these unexpected transitions are of the nature of the epigram, the essential quality of which is something unexpected ; many of his antitheses are epigrams such as "big words wasted on little things."
"One thing alone could make Charles dangerous-a violent death."
"Richardson kept his shop and his shop kept him."
"He begun to be credulous precisely at a point where the most credulous people begin to be sceptical."

Climax was another favourite figure with him and generally occurs in his long sentences.

Three things are requisite in a perfect style of composition, simplicity, clearness and strength. It might not be amiss now to ascertain to what extent these writers are to be commended on these points.

Johnson carefully selects his words and rarely leaves us in doubt as to his meaning. Short sentences and plain statements would give him the credit of
simplicity in, style, but for his violent straining after an effected order, formal balance, rhythmic dignity and Latin words.
"Brevity is the soul of wit," as Shakespeare says: so it is of strength, and were it not for Johnson's fondness for weak generalities and abstract terms his terse, comprehensive sentences would form, in the highest, a vigorous style.

Addison studiously sought to maintain these three qualities in his works and generally succeeded.

Milton in his prose is vigorous but cumbrous, his style could not be called simple; his poetry sometimes fails in respect to clearness, but he rarely fails in strength.

Bủt our chief concern is with Macaulay. No writer can be more easily understood than he; unlike Johnson he rarely contents himself with general statements or abstract terms. He uses on the contrary concrete terms in his discussions; compares the unknown with the known; uses familiar thoughts and explanations in criticizing objects, and often makes his qualifying clauses into separate sentences. Macaulay is always clear, but not concise. His numerous comparisons interfere with conciseness but increase his perspicuity. They give us at least a distinct view of the object, but of a broad natu e and not precise. His aim was to be a popular writer; to write for hurried readers, and consequently perspicuity was the first importance, and we are prepared to find profuse exemplification and individual specific comparisons rather than minute exactness and scrupulous accuracy.

In the quality of strength Macaulay excels, especially in brilliant animation. Many of the qualities that produce this animation have been already mentioned such as his varied expression, abrupt transition, frequent antithesis, perspicuity and concrete particulars. The rapid succession of ideas for which he is noted is an element of success which is.
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increased by making frequent allusions to actual men and things. Strength is always found in his staternents. His epithets are vehement. He uses his adjectives. with terrible force. H is habitual contrast is a powerful means of strength, but it often leads him to violate strict truth. Especially is he violent in his invective; a good hater he expresses his feelings without reserve, and, when he found individuals guilty of anything that offended his love of justice and honesty, he lashed the culprit unmercifully. A studied meanness of expression often runs through his sketches, a contemptuous derision that sometimes degenerates into "horse play." Such for instance are many of his allusions to Boswell, who, by the way, seems to be the destined butt of every literary man. We quote a few of these remarks:-"If he had not been a great fool he would never have been a great writer," "He was always laying himself at the foot of some eminent man and begging to be spit upon and tramped upon," "servile and impertinent, shallow and pedantic, a bigot and a sot," "a tale bearer, an eavesdropper," "always ranting or twaddling."
A frequent form of exaggeration, almost amounting to a mannerism, is that of stating the particular object under discussion to be the most wonderful thing of the sort. In many cases, indeed, transgressing the laws of idiomatic English, especially when he denies equality and forgets to exclude the object compared, thus, "No election ever took place under circumstances so favorable to the court." "No man ever laboured so hard to make himself despicable and ludicrous." "No man surely, ever published such stories respecting persons whom he professed to love and revere." These, if examined convey a meaning just the opposite to that intended. Before closing our remarks on the element of strength mention must be made of his sublime passages, the highest variety of strength;
in this he falls short of the height attained by Milton, but he has many noble flights of lofty sustained eloquence. In his tender passages Macaulay is not so successful. Vigour was his prevailing quality, which interfered with his tenderness or delicacy. He was too abrupt and rapid. His wit and humor are not of the delicate sort. He had on the contrary "unsparing contempt, open derision, and boisterous humour." Examples of which may be seen in his remarks on Mr. Croker, on Boswell, on Laud, and on Southey.
With regard to harmony, he imitated Johnson somewhrat in amplifiying the roll of his sentences, but only in his more impassioned parts, otherwise he did not attempt to harmonize sound and sense.
A few remarks as to his employment of the different kinds of composition and we have done. First, then, he was not a master of the descriptive art; he purposely excludes natural scenery as uninteresting, and requiring human associations to enliven it. Hence he paints the conditions, actions and proauctions of men, everywhere is action. His descriptions consequently are without method, other thangrou ping actions in practical life; processions, pageants, crowds and such objective subjects are what he delights in. In his narrative he is singularly happy, managing to follow the tangled thread through the most complicated mazes and always keeping prominent the main action. The order in which he takes the events is the natural one $i$. e. just as they occur, and not according to their local value. An aḍditional force is given by his frequent summaries both prospective and retrospective. In his history he attempted to present a complete picture of the age, and with this object generally gives a personal interest to his events-makes us interested in individuals, and often attempts to excite a dramatic interest by that means. The chief defects of his history are that the information is not complete, and it
is not written on scientific principles and lacks method. Exposition is the third variety of composition. In this, also, Macaulay excelled. His subjects were generally popular, his command of language great, and his antitheses and comparisons apt and striking. All these assisted him in setting out his ideas in the strongest light.

Lastly a few words on his persuasion. In his history, his essays, and his speeches Macaulay is essentially a controversialist, because he is ever bent on converting others to his views. As an orator he was very popular. Among the means to procure this result might be mentioned, his knowledge of those whom he addressed i. e. the English people. His traits are those generally attributed to the typical Englishman; his complete mastery of the facts of the case and his ability to turn an opponent's arguments upon himself; his power of drawing a strong picture helped him to make out his case. His power of refutation was also great.

We have now done. The criticism is imperfect, and is almost entirely confined to Macaulay. Its object has been to apply in some measurethe dicta laid down by the science of rhetoric to the writings of these authors. Too little attention is given to prose construction in schools simply because too little stress is laid upon it in examinations. It might be gravely asked whether it would not be more profitable to discipline the students by studying and analyzing prose compositions which he can imitate than by attempting to get a fragmentary knowledge of a poem that he does not understand and cannot imitate.

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## CLASSICS.

A new feature in our paper and one we think will be very acceptable to a large class of our readers is the introduction of a Classical Department. The McGill Questions with Answers, as well as a Latin Frose Paper set for Toronto University Examinations, which we give this time, will be found valuable. In Latin we begin with the Paper for I 869 in this issue, and intend to publish a Paper in each issue of THE QUARTERLY until all are published up to the present timc. This Department, like those of Mathematics and English, will be in charge of a student who is taking honor work in the subject.

## WIT AND HUMOR.

A floating capital-Venice.
The bump of destruction-a railway collision.

Neptune's coat of arms-the crest of a wave.

The best thing to hold when out of temper-hold your tongue.

If $\mathrm{S}, \mathrm{i}, \mathrm{o}, \mathrm{u}, \mathrm{x}$ spells su and $\mathrm{e}, \mathrm{y}, \mathrm{e}$ spells I and $\mathrm{s}, \mathrm{i}, \mathrm{g}, \mathrm{h}, \mathrm{e}, \mathrm{d}$ spells side, why doesn't $\mathrm{S}, \mathrm{i}, \mathrm{o}, \mathrm{u}, \mathrm{x}, \mathrm{e}, \mathrm{y}, \mathrm{e}, \mathrm{s}, \mathrm{i}, \mathrm{g}, \mathrm{h}, \mathrm{e}, \mathrm{d}$ spell suicide ?

It is supposed that the reason some people are so apt to be buried in thought is because they have so many grave ideas.

A little boy, coming home from church, where he had seen a person performing on an organ, said to his mother "Oh! mammy, I wish you had been at church to-day to see the fun: a man was pumping music out of an old cupboard!"
"Dear me," said à lady, "I have such a cold. What do you do, doctor, when you have a cold?" "What do I do?" said the doctor; "why, mhadam, sometimes I cough and sometimes I sneeze."

# THE QUARTERLY. 

Nous travaillevons dans l'esperance.
HAMILTON, JULY, 5879.

OFFICERS OF THE "QUARTERLY."

|  | $\left\{\begin{array}{l} \text { Mr. H. SuTheriand, } \\ \text { Mr. D. K. I. McKinnon, } \end{array}\right.$ |
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| ness Managers | R. M. |

## SENIOR LITERARY SOCIETY.

We are glad to be able to assure those who peruse this department of our paper, that our Eighteenth Quarterly Report, which lies on our table, shows our Society to be constantly and increasingly prosperous. Not only has a good number of new names been added to our list since our last issue but provision has also been made for the admission and retention as members of a large class who were ineligible under the old constitution. In the old constitution no provision was made for any but those in actual attendance at the Institute. Amendments' have been made by which any person who has ever been a student of the Institute may become and remain a member entitled to all the privileges of the Society. This with the provision which has been made for prize giving and several other matters of less importance we think indicates that we are progressive and must prosper.

During the quarter now past nine regular meetings, one special meeting and three quarterly meetings have been held. At each of the regular meetings the programme vascarried out with gratifying success so that now, instead of complaining, as we did in our last issue, of the tardiness of some of our members, we have to congratulate ourselves on the promptness with which all perform any work assigned them by the Society. The object of the special meeting was to arrange for the attendance of the Society at the funeral of Miss Minnie Drope, an old and estecmed member, and to pay a suitable tribute of respect to the first member the Society has ever lost by death. Further reference to the deceased will be made elsewhere. Besides those already mentioneća we have also had during the quarter a meeting for competition for prizes and a public meeting at which they were distributed, both of which are noticed at Iength elsewhere.

Where every department of the work was carried out so well as it has been during the past quarter, it would be manifestly unfair to particu'arize amongst the students. We cannot however refrain from mentioning the essay on "Man and his Environments" read 'he first meeting of the quarter by our esteemed Principal, Mr. Dick son; as being specially meritorious and well received by the Society. Such assistance and entertainment as weccasionally reccive from
our Principal and the other masters of the Institute and the deep interest that they at all times manifest in our work do much to increase our prosperity and serve as a bond of unity betweenteachers and taught.

## SENIOR LITERARY SOCIETY COMPLTITION.

Before the close of ' 78 the members of the above Society agrecd to hold a conpetition for prizes in the various exercises in which they engage. The spirit with which each competitor entered into the contest then held, the friendly rivalry which was aroused, the gallant stnuggle which ensued before the victory was decided, and the happy manner in which the luckless warriors bore their defeat made it apparent to all that these competitions were destined to infuse new life into the Society. It was then arminged that henceforth there should be a like contest held semi-annually. In accordance with this regulation, the membersfixed Friday evening, May 23rd, as the date of their second competition, and a commuttee consisting of Messrs. Sutherland, Farquharson, and Coutts, was appointed to arrange all preliminaries. Owing to the earnest efforts of these gentlemen and to the hearty manner in which their endeavors were seconded by the Society at large, this contest was on the whole perhaps a greater success than its predecessor. The judges appointed tor the Literary Department, were Rev. Messss. Lyle and Gaetz, Dr. Mills and Judge Sinclair, those for the Musical portion being Professors 0'Brien, Aldous and Johnson. The competition was opened by Mr. D. K. I. McKinnon delivering an eloquent address on "The Present Political Situation of Europe." This was followed by Mr. George Kappele's brilliant and forcible speech on "The Future Destiny of Canada," Mr. Stillwell closed the speaking with a splendid effort, ably handling his subject, "The Ups and Downs of Life." Next came the musical contest, Miss Cummings commencing this with a choiceselection, throughout which the fair pianist's execution was particularly fine. Miss Lavelle and Mr. Willson closed the instrumental portion of this department, each performing with great taste. Miss L. White and Miss Lavelle then contested the honorsin Vocal Music, Mr. Stewart having an open field for the Gentlemen's Prize. The Musical Judges then made the following awards:-Instrumental Music-1st Miss Cummings; 2nd-Miss Lavelle ; Vocal Music-1st Miss L. White (Ladies') ; Ist-Mr. Stewart (Gents'.) The Reading, which was the remaining portion of the Literary Department, was then proceeded with, and this branch was particularly well contested there being no less than nine competitors, their selections being widely varied. Every lady contestant distanced the unlucky gentlemen so tha in the future the sterner sex must strive very hard if they desire to snatch the laurels from their fair recipients. The merits of the speakers being so nearly equal the judges decided to allow each to deliver an impromptu address of five minutes after which the decision would be given. The subject selected was "The Influence of The Press"; each speaker made an excellent effort. The Essays, nine in number, which were delivered a week before, have been previously criticised, and the judges having now arinved at a decision with regard to all the Literary exectisises, they announced themselves rcady to make
known the results. After each gentleman had in some instructive remarks explained the defects, and praised the merits of the several competitors, they adjudged the prizes as follows:-

Public Spenking.-Ist Mr. D. K. I. McKinnon; 2nd-Mr. George Kappele. Essay Writing.-IstMr. Andrew Lawson; 2nd-Miss Ballantyne. Keariing-Ist Miss Bowes; 2nd-Miss Mills. This having closed the competition votes of thanks were duly acknowledged by the chairman, Mr. George Dickson, M. A., and by the judges, after which this most enjoyable meeting was brought to an end by singing the National Anthem.

## JUNIOR LITERARY SOCIETY COMPETITION FOR PRIZES AND PUBLIC ENTERTAINMENT.

Having witnessed the success that attended the giving of Prizes in the Senior Literary Society, the members of the Junior Society determined, sometime carly in the spring, to devote their surplus funds to the same object. After some consideration of various schemes, it was decided to adopt, with slight modifications, that used by the Senior Society. Committees were accordingly appointed, and a large number of the members entered the contest in the various departments with a vigor and earnestness which betokened good results. The Rev. Mr. Sutherland, Dr. Mills, and Mr. G. Dickson, M. A., Principal of Collegiate Institute, were chosen Judges in the Literary Departments; and Professors O'Brien, Aldous and Johnson in the Masical.

After a very keen and close competition, the following awards were made : Speaking, rst Prize, Mr. H. B. Witton ; 2nd,Mr. J. W. H. Milne ; Essay writing, Ist Mr. G. F. Bell ; 2nd, Mr. J. F. Graham. Reading, rst, Miss N. Walker; 2nd, Mr. B. Burt. Music, Ist, Miss M. G. Zealand ; 2nd, Miss T. Dalley. General Proficiency, Ist, Mr. W. Logan; 2nd, Mr. Corbett Smith.

The competition was followed by a public entertainment, at which the judges presented the prizes. During the presentation the system of prize giving and itssuccess were highly eulogized by these gentlemen. The public entertainment was participated in by the prize winners, assisted by Misses Garson and Furnival, and Messrs. Courtenay and Hobson, and the programme consisted chiefly of the selections which had won the prizes.

## THE LECTURE ASSOCIATION.

This society has given two entertainments since our last issue, both of which were very successful. Each was somewhat peculiar inits nature. The first, which took place in the Collegiate Hall consisted of a combination of an elocutionary and a musical entertainment. The success of this concert was owing largely to the fact that the association were able to,avail themselves of the services of Miss Aggie Crawford, of the city, a young elocutionist of great promise, who showed herself to be possessed of elocutionary powers of a high order, to which she adds a cultivated taste and well developed mind. The readings consisted of selections from some of the English Classics, and in nature ranged from the high tragic as in "Clarence's, Dream," and the pathetic as in the "MayQueen"
to the dialectical humorous, as in " Miss Maloney on the Chinese Question," all of which were rendered with great effect in a well trained voice. The musical part of this performance was perhaps the best of its nature the city can produce, highly classical in its nature the exquisite melody was in every case reproduced with artistic excellence.
The second entertainment was of an entirely differënt nature, yet equally excellent and successful. It consisted of a combined concert by a Glee Club of one hundred and fifty Children and Adults from the various schools, and the magnificent band of the 13th Battalion. This concert was held on the grounds . Dundurn Park, one of the most beautiful grounds in Canada. The concert was largely attended, and a success in every sense. The Glee Club sang many choruses with remarkable precision and distinctness. They were under the leadership of Prof. Johnson of the city, who has had them under his instructions during the last winter, and too much praise cannot be given him for the splendid manner in which the young singers acquitted themselves. The association were fortunate in securing him and his Glee Club for their entertainment. We need not say a word about the band as its reputation extends over the province. The music sounded most delicious throughout the night air. These two entertainments closed the season which has been on the whole fairly successful. The course of readings given by Prof. Bell was abruptly closed before completion, owing to the unfortunate loss of health by the Prof., who has since been travelling to recuperate his shattered powers. He was succeeded by Mrs. Taverner Graham of Toronto, who gave two evenings with great satisfaction to all. We understand it is the intention to continue these entertainments next year.

## PRIZES.

The scheme for the giving of prizes in our Society, which was inaugurated last December, has proved a decided success. Indeed, so desirable did its continuance seem that at our recent quarterly meeting, a proposition to insert a new article in the constitution, providing for their semi-annual distribution, met with unanimous approval of the Society. This prize competition will henceforth be looked forward to with great interest, and must, we believe, result in causing our members to make greater efforts to excel in the various departments, literary and musical, taken up in the Society.

## OUR PATRONS.

We would again remind our fellow students and friends that it is our duty as far as possible to patronize those who patronize us. Messrs. Eastwood \&: Co., Vannevar, Lees, Grossman, Zingshein and many others, all reliable business men, whose advertisements appear in our columns, have given us asteady and liberal support, some of them from the firsi appearance of our publication. We believe it is our duty to bear this in mind and to omake our purchases from those who advertise their goods with us.
The price of the Quarterly is only 50 cents per annum or 15 cents a number.
Every teacher should take a number oflive periodicals bearing on his profession. Teachers, let the QUARTERLY be one of yours.

## PUBLIC ENTERTAINMENT.

The regulations for the giving of prizes in our Society provide that they shall be presented at a Public Meeting, at which the successful competitors shall furnish the entertainment. To carry out this provision, as soon as the names of those who were successful were known, the following programme was arranged for the evening of June 16th :-

## PROGRAMME.

PART 1.


> PART II.
7. Vocal Solo, ${ }^{\text {a }}$ My Mountain Home." . Miss M. Lavelle.
8.

## Debate.

Resolved,- That it would be for the advantage of Canada to become independent.

Afirmative.
Mr. D. K. I. McKinnon,
Mr. G. J. Atkinson,
9. Piano Solo, "Waltz,"

Negative. Mr. Geo. Kappele, Mr. Jno. Stillwell.
Miss A. Cummings. Chopin.

## Gcd Save the Queen.

At the appointed hour Mr. W. H. Ballard, M. A., took the chair, and after expressing his regret that the numerous counter attractions in the city, on that evening, had prevented the audience from being as large as was desirable, proceeded with the programme which was carried out in full. It is unnecessary for us to refer to the excellence of any part of the entertainment as those participating in the programme were the prize winners, and it will be presumed produced the best the Society could give at the time. We may say, however, that everything was of such a character as to mect the approval of a select and thoroughly appreciative audience.

Dr. Mills and Professors O'Brien and Aldous, again favoured the Society with their presence, the other judges being unavoidably absent. These gentlemen distributed the prizes, complimenting their winners and remarking on the extent and magnificence of the display. Dr. Mills spoke briefly on the system of prize giving, expressing the pleasure it had afforded the other judges and himself to witness the keenness and earnestness of the competition and the good feeling manifested throughout. He cautioned participants in these competitions to
remember that a vigorous and unlearned style was preferable to that used by some of thie essay writers. The National Anthem closed a thoroughly enjoyable if not largely attended meeting.

## WENTWORTH TEACHERS' ASSOCIATION.

The semi-annual meeting of the above Association was held in the Collegiate Institute, on Friday and Saturday, 2nd and 3rd of May. A large number of teachers were present at the various sessions.

An unusually interesting programme was provided some of the more important features of this programme were : a general discussion on corporal punishment, a lecture on Penmanship by Mr. R.E. Gallagher of the Commercial College, a lesson on Mental Arithmetic by W. H. Ballard. M. A., a musical and elocutionary entertainment on Friday evening, participated in by Prof. Lewis of Toronto, and a lengthy address by Prof. Lewis on "How to Teach Reading." Great interest was manifested in all the work of the Association but perhaps no subject claimed so much attention, and justly, as that much neglected subject reading, while being handled by Prof. Lewis. His treatment of the subject was masterly and could not fail to benefit his hearers.
The following gentlemen ${ }_{3}$ were elected officers for the ensuing year:-

|  |  |
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|  |  |
|  |  |

Executuve Committce-A. Macallum, M. A. A. W. Falconer, William Stewart.

Representatives to the Provincial Teachers' Asso-ciation,-Messrs, McQueen and Norton.

## OUR BOAT CLUB.

In the corresponding number of the Quarterly last year, appeared an editorial under the heading "Our Boating Club" in which the writer spoke very highly of the pleasure and profit afforded students by the delightful pastime of boating. Instead of saying "Our Boating Club" we are able, this year, to say "Our Boat Clubs," as we have now three clubs amongst those connected with the Institute. The young gentlemen's club which was started last year has been in every way a success during the present season. The young ladies' have their club this season, and seem to enjoy using the sculls very much. From exhibitions of their skill which we have witnessed we can safely say that they are rapidly becoming possessed of the ability to manage a frail craft with safety even though the waters be rough. The teachers, also, have their club and understand thoroughly how to enjoy themselves on the water. The young gentlemen have a championship badge, for the honor of carrying which, occasional competitions take place. Sometimes those competitions as in the last trial, at which there were six entriesassumed the magnitude of a regatta. Messrs Gibson and Graham are now the acknowledged champions of the blade, and hold themselves in readiness to test their staying powers at any time with any who are eligible to carry the badge. What we have said
will show how thoroughly our teachers and students appreciate the opportunity afforded by our proximity to Burlington Bay for enjoying one of the cheapest, most pleasant and most recreative exercises those following a sedentary occupation can engage in.

OFFICERS OF THE LITERARY SOCIETIES FOR THE PRESENT QUARTER.

Semior Society.

| Mr. A. Unfson. |  |
| :---: | :---: |
| 1st $_{\text {st }}$ Vice-President, - . - Mrss J. IcIntrre. |  |
|  |  |
| 3 rd . " - - © M. Sbumiers. |  |
| Secretary-Treasurer, - Mr. D. K. I. McKinnon. |  |
| Councillor, | Mr. G. Hasbiy. |
| Junior Society. |  |
| President, - - Mr. A. E. Remme. |  |
| 1st Vice-President, - Mr. H. B. Writon. |  |
|  |  |
| $3 \mathrm{c} d$ " - - Miss D. Alexander. |  |
| Secretary-Treasurer, - Miss M. G. Zealand |  |
| Councillor, | Mr. J. W. H. Mrn |

OBITUARY.
Died, of Bronchitis, on the rth May, Arminta Letitia, eldest daughter of Thomas and Jane Drope, aged 2I years and 4 months. There were present at the funeral a large attendance of the Teachers and Students of the Institute, besides the Choir of All Saints' Church and many of the children of the Sunday School, of which she was a valued Teacher. The Literary Society showed its respect for the deceased by offering a beautiful floral tribute and attending in a body.

Died, on the 29th June, after a protracted illness, Mr. Archibald Macallum, M. A., LL.B., Inspector of Public Schools for this City. We regret that as our paper was almost ready for issue when the death occurred, we are prevented from. giving a lengthy obituary of this most valued; 'respected and lamented citizen.

## OUR EXCHANGES.

We have just had the pleasure of perusing The Portfolio for the first time. This really excellent little paper is published monthily by the young ladies of the Wesleyan Female College, and is certainly highly creditable to its fair Iditresses. We shall be glad to see it regularly in our Editorial Sanctum.

The St. Thomas fournal comes to us regularly twice a week, and is considered one of our best edited and most welcome exchanges.

We always welcome the Pembroke Observer, which has long been the light of our Sanctum.

The Educational Monthly, for May and-Jüne, contains a mine of valuable information, and we do not wonder that its Editor finds difficulty in procuring a more abundant supply of mëtter such as thiat to which its readers are always treated. A year's numbers of this journal, at the price asked for it, give the
most really valuable educational matter ive know of for the money.

We are sorry the Canada Schoo Fournal has not taken kindly to our criticisms, and has ceased to appear on our table.

Amongst our other exchanges the Queen's College Fournal, Kingston Coll. Inst. Herald, Acta Victoriana, Morrisburg High School fournal, Tyro, Montreal Spectator, etc., etc., are to be found regularly on our table. All are ably conducted and are weicome visitors.

## ONE THING AND ANOTHER.

Good recipe.-Take a grain of sense, half a grain of patience, one drachm of understanding, one ounce of disdain, a pound of resolution and a handful of dislike; mix them together, fold them up in the limbec of the brain for twentyfour hours; strain it clean from the dross, of melancholy, stop it down with the cork of sound judgment and let it stand nine days in the water of affection. The above may be obtained at the house of Understanding, in Content street, going up the Hill of Self-denial, County of Forgetfulness, in the Stare of Peace.

A young lady, on a visit in the country, incensed at an egotisistical young man,saiid "If the butcher of this village, could buy you at the price your acquaintance hold you at, and sell you at your own estimate of yourself, he could retire from business on what he'd make on that speculation in veal."

Not to be "plucked."-When questioning a student as to the classes he had attended, an examiner said "and you attende the class for mathema-tics?"-" Yes." "How many sides has a circle?" "Two," said the student. "what are they?" The student answered " an inside and an outside." The examiner again said to the student, "Have you attended the moral philosophy class also ?'-"Yes." "Did you ever hear a lecture on cause and effect?" "Yes." "Does an effect ever go before a cause ?" "Yes." "Give an instance?" "A man wheeling a barrow." The examiner propounded no more questions.

# THE COLLEGIATE INSTITUTE. 

## BOARD OF EDUCATION.

Jas. Osborne, lisq., Chairman; 1!ugh Murras, J. M. (iibson, M. P. P., F. W. Fearman, Thos Whate M. D., J. 13. Eager , ('. R. Smith, B. J. Morgan, J. Cummings, S. H. Ghent, I. B. Mctuesten, M. A., A. Sut!erland, John White, M. A., Joseph Fieldiug, A. M. Koss, J. Greentield, (i. Commbe, J. iif. Meakins, W. G. lieid, 1). McLelland.

THE MASTERS.
(ieorge Dickson, M. A $\cdot$, Meari Mfestrr,
W. H. Ballard, M. A., Mithematics.
T. ('. I. Armitrong, MI. A., iLuri:rn Lelnisturits.

I'S. Comphell, 13. A., Classics.
c. Robertson, Mi. A., Modiurn Languares.

II IV Spencer, D. A. Sc. Mh. D., F. G. S. Sience. (i. W. Vanslyke, it Provincinl, .lathematias.
N. Mckechmie, Fourth lear E'ndergraduate Toronte University, $A$ rsisthnt iu C'lassscs.
W. M. Sutherland, M. A., Commerciai Ifaster.

Anlrew l'aterson, Jfust of fïrst form-Girls.
D. E. Sheppard, ist Provincial. do Bers.
J. Aclmes. Undergrachante, 'Toronto University, Assistant it Ahothemertics out Euglish.
Birs. Davilison, Ist Provincial, Certificate.
Janes Ratcliffe, Ist Provincial, and Mathomatical Siholur, Toronto Coniacisity.
H. Sutherland, zad Provincial. Certificate.
W. C. Forster. Jucucing Mostor.

Irof. Iohnson, Music diestar.
Major Dearmally, Calisthedics.
The work of preparing stadents for the Universities is made a speciality. The following classes are maintained in the Upper Scliool.

1. Class for Senior maticulation--honors in all departments
2. Class for junior marticulation (honors in all depaitments) and for Law Society.
3. Class for First-Class Teachers exclusively. In the Lower School there are Two classes for Second class Teachers and for Intermediate Candidates.

## The special features of the sihool are:

1st. Each department of the Upper School is talight by a Cniversity trained man, who has made the subjects of his dejartment a speciality in his University course. Thc time of FOUR masters is giz:cn cxc.usively to the Upper School.

2d. Complete equipment for doing the work of both Upper and Lower Schools. Not only is there a full staff of masters, but
there is an ample supply of maps, mechanical apparatus used in apphed mathematics. chemicais and chemical appliances for enperiments, and apparatus for illustratrating physics.
?d. Large classes reading for matriculation in the Universities. Arangements are made for those who have all the sulbjects for matriculation prepared, except classics and modern languages, to join special classes in these subjects, to enable them to advance more rapidly than they would in the Lower School.
fth. Instruction in practical chemistry. Students will be taug.t both to manipulate and extemporize apparatus.

5th. A arge collection of fossils and minerals; also several cases of Canadian birds human skeleton, etc., to illustrate the lessons in pliysiology.

Gth. Two flourishing literary societies among the students for the purpose of mm proving themselves in public speaking, reading, writing of essays, and in general literature.

Ttn. Classes in free-hand, oil and watercolor drawing. Drawing is optional in the Upper School.

Sth. Publication of a school journal by the Literary Societics.

9 th . Advanced classes in vocal music.
All the students are taight music, but none are permitted to join the advanced class unless they can read music at sight.

10th. Instruction in military drill.

## 'THE SCHOOL AT THE UNIVERSITY

## AND ÖHER EXAMINATIONS.

During the last six years, fifty-nine students of this School entered Toronto University; nearly all of them are now pursuing a University course. Last year nineteen entered Toronto University ; two entered McGill; one entercd Trinity; one entered Queens's ; eight passed the locol exammation of Toronto University ; nineteen passed the local examination of McGill University ; two obtained first-class Teacher's Certificates: Sixty-seven passed the intermediate examination; twenty four obtained third-class Certificates ; eight matriculated in law. During the
half year ending J une 30th, three matriculated in Law, two in Medicine, 5 passed the First Examination in Arts, Toronto University,

10 passed the Schoo: Examination of McGill University, Montreal, and large classes are about to pass, the Matriculation Examination of Toronto University, and the Examination for First and Second Class 'leachers' Certificates.

The following are the names of those who passed the First Examination, Toronto University iu May last:

> M. S. Fraser, Geo. Graham, Isaac Pike, Geo. E. Freeman,

Mr. James Reid passed the Second Eyamination Toronto University, and obtained Ist class honors in the Deparment of Mental and Moral Science.

For a full statement of the standing of those who passed the Local Examination of McGill Universtty. See page 30.

Miss E. Smith matriculated in medicine.
D. Urquhart matriculated in Law.
R. Y. Cain matricalated in Law:

The following is a statement of the Scholraships won by our students on leaving the School.

1şa, two scholarships at Toronto University.
1.87.4, three scholarships at Toronto University, and one at London, Eng.

1375, three scholarships at Toronto University and one at Knox College.

1Si6, threeschoiarships at Toronto University and two at Knox College.

1877, two scholarships at Toronto University and two at Know College.

1878, one scholarship a Toronto University.

Altogether fourteen at Toronto, one at London (the Dominion Gilchrist ${ }_{2}^{\text {TS }}$ Scholarship valued at $\$ 500$ per ammum, )and five at Knox College-making a totalof twenty Scholarships.

Taking the six Intermediate examinations together, no fewer than $15 \$$ passed :

At the 1st Intermediate, $\geq 1$ passed.

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| " | 3rd | " | 16 | " |
| " | -tth | " | i3 | " |
| " | 5th | " | 35 | " |
| " | lith | " | :30) | " |

In 187\%, two obtained First Class Cer tificates.

In 157s, two notained First Class Certificates.

This record includes only those who were students of the school at the time of passing these examinations, not former students. Nor does it include those who passed the Intermediate a second time.

How far our students are prepared to take advantage of a University course of study may be seen by referring to the Class-List of Toonto University.

The sllowing schc!arships were awarded to the ex-students of the School in 1878-:

In the Fist Year-1st Proficiency Scholarship.

In the Second Year-1st and end Classical Scholarships, and the 2nd Proficiency Scholarship.

In the Third Year-1st Modern Language Scholarship, and the Blake Scholarship.

In 1879, besides First-Class honors in every year, the following Scholarship were won by ex-students of this School:

1st Classical Scholarship in the Third Grade.

Ist Scholarship in Medicine, First year.
1st for Latin Prose Composition opein to all undergraduates.

Silver Medal in Mental and Moral Science.
Gold Medal in Modern Language.
No fewer than 7 of the Graduates of this year at Toronto University received their preliminary training in this School.


[^0]:    "Though fallen on evil days,
    On evil days though fallen, and evil tongues_; In darkness, and with dangers compassed round, And solitude; yet not alone."

