## THE EDUCATIONAL REVIEW.

FOR THE ATLANTIC PROVINCES OF CANADA.



## HANDY REFERENCE <br> ATLAS OF THE WORLD

with Complete

Index and Geographical Statistics.
BY JOHN BARTHOLOMEW, F.R.G.S.
In the present Work, the special aim has been to provide the public with an Atlas which for all general purposes is practically complete and reliable, while at the same time in such a convenient and handy form that it may be kept on a writing table or desk for ready consultation.

## Prince Wm. Street, St. John, N.B.

DAIFOUSIE COIIEGE, FAAIIFAX, N.S.

Session beminis parly in September, 1888.

The following Exhibitions and Bursaries will be ofleped in September, 1888 and 1889.

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## 1888.

SUMMER ARRANGEMENT．

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I／ay Express．
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Publishei Monthly.
S'T. JOHN; N. B., NOVEMBER, 1888.
Vol. II. No. 6

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| Editor for P.E. Island. |  |$\quad$| G. U. HAY, Ph. B., |
| :---: |
| Editor for New Brunswick. |

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## EDITORIAL NOTES

This issue of the Review completes the first half of Volume II. The subscription list continues to grow steadily, and the second year promises to give a strength and permanence to the Review exceeding the anticipations of its warmest friends.

We hope those friends of the Review who have aided so materially in assisting its circulation, will continue their good offices, and make the list of this year double that of last.

Will our subscribers remember that our terms are One Dollar a year in advance. The bills for publishing the Review have to be met each month promptly, and this can only be done by prompt remittances. This does not refer to subscriptions payable to Inspectors.
Several correspondents from whom we have received favors will be attended to in our next.
The importance of the proceedings of the High School Section of the Interprovincial Convention justify us in publishing the full report that appears elsewhere. We shall publish the report of the Adranced School Section next month.

The Nova Scotia normal school opened at Truro on Wednesday of this week.

Attention is directed to the advertisement of Treasure Trove in another column. This is a most interesting magazine for scholars, and the prizes offered should stimulate them to work.

In this number we devote a page to the discussion of matters relating particularly to school districts and school law. On this page may also be published official notices from superintendents and inspectors to school trustees and teachers. As the Review is now beginning to circulate among trustees as well as teachers, this page will prove of advantage to all interested in education.

Ginn \& Company, of Boston, will shortly publish a "Reader in Botany" for use in schools. This book is a collection of interesting botanical articles to be read by pupils in connection with their practical work. It follows the plan of the editor's "Outlines of Lessons in Botany," and "Gray's Lessons." It treats of such subjects as "Seed-food,"" Movements of Seedlings," "Trees in Winter," "Climbing Plants," "Insectivorous Plants," "Protection of Leaves from the Attacks of Animals," etc.

The number of students in the Faculty of Arts at McGill college, Montreal, at present is 300 , of whom 98 are women. This total does not include students of other faculties. A comparison of the attendance of women at the five leading colleges of the Dominion last year shows that McGill had more than all the others taken together. A comparison of the number of students taking the Arts course at McGill at decennial intervals is instructive: In 1859 the number was 60 ; in 1869, 78; in 1879, 149; in 1888, 300.

The options in the Nova Scotia Natural Science paper for admission to the academies are not only very useful and fair, but are also extremely interesting. They tell tales out of school, and give us glimpses of "book and fable science as she is taught." From some schools come pupils who tell us about the English robin instead of the Nova Scotian, which is the only robin they ever saw. They are two different species altogether. It is the book robin they know (?).

Ther tell us of the cumning of the fox. or the trasic deeds of the eagle: the romance of the monse, or a story of the bears: but never anything they saw with their eyes. Haring eves they see not. They have never been taught.

The Emcathesat Review for October, which is published monthly at St. John. N. B., has heen received at this office, and is a most creditable and entertaining publication, more especially for those engated in the teaching profession. It is well tilled with pertinent and useful articles that will well repay the reader for the time taken in their perusal. - Trom Son. O t. 24. 1888.
Mr. Johs Beittais, Principal of the Petitediad schooks, N. B., during his trip down the Restiguthe the past summer, discovered sisteen species of phants new to the province besides collecting a great deal of information on other features of the natural history of that interesting river. Mr. Brittain was the pioneer botanist on the Restigouche. The result of his investigations will be given in a paper to be real defore the Natural History Society of New Branswich this winter. From Mr. Brittan's accurate habits of observation, as well as the important service he has already remdered in extending natural science wirk in New Brunswik, an interesting report from this terra inergrita may be luoked for.

The L'niversity of New Brunswick began its year's work Oct. 1st. with seventeen matriculants to its freshman class. Mr. Frel. P. Yorstom, of Ihouglastwwn, led the class, cloely followed ly Bernard Bax. ter, of Perth Centre, Victoria comity. Mr. N. W. Brown of the collegiate school staff, matriculated into the sophomore class, under provisions for tirst class licensed teachers.

The Berlitz School--The Berlizz achools of languages, which hare become deservedly porular where they hare been established in New Brunswick. aim to teach a language by natural methols. These methods are founded upon intelligence and common sense. No one can listen to Prof. Bober giving a lesson in German, or to Prof. Ingres or his asestants leading students into the nicetics of the French language, without being charmed by the naturalness of a method which aims to make one acquainted with a foreign language in the same way in which his mother tongue was acquired. Many teachers in St. Johnand Fredericton have joined these classes, and so far as can be learned, their progress has been as satisfactory to themselves as it has been gratifying to the shilful teachers of the Berlitz school.

Prof. Dr. Paulserl, of the I'niversity of Berlin, Germany, in a letter in regard to the Berlitz schools of language, says:
"The methoid of Mr. Berlitz appears to me, as far as Thave had the opportunity of familiarizing myself with it by some
 to leal the puphl raphaty, safely, and with comparatively little trouble tol himalf. *ha, cita . promule, in the worls of wha Comman. - th the practioal mastery of the modern languages It peculiarity consixt. coundialy in introducing the forcign twhum a a living tongue, drilling it from the very legiming ly earand outch intead of teaching it by reading and writing the the deaf-mute language During the in trastion the pumb hars and peak only the language he is tw learn. The ffect of this in, finst, that he is enabled to follow, without difficulte. even rapila conversation in the fureign tongut : and, womb, that he thoroughly acquires the pronumenation as well as the variou exprewinns used in forming an asertion, question or command. Whether the method an le cmparyed in the inseruction of large public. Whowl chace 1 ann not whe to state, It appears to me, however, heryod dombt, that the methon is specially adapted to advancerafily mblt, who decire to study a modern lagyage for practual applieation. But I am aloo inclined thintion. that it we at lant -upplementary to the ordinary
 provitut the teacher humelf can converee in the language to be taught. It wold he apt, alove all, to reawaken the pupile inetot. oo earily thuntel ly grammatical exercises and tranlations. Really the method is only the systematized form of larning a fureign lanquage in a forecign country by its actual we.e.

Tuf late report of the superintendent of Insurance shins a growing temideney on the part of Canadians in faror of their own institutions. In $188^{\circ}$ Canadian Companes dan mone-third of the life underwriting in Canala, while last year they did more than 60 per cent of $f$. In 1sn the Canadian offices wrote $8: 33$, ins.int of husines. a gain of $84,215,853$ on their record of the previous year, while the American companies decreased their business in Canada by * 391 , 654 , and the British companies theirs by nearly one million. Since $18 \pi 5$ our home companies have increased therr business in force, 501 per cent. While the increase of Canadian business with British offices has been only 50 per cent., and with American companies only fe per cent.
The rate of interest and the rate of mortality being so much more favorable in Camada than in the C'nited States or (ireat Britain, there is no reason why our own life offices-erpully safe-should not do a still larger percentage of the business, and retain for investment in our own land the $\& 3,106,286$ which we now pay foreign matitutions for life and endowment policies that we can secure with equal safety and greater profit at home.

We have to record with deep regret the death of Principal D. Henry Burbidge, M. A., of the Morris street school, Halifax. He was one of the most valuable members of the teaching profession, both in the school-room and teachers' associations. Our readers will miss in him one of the most acceptable writers for the Review. He was a native of Cornwallis, Kings Co., Nova Scotia, was a graduate of Mt. Allison College and held a Grade A certificate for Nora Scotia. He taught in several sections of the Atlantic Provinces-at Marysville, N. B.; Carbonear, Newfoundland; and in Hants and Queens Counties, N. S. For ten years he had been principal of the Morris street school, Halifax. Failing health obliged him to be absent from the Interprovincial Convention, for which, however, he contributed a paper.

The funeral of the deceased took place at Halifax, on the 11th of October, and was attended by a large number of prominent citizens and educationists. Dr. Allison, Superintendent of Education, paid a noble tribute to the integrity and self-sacrificing labors of the deceased, to whom he referred in substance as follows:

- A special sense of bereavement has fallen not only on all connected with the educational service in the city, but on many throughout the province, to whom our departed friend was known, and by whom he was highly esteemed in sill the relations of life, personal and professional. *** It is our satisfaction in this sollemn hour that the term of life alloted the departed was not spent in idleness, but in honorable and well directed industry, in the faithful improvement of opportunity, in self-sacrificing work for the good of others.
Few, if any present, have known the deceased as long as myself, few have watched his career with greater intersst or greater satisfaction at the fidelity and success with which his various public engagements have been met. The impression produced on my own mind by that career, and I am sure, also, on the minds of all, particularly those of the successive gencrations of his pupils, was that of a faithful man, a man anxious to redeem to the very letter all his obligations of duty and service. One lesson-which many alas, do not need to learn-our friend never succeeded in learning, the art of taking things easy. Into the discharge of every duty he carried an exacting and serupulous conscientiousness which added perhaps unnecessarily to the severity of life's burdens, and also, quite probably, shortened life itself. (Our only regret is that the effects of this pardonable failing fell upon bimself. As to his domestic virtues, his rectitude of principle, his simplicity of Christian character, there is no need that I should eulogize him on their account. He, himself, would not wish me do so, if he had the disposill of the ma:ter. But my relation to him will justify a word as to his professional zeal and reputation. Having selected one of the most laborious and responsible of human vocations, he determined to fit himself for achieving success in his chosen calling. For ten years he has gone in and out amongst us in a post requiring for its adequate occupancy, sound judgment, didactic skill, and unblemished purity of character No teacher in Nova

Scotia was more solicitous for the legitimate exaltation of his profession, none in greater sympathy with all that is progressive in the methods and spirit of modern education. Our friend aimed high, worked hard, and accomplished much. It is only when we are thus surrounded by the morals of a well-spent life-a life projecting itself forward, and perpetuating its influences and its forces in the lives of others, that we realize the true import of those sublime words of Holy Scrip. ture: ' Write, Blessed are the dead which die in the Lord from benceforth! Yea, saith the Spirit, they that may rest from their labors, and their works do follow them.'"

The following books, printed in embossed point characters, have been recently added to the Free Circulating Library in connection with the Halifax School for the Blind:

Whittier's Poems (Selected) ; The Talisman ; Ivanhoe; Macbeth; Hamlet; Merchant of Venice; Coleridge's Ancient Mariner, and Hymn Before Service; Our Father’s Care, (Mrs. Sewell); Pilgrim's Progress; One Hundred Selected Texts; The Roman Emperors and Christianity; Migration of Races, Ostrogoths, Visigoths, and Lombards; Gay's Elegy and the Bard; Macaulay's Poems (Selected); Byron's Poems (Selected); Tennyson's Poems (Selected); Longfellow's Short Poems; There's Help at Hand, (Mrs. Sewell); Faithful Promiser; New Testament, 9 Vols.

These books are circulated among the graduates of the Institution in Nova Scotia, New Brunswick, P. E. Island, and Newfoundland; they are also distributed to those persons who have lost their sight after having reached years of maturity, and who have learned to read at home. Many an hour that would otherwise be tedious has been pleasantly and profitably spent in the reading of these books, in some instances by persons upwards of sixty years of age.

The friends of the blind throughout the Maritime Provinces should keep this library in mind, and when its advantages can be extended to any person deprived of sight, an application should be mailed to the librarian of the Halifax School for the Blind, for a list of the books in the circulating library, and a copy of the regulations governing their distribution.

The Teachers of the Victoria school, St. John, have formed themselves into an association called the "Victoria Reading Circle," for the purpose of improvement in professional and general literature. At the first of its fortnightly meetings Dr. J. G. Fitch's admirable lecture, on "Literature the Sunshine of a Busy Life," was read and discussed, officers appointed, and a general plan of work for the ensuing year adopted. At the second meeting a critical reading of Compayre's "History of Pedagogy" was begun; and in general literature Goldwin Smith's "Seven Lamps of Fiction," and portions of Sir Walter Scott's "Woodstock" were read.

## THESCHOOL ROOM.

## English Composition.

For Primary Classes. Show the children a picture and ask them to write about it. They will have to be encouraged and their attention drawn to certain points in the picture. Select from books and advertisements a stock of pictures so that one may be given to each pupil: or better, put before all the pupils a large picture. Draw the pupils out by asking questions about it, and then hare them write what they can.

Again, read a short story and ask the pupils to present a picture of what is told in the story. It may be the story of a cat catching a mouse. If told in an interesting way the pupils will (with a little encouragement) do their best to reproduce it in picture.

See that your pupils hare thoughts to express before ther attempt to express them. The first essential is, that the child have something to say on the subject selected before he attempts to write.

Hare your pupils express their thoughts in correct language, and always in such words as they understand.

Encourage pupils to read and then to reproduce what they have read, either in newspapers or in the works of standard authors.
Encourage them to refer to the dictionary whenever in doubt as to the correct meaning or proper application of the word.

Encourage them to read the best and most classic authors, to discorer, if possible, the essentials which make their styles pleasing. Reading literature of a captivating style will tend to give one power to form a pleasing style of one's own.

Gire occasional exercise in transposing poetry to prose. This will require the learner to remodel many of the sentences and express them in a different form.

For Advanced Classes. The following composition, descriptive of a photograph of Erangeline, was written by a young lady in one of the normal schools of the west:

## A Description of Evangeline.

The picture here represented is certainly one of artistic taste and skill It would require a careful study and a critical eye to detect any faults, so beautiful is the illustration.

The subject is a summer scene, showing Evangeline strolling through a rich, green meadow, with pitcher in hand, and four calves lingering near her, with their soft, dreamy.eyes looking out in sweet simplicity.
The characters in the picture are so arranged as to reveal each subject in a most pleasing manner. Evangeline is well represented, her entire form being shown. The calves crowd near her as though they feel safe under her protection. Her
hand falls caressingly on the back of one, while the others stroll as near as possible. The two farther in the rear lay their heads fombly together, and all lowk bright and cheerful as the rays of the morning sun on a bight June day.
Evangeline is dresed in simple, plain clothing, with a morning cap covering the lack part of the head and all the hair, save a few curling locks that resist the bondage and fall gracefully down over the white forelead and temples.
Expressive dark eges lowh out from teneath a curtain of heavy fringe, and the firmly set mouth makes the face a scene of study and intense imterest. The wan like neck is entirely revaled, and a oft collar clinging to the rounded nowlders is her ole ornament.
The ground at her feet in chvered with the beautiful flowers of the meadow. The wwet simplicity of the scene, mingled with the beauties of nature, prexluce a pleasing and beautiful effect
The background stretches hack across a wide expanse of meadow, including a higher portion of land covered with flowers. A cluster of trees with wide spreading branches may the seen still farther back. These, with the summer sky and a few tinted clouds make in themelves a pleasing picture.
The entire sone is one of entrancing heauty. The sweet face of Evangeline, the innocence and purity of the characters, lead one to deeper thoughts and higher ideav of life. None can lehold the bright, Howing face of Evangetine, and think of her sunns disposition, her sweet patience and trusting faith, but he feels inspiret with purer thoughto and loftier ideas.

The study of synonyms is an excellent exercise to make pupils acquainted with shades of meanings in words. Make a list of such words, give their derivation and accurate meaning, and ask the pupils to write sentences containing them. The following extract will serve to illustrate:
shall And Whit: (1) Both are derived from the Anglosaxon. (2) Buth relate to some act. (3) Shall in the first person simply predicts or denous futurity. Will denotes intention or determination. In the second and third persons the case is reversed. Hence, it is absurd ever to ask a question in the tirst persom, using the word aill. (4) Not. Will I go? or, What will we do: hut, shall I gn? What I shall do? There are similar distinctions between the past tenses, should and would.
Exceed and Excel: (1) Latin. (2) To surpass. (3) Exceed is to surpass in any quality. Ficed is to surpass in any good quality. (4) Heary exceds his brother in mischief. She excels her friend in gencrosity.
Fallt and Defect: (1) Fault is from the Latin, defect from the French. (2) Imperfect (3) Firult denotes something improper or wrong. A fault is a mistake. Defect denotes the ahmence of that which is necessary to make completenest or perfection. A defect is a deficiency. (4) Mary tore out the rage, therefore the defeet in the book was her foult.
Instrection and Edecation: (1) Latin. (2) Information, knowledge. (3) Education includes instruction, growth and development of the faculties, moral discipline, and the whole training made use of for improvement in every way. Instruction is the communication of koowledge. (f) A person may cease to receive instruction in a certain branch, but his education is never completed-Common School Education.

## INTERPROVINCIAL CONVENTION.

## Proceedings of the High School section.

The High School Section met in the Hall of the Victoria school, at 8 A. M. o'clock, on Tuesday, July 18th. W. M. McLean, A. B., of St. John, occupied the chair, and H. V. Bridges, M. A., of Fredericton, acted as secretary. In addition to the principals and teachers of high schools throughout the Atlantic Provinces, there were present Sir Wm. Dawson, Dr. Bailey, of the University of N. B., Professor R. G. Huling, of New Bedford ; and others.

## Science in the High School Curbiculem.

The first paper read was by A. H. MacKay, B. A., B. Sc., Principal of Pictou Academy, on "Science in the High School Curriculum."
Mr. MacKay said :-
Fellow Teachers:-I venture some thoughts on our High School Curricula, solely with the object of eliciting an interchange of opinion as to what we should attempt in the present stage of our educational development, so as to produce the most desirable results. In the Pictoia Academy, during the course of my incumbency, I have had charge successively of the instruction in each of the departments, English, classics, mathematics and natural science. The latter department is now my special care, not so much from choice as from necessity. I have had some opportunity, therefore, small as it may have been, of indulging in the pleasure incident to a more or less specialized attention to each of the leading groups of high school work; and can somewhat appreciate the genaineness of the feelings which often with the brilliancy as well as with the erratic playfulness of auroral corruscations have presented as the sole superior form of mental culture, now the classical, now the mathematical, and now the vernacular literary or the scientific.
We meet together here from different environments. The world, while in some leading respects the same to all of us, has been a different world to each of us. Eren the poetic reference to Jupiter frigidus, to the whisper of the zephyr, the monotone of the ocean, or the blue-bell tossing in wind, lights up different pictures in the galleries of our memories. Our minds have been developed by contact with different phases of this great world, our delights have sprung from various sources; and as many flavored as are our tastes are the hues of what we may think best for our common humanity. With such thoughts in our minds we are ready to understand that there may be sources of enjoyment as deep as ours in realms of nature not visited by us; that there
may be superior culture in mental gymnastics which we have not tried; and that the consensus of the teachers of three provinces is likely to be a safer guide than the notions of the most experienced unit among us. Let us therefore simply compare notes, and learn through others what we may not have learned ourselves.
The school is only an adjunct in completing the education of the individual. Education I would briefly define, as the harmonious development of all the faculties of the being, with special reference to his environment. When the individual is mature the education must become more special or technical. This stage lies beyond the proper realm of the high school. For the mass of mankind it must lie only immediately beyond the common school. For an extremely small percentage of humanity it may lie beyond the university. This technical education, which fits for the business of life, varies from the simple art of the fisherman to the mind-wrestlings of the metaphysician, to the inventive skill of the scientist who creates a new industry. The secular school is simply an adjunct, to supply at the proper time and in the best known manner that kind of culture which will most economically advance the good of society. The high school may be considered to be the general, all round developer of the mental powers of those who are likely to be the leaders in all the different phases of human activity. A few will go to the universities and specialize for the learned professions, some in the direction of letters, some in the direction of art, some in the direction of science, and so forth. Still further, specialization in each of such groups will give us those who should be the first among the leaders in thought, and the pioneers in invention. This leaves the high school responsible to a great extent, for directing the tastes and suggesting the courses which may in future be developed in the under-graduate career and post-graduate courses of the universities and in technical colleges. It also leaves the high school responsible for much of the general contour of mental habits in the greater number who leave it for the profession of teaching, of medicine, of law, of theology, and for the legion of industrial vocations which now demand intelligent laborers and directors. The modern high school has to lay a much broader foundation than the olden; but as the limit of human accomplishment remains pretty much the same as before, we may have to cease to build some of the foundation walls so high. The high school was once a sort of technical school for the literary arts and professions. Now we are expanding it to give the elements of a truer-because a wider-culture. The guiding star of the old was
beauts of form in expression; of the new, beauty of truth in substance. The former was most intent on making a polished man in speech, the later on making a knowing man. The one perhaps produced the finer flashes of wit, the other the steadier light of wisdom.
To particularize, I have been thinking that if our high schools could do a little more work in the natural sciences, and that little in a truly scientific manner, the would gire a higher form of mental culture, and at the same time they would tend more to the indus. trial development of the country. The study of the natural sciences is the investigation of the real nature of the world which surrounds us on every hand, which limits our sovereignty over matter, and from which we have to win our very life as if by conquest. Truth of this kind is becoming yearly of greater importance as we see arise before us not in the very far distance graver social problems. Our high schools would in this way become indirectly beneficial to hundreds of thousands who never entered their doors. A boy of genius gets a peep into the fascinating arcana of nature perhaps simply in an oral lesson. His mind follows the bias, and at home, or in a technical college, or as an employe in a foreign factors, be graspsan idea of invention or application, and returning to his native country, he originates a busy hire of industry, where, before, the bee alone collected hovey from the flowers of the wild wood.

But natural science is also the great eliminator of superstition, the great discoverer of natural truth; and of all the elements of mental culture, truth is the most invaluable. Buy the truth and sell it not. Galileo's telescope broke down a magnificent human theory, but a false one. There were mourners for it as there were for the bad though beautiful Absalom: but the world was the gainer, notwithstanding. We cannot study nature deductirely. Because pure water is good, we might make a fatal mistake to act as if all transparent fluids were potable. Calomel and corrosive sublimate have many things in common, but experiment proves a rery important difference which the profoundest metaphysical thinking would never hare discorered. A graduate from a superior literary college might see nothing improbable in the proposal to manufacture heating or illuminating gas from water, and he takes stock deef in the concern. Why not? Is not gas already made from coal dug from the earth: And water is known anyway to be composed of two gases which will produce intense heat when burned together. Yet he would laugh if you proposed to make a bonfire out of a pile of ashes. He reads that magnets are made by a current of electricity, and that lightning is only
electricity; and then repeats the wondrous story of a south-western paper, that a man was struck with lightuing in a late thunder storm, and became so magnetic as to slam with tremendous force against every lamp-post on the street side; while the only lightning really wherced to have such an effect was the brand sometimes known as Texas whiskey. He knows that iron wonderfully attracts the magnetic needle; then he invests in a mineral rod for the discovery of gold. The tent caterpillar moth fixes numberless fairy rings around the twigs of his apple trees in the sunny summer. He sees them not on the naked twigs in winter. But in June Providence sends hordes of caterpillars from the clear sky which strip the orchard. How often is Providence blamed for the results of improridence:

Again, the general effect of the study of nature is to make a man aceurate in obserration and attentive to his environment, conditions more than ever necessary in this age for success in every one of numerous human employments. We commence the work in our common schools by outlining a course of oral lessons on nature, which are expected to be utilized without materially increasing the mnemonical or task work of the pupil. Nas, we believe that, where properly managed, these lessons serve as a recreation-a relief from the other labor. In the high school this course might also be made more complete and systematic without adding to the mental worry of the student. The inductire study of nature, in fact, is one form of recreation which is spontaneously resorted to as a relief from the mnemonical efforts in language stady and the wear of mathematical thinking.

But as it might be necessary to give more time for these subjects, would it be objectionable (1) to reduce the classical work of the high school to what is required simply for creditable matriculation into our uaversities: Let the university give the classical education.
(: R) Reduce the details of history to be memorized. It requires considerable maturity of mind to read history with profit. As a general rule, an epitome cannot give the young student a true idea of the past. He simply reads bis own childizh knowledge into the outline of events, and has simply a string sometimes of very inconsequent fancies linked together by dates. How can a person who is not able to form some correct idea of modern politics, understand any outline history: He might have some chance with a fully written one. But still an outline is necessary in order to fix the perspective of what he may afterwards come to know. Let us then not burden our course with too numerous details. But instead, explain clearly
our own system of government, federal, provincial and municipal; their constitution and functions; our law courts and the character of common and statute law. When he has an idea of how present society is moved and governed, he will then be in a position to understand the history of society passed away.
(3) Book-keeping in the high schoul might possibly form part of, or be extended into an outline of political economy, the connecting links being commercial usages, laws and exchange.
(4) Geography might be extended to include uranography. Eliminate the memorization of details of descriptions of foreign places. These should never be forced into the memory. The atlas is always fuller and safer in case of a journey. But, strange to say, tens of thousands are spending hours in memorizing the outlines of the counties of England, or the boundaries of Saxony, which they never expect to see; while the constellations of the sky, which may be seen simultaneously from every point of a continent, may be completely unknown; and the track of a meteor cannot be fixed by reference to the stars. At present there is an outline of astronomical work given in connection with geography in some of our test books. The determination of latitude and longitude, and an outline of the solar and stellar systems should be overtaken in a high school course.
(5) Chemistry and physics should, if possible, be tanght experimentally as well as mathematically. I mean that the student should, if possible, perform many of the experiments for himself. This will make the teaching of such subjects much more expensive and troublesome than the teaching of the literary and mathematical sulbjects. And yet niy experience seems to prove that it is necessary. Brilliant lecture-table experiments are always very popular, especially when there are loud explosions, or when the oxyhydrogen jet is dissolving somebody's jackknife into liquid drops amidst an aurora of scintillations. But for the mass it is an exhibition of fireworks. Deceptive experiments would be as real to them as the most carefully conducted ones. It is only book work illustrated for them. It does not bring them into contact with nature; it does not force them to discover how natural truth is found, as if they had to make the experimental demonstration themselves. Now, the problem is, how can a class of 50 or 60 have arrangements made economically, under our general present circumstances, to do some systematic, practical work? I have as yet failed to solve the problem. I select two or three assistants from the class, who assist in conducting lecture experiments. I make the class do the mathematical calculations and my assistants test the points experimentally before
them. Yet, at the end of the hour, a studious, and not youthful lad either, in a front seat, who for a long time must have noticed the effervescence of hydrogen in the generator, which was ostentatiously charged in his presence too, asked the question, "What is in that bottle there boiling up?" Practical chemistry is optional with us. Classes of from six to ten work simultaneously in the laboratory ; but to encourage the extension of that system to a class of fifty or sixty would nearly require a special teacher for chemistry, especially in the absence of a laboratory adapted for the work of a large class. In physics, of course, a great number of experiments can be given the student to work out at home with extemporized apparatus. Comparisons of the results of these in class are always of the greatest interest to each, and therefore of the very greatest value from more than one point of view.
(6) Then in the high school there should be a systematic outline of mineralogy and geology givenan outline, with practical work. A number of common minerals should be examined physically and a few examinations made with the blow-pipe. Some practical work is necessary in order to make an outline convey real information. Local geology should be made a specialty in this outline.
(7) There should also be a systematic outline with practical work in biology, to which we may annex human physiology.
1 think botany is now taken up practically and systematically in our high schools. It is the first of the natural sciences to be profitably undertaken. Classification is not so difficult as in other departments, while the material is abundant, convenient to work with and easily preserved. An acquaintance with the characters of the leading orders and the analysis of at least fifty species of flowering plants, are prescribed for Nova Scotia.
To round the outline with what is most useful for general society, there should be a few demonstrations of the organic causes of putrefaction, fermentation, etc., just to reveal the character of the invisible demons in the air which sometimes play sport and sometimes havoc in the affairs of men. This would reveal, for instance, the nature of the care to be taken in the treatment of canned fruits and meats, and the preservation of food in the household generally. It would also give an intelligent basis for general sanitation and the prevention of infections or contagious disease. If the student could see some chicken broth filtered clear in a test tube, become opaque and fetid in a day or two; if the microscope revealed the particulate nature of the opacity, the millions of unicellur and constantly dividing plantlets; if the very same

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thuid in its early stage of putrefaction is again boiled to kill the micro-vegetation, filtered to clear it, and again boiled with only a cotton-wool wad to close the neck of the tube or bottle; if, when all this is done he finds the liquid remains clear for weeks, although the air can pass through the cotton-wool stopper, he will be convinced that it may not be the presence of air, but the presence of some living germs carried in the air, which produces putrefactions, fermentations of different kinds, and even many forms of disease. He pulls the cotton wad out in the air of the school-room and replaces it instantancously, and in a day or two the preserved fluid becomes fetid and cloudy as before. Notwithstanding the popularization of such subjects in the press, I have found the most intelligent people sometimes undoing all their work in carrying out a rule of sanitation, disinfection, or food preserration, just by a little slip which no one understanding the true nature of the danger would be likely to make.

Closely connected with this is zoulogy. A systematic outline of our natire fauna, with some few dissections of type forms and tracings of life histories, should be made, if possible. More particular attention should under this head be paid to forms affecting human industries or interests. Physiology, which is already prescribed for high school work, would also be made much more intelligible by a rounded course of this kind.

But, theu, these suggestions will be met with the cry, "Why, you are prescribing a university course in natural science-several of them; or, if you only intend to give outlines, you are making your students superficial scientists; at the end of the high school course they will imagine themselves to hare mastered the whole circle of scrences." Such would be the effect if they were taught outlines merely from the book. But we must remember that the outline is given to fix the relation and position of the little we may hare an opportunity of knowing in the great scheme of nature, so that the group which we may hare the best opportunity to study may not be considered to be the whole or the most important, but only a speck of knowledge in a vast system. A person came to me who was beginning to be very much interested in insects, and asked what book I would recommend. He made up his mind to master the science of entomology this summer. I told him I did not know of a book which would give him all the insects, but I asked him if he thought he could make out or classify a new one each day during the year on an average. He thought he could. Well, at that rate, I had to tell him he might know all the insects which hare been already observed in about-one thousand years. It will be seen, therefore, that we have
but a rery slim chance of being able to know all that is known, without discovering anything new, even in the section of a subblivision of a division of any one of the natural sciences. If we knew one section thoroughly, we might be rery useful in discovering new facts in that direction: but such specialized knowledge would not at all be one fitting us for general citizenship.

The real, practical study, however, of dominant local typ-forms in every department of nature surrounding us, would give us a more correct view of the laws which govern $4 s$ and our environment, and it would tend to make us more accurate observers, and to eliminate errors of inference which makes the world so different to many people from what it really is-so different that their lives are simply a series of blunders from begiming to end, primarily on account of the ungenuineness of their perceptions of what surrounds them.

All the work of our high schools is science combined with art. The study of classics is a science, and a natural science, too, without wresting the phrase severely. It is simply a speck in the realm of natural science, however-the science of the naturally dekeloped sounds by which the lireeks and Romans interchanged ideas. This fragment of natural science has, however, been well developed in our old high schools since the time of Sturm, in the sixteenth century. But its value has been greatly exaggerated.
The courdination of the various subjects forming a course of study is a portion of the problem. What is the proper amount of stress to lay upon each in order to secure the best results? We must balance, of course, their values as mind discipliners. We ought also to consider, as life is so short, their utility combined with their disciplining power. Those subjects which combine both are certainly the best. As the high school must finish the general education of the most of its students (by natural selection the future leaders of our country), it is important that its general educational system should produce powers trained to make the best use of every phase of our environment; that it even should suggest new lines of industrial activity wherever such might be profitably originated.

A high school with a three or four years' course might in one year give an hour a week or more to botany, in the next to zoilogy, and in the next to mineralogy and geology, for instance; in addition to physics, chemistry and physiology. But then you are multiplying subjects, some one will say. Call the whole group then, for him, Natural Science. The subject is one.

Finally, I would suggest the formation of museums of local natural history collections in connection with
every high school. These collections would grow from the simple exertions of the young students themselves; and, on the other hand, the existence of a museum would stimulate collecting; and the beauty of the whole matter is, that such work, instead of costing anything, would encourage observation and give much innocent and useful pleasure, and probably save many from injurious pleasure. Those muscums should also contain home-made apparatus for demonstrations in chemistry and physics, as well as imported apparatus.

I throw out these suggestions simply as feelers. To bring before you a curriculum, I would require to assume a set of conditions that might not be common to any two of our high schools. I have had in my mind a high school with three or four teachers. The idea, summarized, is the giving of an outline of the whole circle of the natural sciences in our high schools, with practical, objective work confined to the most prominent types, especially those of local or industrial interest.
This, I contend, could be done without injuring the efficiency of the work in the old standard subjects.

The greatest obstacle to the success of proper science teaching is the extra work required of the teacher; first, in preparing apparatus for practical demonstrations; secondly, in putting away and cleaning apparatus. One hour's teaching of experimental physics involves more effort than three hours in teaching mathematics or classics. The same holds true to a greater or less extent of the proper scientific treatment of all the other departments of natural science. This should be considered in fixing the teaching hours of the science teacher, as well as in fixing his salary. As it is not generally considered, we need not be surprised that proper teaching in this department will long lag behind even the convictions of both school boards and teachers. The natural conservatism of the old educational system tends to reproduce its own likeness with all the persistence of other reproducing organisms. This, combined with the natural inertia of humanity in doing extra work for nothing, makes progress in the development of natural science more up-hill work than in any other department.
This consideration, I hope, will be accepted as a sufficient reason for calling your attention to these points, and asking for suggestions in connection with them. The very looseness of my remarks shows that I have endeavored to place nothing before you further than what may be sufficient to elicite the interchange of opinions between representatives of so many and so widely separated high schools as those of the three Atlantic provinces of Canada.

## Methods of Plant Study.

G. U. Hay, Ph. B., St. John, read a paper on "Methods of Plant Study." The following is an abstract: "The study of plants should not be from books but from nature, the books being gradually introduced for reference in the high school and college. To ask pupils to study botanic definitions, and commit to memory pages of a text-book, is positively harmful, begetting a distaste for an interesting and useful study, and filling the mind with a few vague ideas that are soon forgotten. The object of plant study is to train the observation, to institute comparison and form correct judgments. The study of plants may be made useful by combining it with other school work, especially English composition and drawing. Instead of tamely taking conventionalized forms as models, let leaves, stems, branches be placed before the pupils as models from which to draw. Such efforts will be crude and clumsy at first; but they will have the merit of originality. Our forests and fields furnish models of symmetry and beauty that the genius and creative powers of some pupils may yet embody into art, and furnish new material for industrial occupations.
In English composition the study of plants is invaluable, as it furnishes interesting material for oral and written descriptions. The accuracy of these descriptions will be a test also whether the pupil has understood what has been presented to him. The teacher need not be a botanist ; but he must be a close observer of nature. He is not to train his pupils to become botanists ; but he is to cultivate in them a genuine love of nature, to train them to observe, to think, to compare.
In the high school course the study of plants and other subjects of natural science may be pursued throughout the year ; but the summer is, of course, the time when greater progress will be made. Let us agree, then, upon a little more fulness in the subjects of literature in the winter course, and the same for natural science in the summer."
[The remainder of this paper, containing some practical directions for the pursuit of plant study, will be published later.-EDiror].
Mr. G. J. Oulton, of Dorchester, read a very interesting paper on "The Ornamentation of School Grounds," in which he spoke of the value in education of well kept school grounḑs and tastefully decorated school rooms.
Principal Creighton, of the North Sydney Academy, read a very valuable paper on "English Literature, and its Place in Schools."

## History in Oth NCHools.

IV. R. Camplell, A. B. of Truro, N. S., Academy. read a paper on, " History in Our schools," of which the following passages are selected: "He would consider the subject under two heads. First, its practical utility : and second. Does our present mode of teaching history meet the requirements of our schools? Of tits practical utility there could be no doubt : but the pruning-knife should be applied to that which nsurps the name of history in our schools -the mere tisune of names and dates and dead, meaningless events; in short, such information as has not the remotest bearing on any of our actions. It is the methods employed in the study of history that should be singled out for criticism.

History study, especially at first, should be largely biographical. Erents should be grouped around some central figure, or some great drama in history. Too much history teaching is done by requiring pupils to memorize pages of the book and then to recite. All life is taken out of the subject. A few disjointed, ill-fitting and ill-shapen facts are carried away, and the pupil is said to have a knowledge of history. The text-book itself is ouly an aid. It is the duty of the teacher to make the subject one of living interest, and he should, in sense, be a historian himself.

In the German schools, where the system is largely oral, the study of history is carried on with better success than anywhere else. Teachers specially trained for this work are employed. The pupil, without the aid of any text-book, is led over a large area. The instruction consists of intelligent talks upon the leading points and prominent characters of history. He is then required to review the subject with the aid of a small text-book, consisting merely of names and dates. This serves as a help to suggest the leading points brought up. The subject, too, is entered into much more fully than in the first course, For example, a pupil in the first course might be told the story of Hannibal, he will now be able to take up the story of the second Punic War. This plan, begun in the common schools, is continued in the high schools, the text-book being always made subordinate to oral instruction. This system keeps in riew the fact that the pupii is not yet ready for hard study. One half the time spent by a boy in prodding orer a difficult lesson in the book is wasted. A few conscientious efforts may be made to master it; but the greater part of his time is occupied in thinking over his last game of ball, or counting when the nest will come. The average high school pupil spends five or six hours daily in school. To this there is added sufficient home work to occupy as much
more time. Hence, it is not assuming ton much to say that eight or ten hours study every day is required to cover the prescriben! work. The result is that the pupil is injured, not from over study, but by doing in a superticial manner what ought to have been done thoroughly. Time has been wasted, little or no knowledge has been gained, while the pupil has been encouraged in hatits of careless preparation.
Compare the study of history with that of science. The latter is begun in the primary grades and carried up through the common schools and the first year of the high school course, before any text-book is required. The pupil is taught to select, examine and classify specimens of plants, animals and mirerals. The teacher guides his efforts rather than does his work. The result is that the pupil has a more practical and thorough. I might also add extensive, knowledge of the subject than could possibly be obtained by memorizing the book.
History, tow, fhould be presented objectively to the eye. Its leating facts should be grouped and spread out before the pupil on charts and boards. Thus information is arrised at through two different channels, each of which are alike effective. Charts and drawings show at a glance the condition of the country at different periods. The progress of art, science, literature and civilization becomes at once evident. The pupils are thus encouraged to continued original research.

History, to be useful, must be thoroughly practical. Studied as disconnected, social, plitical or religious phenomena, it has neither sense nor meaning. Studied at random, as a mere series of hap-hazard events, as a work of chance, it retards rather than advances civilization. It was to this system of "storing the mind with crude, unruminated facts and sentences" that Bolingbroke objected, when he ridiculed the ancient conventionalism and time hallowed traditions, by which teachers rely more on the repetition of meaningless assertions than on independent enquiry and self-thought. It was to this method that Vico objected, when he urged for a more philosophic method in the study of history. He claimed that there was an organic development in the different epochs, which could only be understood through a knowledge of the social and political conditions of nature. It is against this system we must contend if we would make the study of history interesting to the student, and productive of gool results."
After the reading of the papers an animated dis. cussion took place on their leading features.

Sir William Dawson, being called upon, said that he had listened with pleasure to the papers read, and was much pleased with their tone and spirit. He
believed that science teaching in elementary schools must be simple, and based on objects which could be seen and handled, and on experiments which the pupils could make for themselves. Everything depended on a judicious teacher, who loved and understood what he taught. The normal schools and colleges should provide such teachers. In high schools having special science masters and mistresses, who should be young people trained in the universitics, more might be done. But it should still be practical and suited to immature minds, and bearing on the explanation of common things. There need be no conflict between science and the older subjects. Much experience and ovservation showed that those schools into which science had been skilfully and prudently introduced did the best work even in the subjects of English. classics and mathematics.

Dr. Bailey referred to his long period of service as teacher in New Brunswick, and to the indicatious of fresh interest in better methods of education, especially in natural science, as indicated by the yearly bulletins of the Natural History Society of N. B., the science articles in the Edccational Review, and the book on natural science which he had recently published. He adrocated the study of physical geography in order to become better acquainted with our surroundings and natural features of country.
Prof. Huling was glad to see that the course of study here was on the same lines as that in the New England States. He gave a detailed account of the work there, especially in natural science and English.
Messrs. J. G. A. Belyea, J. M. Palmer, E. MacKay, A. H. MacKay, W. R. Campbell, S. C. Wilbur, G. U. Hay and others, took part in the discussion.

## TEACHERS IN COUNCIL.

Prince Edward Island Teachers' Convention.
The teachers of Prince Edward Island met in convention on the 4 th and 5 th of October. Notwithstanding the great gathering at St. John in the month of July the interest in the local meeting appeared to be as lively as ever. The number of members enrolled showed a slight increase over last year, while the spirit and zeal of those who shared in the transactions were as conspicuous as on any previous occasion. Two very commendable features of the proceedings were the absence of vague and useless discussions, and the eminently practical character of all the papers, and the criticisms to which they were subjected. The President, Dr. Anderson, in his opening address, and Miss Lawson, in the first paper which was read, expressed themselves in strong and unequivocal terms, respecting the necessity of
directing the business of the Institute towards such subjects as would be of service to the teacher in the performance of his duties. And surely there could not have been given a more satisfactory response to the general demand than the eminently practical address of Rev. Father McMillan, and the excellent essays of Messrs. Daly and McSwain. Mr. Daly, a teacher of experience and repute, emphasized the necessity of sound moral instruction in our schools, and expressed his conviction that no better means of communicating it could be devised than the living example of a conscientious and honorable teacher; while Mr. McSwain put forth a plea for industrial training, characterized by good sense and moderation.
The paper read by Mr. Kielly, on "Teaching in our Public Schools," was one which from its subject secured the attention of the meeting, and by its force and vigor commanded the respect, if it did not win the assent of all his auditors. He complained that the course of studies was not sufficiently flexible; that, while suited to the requirements of those who attended regularly throughout the school year, and those who proceeded from grade to grade till they were able to matriculate into the Prince of Wales College, it acted unfair towards those pupils whose need was a purely English education, and whose equipment for the business of life was that of the farmer and artizan, by demanding an undue proportion of the teacher's time for the advanced pupils, and thus curtailing his opportunities for assisting the others. In this view he was supported by Mr. Allen Stewart and Mr. Campbell. It was maintained on the other hand by Messrs. Neil McLeod, John Matheson, Gallant, and Colin McPhial, that if the teacher distributed his time judicieusly, and conducted the business of his school with diligence and skill, he could easily accomplish all that was required of him ; and it was noted that the schools that send up the best students to the Prince of Wales College are those that are reported as being most successfully taught throughout. The President, the Chief Superintendent and Mr. Seaman also took part in the discussion.
The Chief Superintendent reported as chairman of the committee appointed last year to co-operate with similar committees from Nova Scotia and New Brunswick, in arranging for the meeting of the Interprovincial Convention at St. John, and suggested that an effort be made to induce Colonel Parker, of Chicago, to visit this Province, and be present at some meeting of our Institute, at no distant date.
The public meeting which was held on Thursday evening was a pleasant and successful incident. Addresses were delivered by the President, Rev. S.W.

Tones. Hon. Senator Haythorne and Mr. A. B. Warburton. Mr. Jones spoke words of encouragement to the teachers, while Mr. Warbuyton impressed upon them the necessity of care and thoronghess in the discharge of their duty. The senator selected as his topic the relation which ought to exist be: ween the general education of the country and the technical instruction of the farmer. He is convinced that the higher the inteiligence of the community the greater will be the adrancement of our chief industry. Farmers will be able to read, understand and apply the discoreries of others, and conduct experiments themselres. By superadding to the education already provided by the state a training in agriculture and kindred subjects, there will be put within the reach of the farmer an instrument of great utility, which. if rightly handled, will add much to his own wealch and the material welfare of his country. Readings, recitations and songs by members of the Institute, and a well trained class of pupils under the efficient leadership of Miss Burr, contributed greatly to the enjor. ment of the evening.

The following otticers were selected fur the year 1585-1889:
President, Mr. Lemuel Millar, Principal West Kent street school, Charlottetown : Vice-presidents. Principal McLeod, Summerside, Inspector Cain, and Miss Burr, Principal L'pper Prince street school, Charlottetown; Secretary-treasurer, Mr. Allan Stewart, Stanley: Corresponding Secretary, Mr. Francis Curran: Executive Committee, Messrs. J. I). Seaman, J. P. Wickhem, A. B. MacDonald, J. Daly and H. Campbell, Misses Sarah Harris and Maria Lawson.

## Carleton Colvty, N. B., Teachers Institcte.

The elerenth annual meeting of the Carleton Country Teachers' Institute was held at Woodstock, on Thursday and Friday, October 11th and 12th. R. P. Steeves, A. M., Principal of the Crammar School, was appointed Acting President. IV. T. Kerr, the Secretary, read an interesting report, reviewing the work and attendance of the Institute since its organızation. He presented the claims of the Edecational Review upon the teachers. The Superintendent of Education, Wm. Crocket, A. M., was present, and delivered an address. Mr. Charles McLean read a paper on English Literature which gave rise to an interesting discussion. On Thursday the Institute was divided into two sections, the ladies discussing the subject of Political Economy, and the gentlemen that of Industrial Education.
The officers elected for the year 188.9 are: Chas. McLean, President; Miss Bessie Good, Vicc-President;

Amasa Plummer, Secretary-Treasurer: with F. 13. Hovey and Miss Lonise Noble as additional members of the Executive.

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This Institute held its twelfth ammal meeting on Thursday and Friday, at Chatham, on the 18th and $19 t h$ of Octuber Inspector Mersereau opened the meeting in the absence of the President. The following offlicers were appointed for the year: T. A. Meciarrigle. A. B., President: Miss Olivia Parker, Vice-President : J. M. Palmer, SecretaryTreasurer: Miss Agnes (i. M.Intosh and Miss E. McLachlan, additional members of the committee of management.
Papers were read on "('anadian History" by Mr. Parker: "How tosecure Concentration of Thought in study and in Class," by Miss Bessie J. Allock; on "Teaching ['seful Knowledge," by Miss Laura Eddy. The papers and addresses were practical, and showed a careful appreciation of correct methods. Among other subjects discussed was "The Proper Ventilation of School Rooms." Mr. Palmer then considered "Character Building - the teacher's highest aim." He defined education. spoke of the great powers of mind which man possessed and the necessity of the teacher directing these powers into channels which render his public life a success. The summit of ellucation was truth. This should be the aim of life regardless of opinions of others. This led to independen e, self-reliance and true manliness of character. A life should stand for something and leave its impress on the world. A public educational meeting was held on Thurslay evening, which was largely attended.

## Albert (olisty, N. B., Institite.

This Institute held its twelfth annual meeting at Harrey, on Thursday and Friday, the 18th and 19th October. The following officers were elected for the ensuing year: President, Ralph Colpitts, A. B.; Vice-President, Miss C. Reid; Secretary-Treasurer, Thos. E. Colpitts. The following were elected additional members of the Executire: Chas. H. Edgett and Chipman Bishop.
Papers were read as follows: "How to Teach Drawing," by Judson A. Cleveland; "The Influence of the Personal Character of the Teacher in the School," by W. H. Burns: "Intelligent Teaching and how it may be Secured," by Chas. H. Edgett, of Harvey. On Thursday a public educational mecting was held, at which Chipman Bishop gave an address on "The Teacher."

The York Cocmty, N. B., Institite will hold its annual meeting on Thursday and Friday, the 20th and 21st of December.

The Teachers' Association of Inspectoral District No. 5, Nova Scotia, met under the presidency of Inspector Roscoe, on the 11th and 12th October, in the academy building, Windsor. Geo. J. Miller, principal of Hantsport school, read a paper on "Grammar in the Common Schools." The trend of the discussion was in favor of oral teaching to the end of 7th or even 8 th grade. Miss Mary Calder read a paper on "The Kindergarten." Miss Burgoyne, of Windsor, gave a lesson on "Insects" to pupils from the 5th and 6th grade. The Aesociation appeared to be particularly delighted with this exercise. E. A. Read, principal of the Brooklyn schools, read a very suggestive paper, entitled, " $\Lambda$ Course of Reading for Teachers." The Edicational Review received a complimentary position in the course. Principal Miller, of the Collegiate school, spoke in high terms of the paper. He has just come from Ontario to take charge of the Collegiate school of King's college. The Question Box next created some amusement and elicited much information.

In the evening a public educational meeting was held, presided over by the Mayor. Present on the platform were, David Allison, LL. D., Superintendent of Education; Pev. H. Foshay, Dr. Young, of the U. S. Consulate, Inspector Roscoe and a number of others.
The Superintendent of Education, in his address, referred to the advance which has been made in education within the last fifty years, the magnificent, possible industrial advantages of our country, the necessity of training the young so as to develop all the faculties of their complex nature, not forgetting those having a relation to our industrial development. The kindergarten system has been introduced. The lack of proper articulation between the common and high school on one side, and the universities, professional colleges, and schools on the other side is gradually disappearing. The success of the school system, however, depended chiefly on the high conception of the duties of their calling by the teachers themselves; but also on the due appreciation of the services of good teachers by the public. Towards the close he alluded to educational progress in the Canadian Northwest, as noted by him in a recent trip through that region of the Dominion. The address was loudly applauded. Brief addresses were afterwards made by Rev. H. Foshay, Hon. M. H. Goudge, Rev. W. Brown and Mr. J. J. Anslow.

On the second day, Miss Mumford, of Hantsport,
read a paper on "Character Building in School." Mr. O. H. Cogswell read a well written paper on "The Endogenous Nature of Education." He raised a breeze by criticising the government for reducing the grants to teachers, while they raised their own salaries. Prof. Snell conducted a lesson in writing, illnstrating his system. Then followed papers by H. S. Shaw, principal of Berwick schools, on "The Common School-a Teacher of Morality;" and by Principal C. F. Hall, on "Discipline." Prizes were awarded for the best writing and drawing work sent in from the schools of the inspectorate.
The officers for next year are: President, Inspector Roscoe; Vice-President, Principal Hall; SecretaryTreasurer, Principal Bishop; Executive Committee, Miss Burgoyne, Miss Mumford, Principal McLeod, Principal Millar.

The Teachers Association for District No. 4, met at Digby, on the 4th and 5th October, under the presidency of Inspector Morse. The other officers are: Wm. McVicar, Vice-President; Burgess McMahon, Secretary-Treasurer; A. D. Brown, W. C. Parker, Miss Emma Bacon and Miss Jessie Titus, Executive Committee.
David Allison, LL. D., gave the opening address, in which he pointed out some of the special advantages derived from such gatherings, and referred particularly to the conventions he had lately attended at St. Johra and at Chicago.
A paper on "Nature Lessons" was read by the Secretary. Clubs were proposed to awaken a deeper interest in the "Nature Lessons" required by the course of study. Dr. Allison believed the teachers were over-estimating the difficulty presented by the oral lessons, and said the primary object was to secure the objective presentation of knowledge, and that teachers should not be unwilling to acquire some knowledge of botany, zoology and mineralogy. A prescribed text-book would be of doubtíul service, affording a means of going back to the method of book-work to the exclusion of the objects themselves. Miss Jessie Titus, of the Digby schools, conducted a very interesting illustrative lesson on ventilation. An essay was next read by Miss Emma Bacon, on " How to make the School and School Work Pleasant."
Mr. W. H. Magee, presented in his paper, "Thoughts and Suggestions" of prime importance in education. Among the topics tested were the necessity of devotion to work to secure an honorable standing and suitable remuneration for labor. Especial attention should be given to the inculcation of principles of patriotism and temperance. Agriculture should occupy a prominent place in the school curriculum. Stress was
laid upon the need of constant study, and progress on the part of the teacher who should use arablable means to secure every adrantage that would and in perfecting his skill as a workman. The reading of the paper was followed by brief speeches from Messrs Oliver. Lyons, brown and Dr. Anderson. Mr. Mevicar in the course of his remarks referred to the method of teaching patriotism in the American schools and characterized it as telescopic, where in viewing their own country they used the small end, but when observing their neighbors they reversed the instrument.
The Friday morning session was given to papers from Mr. O. Leons, on "Our Educational Statns and the Relative Importance of Studies," and Mr. Tames Armstrong, on the "Benefits of Historical Study." Mr. Lyons presented a comprehensive view of the educational srstems of the provinces of the Dominion and of rarious States of the Union. A comparison with statistics of the attendance and teachers' salaries showed Massachusetts highest in attendance. followed in order by N. S., P. E. I. and Ontario. The application of a compulsory attendance law would correct the eril in this particular.
Dr. Allison said there was need of caution as to the significance of the figures quoted in comparing the rarious srstems of education. Massachusetts, for example, from the shortness of the school year through showing a higher per centage of attendance ropresented actually a emaller attendance than Nora Scotia. In the Ontario school ssstem the common schools have their peculiar work, and young persons desiring high school training must go into the high schools to obtain it. While such a course may be suitable for Ontario with its numerous town it was scarcely adapted to such conditions as exist in Nova Scotia. Mr. Armistrong, in his paper, after showing what instructions should be aimed at in teaching history: domonstrated the ralue of this study from important facts which it yielded at small outlay of time and labor, and as affording a means of intellectual and moral culture. On Thursday evening an appreciative audience was addressed by Dr. Allison, Dr. Ambrose, and R. G. Munro, Ess.

Examination of schools under Methodist board in Twillingate educational district took place during Monday, Tuesday and Wednesday of the present week. From the her. G. S. Milligan, LL. D., superintendent of Methodist schools, we learn that marked improvement was manifest, both in attendance and in general progress, in all the schools. This is a matter of thankfulness and cause of congratulation to all coucerned.-Twillingate (Agh.) Sun.

## PERSONAL

(i. R. Parhin, M. A., of Fredericton, sailed from Liverpond this week and is expected home on the 16 th.

Prof. F. H. Faten, M. A., of Truro, passed through At. John last week, on his way home from Boston.
A. St. George Richardson, B. A., nephew of Mr. 1. T. Richardson, St. John, recently principal of Wilterforce Acalemy. Chatham, Ont., has been apminted to a more adranced and lucrative position in the southern states.

Among the plssengers from Halifax to Liverpool recently were Miss E. T. Harding, instructor in painting at Acadia seminary, and Miss Blanche Bishop, B. A., of (ireenwich. They are on their way to Berlin, where they will spend the year in study: Miss Harding is painting and Miss Bishop studying (ierman literature. Miss (iraves, the former principal, and Miss Rutrick, the former teacher of instrumental music at the seminary, are also in Berlin, perfecting themselves in their chosen work. Hants. Juminul.
A. J. Denton, A. B., of Halifar, has been admitted to the M. A. course at Harvard, without examination. This is a high compliment to Mr. Denton, and to his alma mater, Acadia college.

Miss Orr, of the Victoria school, St. John, after a month spend in studying kindergarten methods, under Miss Woodcock, at Truro, has returned home, and will put into practice kindergarten methods among the primary schools of the Victoria.

Isare Cammell, B. A., professor of Finglish in the Pictou acalemy, has accepted a more adranced peition in Montreal. On October whth he was married to Miss Maria A. Mckenzie, of Picton. We extend to them our heartiest congratulations.

Frank 1. Stewart, B. A. (1)al.), of Charlotetown, P. E. I., has been appointed Classical Master in the Yarmouth academy. Interprovincial relations in educational matters are evidently increasing.
C. F. Hall, M. A. (Mt. A.). has been appointed principal of the Hants County academy.
J. A. Smith, M. A. (Mt. A.), has been appointed principal of the Digby academy.

Rev. F. W. Vroom, M. A., (Kings) has been appointed professor of divinity in Kinge.
James (. Shaw, B. A. (Dal.), with first rank honors in classics, and (iovernor-general's gold medalist, has been appointed classical master in the Pictou academy. He is a native of stanhope, P. E. I., and a graduate of Prince of Wales college.

## Concerning the School District and Teachers.

Since last issue the annual school meeting has been held in the various country districts throughout the Province, and, no doubt, the Inspectors have had in addition to their every-day routine endless difficulties and disputes to settle, regarding the validity and procedure of said meeting.
It would be interesting and perhaps instructive to take a peep over an Inspector's shoulder at some of the copies of the minutes sent to him, as by law required, after the meeting, and signed by the secretary and chairman. It may be here remarked that many districts entirely neglect to send the copy. And let it further be noticed that, though the fourteen days have expired within which impeachments of the proceedings of school meetings may be made (Sec. 99), they will continue to be made until the next annual meeting, even if no notice can be taken of them.

The law requires that the annual meeting, of which six full days' notice shall be given, shall be held on the second Thursday in October, at ten o'clock in the forenoon.

As to the notices: they must be signed by the trustees, or a majority of them, and not by the secretary. If they are not properly signed an appeal to the Inspector within the time above specified will invalidate the meeting, and a new one will be called. And let us pause here, to notice the procedure in the matter of calling another meeting. By Sec. 99, School Manual, a complaint in uriting is made and inquired into by the Inspector, subject to an appeal within fourteen days after his decision to the Chief Superintendent, whose decision shall be final. If a new meeting is to be called, by Sec. 57, the Board of Education or the Chief Superintendent has power to direct the Inspector to call a general school meeting, which shall hare power to transact any business that might have been done at the annual meeting. The Inspector will fill in the form of notice supplied him and sign it ; but because he calls the meeting he is under no obligation, as some ratepayers think, to attend it in person. If that were the case, an Inspector would often have to be in three or four places at the same time. This, then, is the usual mode of procedure where a district has failed to hold its annual meeting. Six days' notice means six full days, not including the day of posting nor the day of meeting. The notices must be posted in at least two public places in the district. The time of meeting must not be varied or the day changed. It is on Thursday and cannot be postponed until some other day, except as the law provides; viz., a meeting
may be continued until four o'clock on Thursday and adjourned until Friday and so continued; but no further adjournment shall take place. Objections have been made to school meetings because they have not opened at sharp ten o'clock. It is ten o'clock until it is eleven in common usage. Many trustees ask in the case of a general or special meeting to hare it in the evening. While in many cases it would be a great convenience to hold it then it cannot lawfully be done.

After the meeting has been called to order a chairman must be selected, who must be a qualified voter. What is a cualified voter? Any one who is entitled to pay on real estate, personal property or income, or any one who pays taxes in excess of a poll, and has paid all the taxes that have been imposed upon him. Now, here comes up a much debated question. Is a man who actually possesses the property qualification at the time of the meeting, but who did not at the time the assessment was made, or from interested motives was not placed on the list, entitled to vote? It has been decided that his vote is good as he has paid all the taxes that have been imposed upon him. If a ratepayer who has not paid his taxes votes without being challenged his vote must be counted. If he takes the declaration and votes it must be accepted; but if he has taken a false declaration he is liable to a penalty. If a ratepayer refuses to take the declaration the chairman must not count his vote.
(To be continued.)

On the classification of the school depends in great measure the success of the teacher's work. It is a very grave mistake, therefore, to accept a faulty classification as a legacy from a predecessor, or to adopt a defective one in obedience to the wishes of prejudiced parents. Even a few pupils misplaced in classes too advanced for them, destroy the harmony of the school, are a hindrance to the progress of the classes and a continual annoyance to the teacher. Let the tests of the prescribed course of study, therefore, be vigorously applied at the beginning of the term, and pupils assigned to their respective grades without fear or favor according to the best judgment of the teacher. Fault-finding and adverse criticism there may be and probably will be, and generally in proportion to the necessity existing for a re-classification; but the teacher may safely trust to the results of the term's work to justify the step. With an excellentcurricuium of studies prescribed by authority, published, and in the hands of teachers for over five years, it would seem that this advice should be unnecessary. Unfortunately, however, as our best teachers know to their grief, there are still many
schools in which its provisions have been only partially adopted. and yet others in which seareely any effective attempt has been made to clasify in acordance with its requirements. Besides, incapable and time serving teachers (:) frequently undo in a day what efficient and painstaking workers have accomplished in a term.
. To make hare-soup-tirst catch your hare." To educate children-first get them in the sehool-room. Statistics show that the arerage percentage of attendance in Nora scotia is less than sisty. "The better the teacher the better the attendance," may be laid down as a rule. Pleasant, cheerful school-rooms, and lively and interesting school-work and exercises are mainly to be relied on to preserve regularity of attendance. Special means, however, may, with adrantage, be employed at the beginning of the school term. In country districts the teacher should make the acquaintance of all the families containing children of school age, visiting them, as far as possible, in their own homes and explaining to the parents the loss resulting to the children and to the school from eren occasional absences. Parents should be made to feel that the teacher notes and regrets every day's absence of their children. The faithful teacher will feel that a little or even a good deal of trouble taken, and effort expended, in securing regularity of attendance has its reward in the satisfactory progress of the pupils and the increased educational work accomplished.

- R. Marlellas.


## BOOK REVIEWS.

How to Strdy Botany is a paper, published in pamphlet form, read before the Hamilton Scientific Association, by I. J. W. Bừgess, M B., F. R. S. C. The paper is a valuable one to students of botany, is written in a clear and interesting style, and contains many valuable hints on this important study. Dr. Burgess is a gentleman who gives his leisure largely to the study of plants, and there is no more intelligent and enthusiastic botanist than he to be found in Canada.

The several chapters on Aspects of Edecation, by Oscar Browning, which appeared in Sience during $1+8-8-8$, have been carefuliy rerised by the author, and now appear among the monographs of the Industrial Education Association. In the opening chapter Mr. Browning asserts that since the revival of learning, secondary education has passed through three phases, humanism, realism and naturalism. He considers the history of each separately, that the system to which they had given rise may be the better understood. After tracing the many changes through which humanism, the study of classics, has passed, he says: "If humanism suffers now from a slight obscuration, due to its unfortunate attempt to claim too much mastery over the human mind; yet there is no fear of its being materially obscured, and the assistance which it may yet render the human race, in her search after the good, the beautiful, and the true, should command the sympathy and stimulate the efforts of every
man to whom those objects are dear." He gives as the foumbers of the second phase, realism, or the study of things instead of words-comenius, whodevoted his whole life to the improvements of cilucational methols; John Milton, whose tractate on cducation io a most wonderful conception of a complete training: Pestalozzi, whose central idea was to train the mind throurth the senses; and Frobel, who instituted the kindergarten system. In the chapter dev oted to naturalism, he describes the riew of the three great naturalists in education, Montaigue, Locke and Rousseau.

Shakbprbe's Hexry $V$., with an introduction and notes, G K. Deighton, M. A. London, McMillan \& Co, and New York. This book is clearly printed. The introduction gives the historical outlines with sufticient fulness, and the notes are suggestive rather than redundant.
Compusition and Ruetohic, by Wiliam Whlliams, A. B., D. C. Heath \& Co., publishers, Boston. Text-books on comporition are legion; but this is one that departs from the usual course-giving much theory and little practice-by giving us little theory and much practice. It proceeds on the simple method of laying downa few principles and illus. trating these with a great number and variety of exercises. The book is thoroughly practical in its character.
Stidies in General. History, by Mary D. Sheldon, accompanied by a Teacher's Mantal, D. C. Heath \& Co., Boston. In these two works we have a definite plan for studying history which the wide awake teacher will not be slow to a aail himself of and apply to other fields than general history. The student's Edition contains the materials and problems for independent study, and is put into the hands of the pupil. The Tuacher's Manual contains the answers to these problems, with other matter that may serve to suggest better methols of teaching the important subject of history.
Tows and Corntry schoot Bumdinge. - A collection of plans and designs for schools of various sizes, graded and ungraded, with descriptions of construction and sanitary arrangen ents, light, heat, and ventilation, by E. C. Gardner, architect, Chicago; E. L. Kellogg \& Co, 4to, cloth, 141 pages, 30 . Within a few years many towns have erected charming buildings for school purposes, and there is inquiry for plans retting in. To meet it this book has been prepared. The author is a well known architect and is also a writer of considerable skill. He shows how to build a handsome log school-house; how to use timber and plaster so as to make an attractive building; how to use shingles for the sides and make an elegant structure. These are all one-room buildings. Then come charming designs for two-room and three-room buildings. Some of the plans are truly most attractive and cannot but prove helpful to all communities that look for structures worthy of the valuable work to be done in the rame of education. Besides the building plans there are suggestions as to lighting, heating and ventilation, that will be of great help. Too little attention has been paid to these points. Theu too, the grounds, the outhouses, the fences, the walks, etc., are all discussed. It is probably the most elegant book yet published relating to school buildings, and cannot but give direction to the impulse to erect handsome structures.

The Song Century, a fine collection of songs suitable for schools, price 15 cents; and a Primer of Memory Gemb, containing extracts from the best authors on many subjects: C. W. Bardeen, publisher, Syracuse, N. Y.

Elementary Clabsics: London, Mc.Millan \& Co., and New York. Four new volumes of this convenient and useful series have come to 1 and. A 'First Greek Grammar,' by W. Gunion Rutherford, gives the more important lines of Greek accidence; "Easy Exercises in Greek Accidence," by H. G. Underhill, with vocabulary and exercises, is a neat and attractive little volume, designed to furnish matter for drill in the principles of the grammar; a "First Greek Reader," by F. H. Colson, containing storites and legends with notes, vocabularies, with a short syntactical guide; and a "Latin Reader," for the lower forms in schools, by H. J. Hardy, containing short extracts and stories from Latin authors, with vocabulary, furnish a series that should be very interesting and valuable to students.

## books received.

Compayre's History of Pedagogy. D. ( $\therefore$. Heath \& Coo., publishers, Boston.
Elementary statics. London: Mac Millan \& Co., and New York.
Outhines of English History, London: Hamilton Adams \& Co.

## EXCHANGES.

The Century (Century Publishing Co., New York,) for November, contains opening chapters of an illustrated serial story, "The Romance of Dollard," which introduces us to early Canadian life. The historian, Francis Parkman, contributes the preface, and the story promises to be unusually interesting to Canadian readers.... A recent number of Science (Science Publishing Co., New York,) contains a map and estinates of the proposed Siberian Railway, from St. Petersburg to Vladivostok, on the Pacific,-distance 6,000 miles.... The recent articles in Garden and Forest (D. R. Munro, publisher, New York,) on "Ferns and their Cultivation," with other articles appropriate to each month, make this magazine indispensable to those who would improve their gardens and grounds .... Common School Educrttion (W. A. Mowry, publisher, Boston,) is a neat and beautifully printed magazine, well adapted to the needs of primary teachers...St. Nicholas (Century Co., publishers, New York, ) for November, contains a finely illustrated and instructive article on the "Queen's Navy.".... Popular Science Monthly (D. Appleton \& Co., New York,) for November, has an interesting table of contents, among which are "Sun Power and Growth," and an article on "Problematical Organs of Sense," by Sir John Lubbuck....The Illustrated Iondon Neces (American edition, New York.) is becoming no less celebrated for its literary than for its illustrated articles. What a delight it is to read every week "Our Note-Book," by James Payn, and what a delicious piece of nature description was "Blackberrying," in the number for October 27th. $* * *$ "Children never grow old. *** All the brand new educational systems have left the spirit of childhood unaffected,-as you may assure yourself if you will follow in the steps of children when
they go a-blackberrying.".... The Bookmart (published at Pittsburg, Pa ,) has an article in its October number on "Early Printing in Canada," which is interesting to the students of our literature. The Bookmart is an admirable literary magazine. The following extract from the New York Critic may point out the reason of its excellence: "Mr. Halkett Lord, editor of the Bookmart, is a step-son of the late Henry Mayhew, the first editor of Punch. Mr. Lord is a veritable book-worm, and deeply learned in English lore. Though a Britisher to the backbone, he prefers America as a home and working place ".... Treasure Trove (E. L Kellogg \& Co., educational publishers, N. Y.) is a bright monthly magazine that is interesting in the family and school...The Siciss Cross (Science Publishing Co., New York,) for November, contains many valuable and interesting articles for young naturalists.
Our college exchanges are again at hand, and some have donned a new dress. The Sackville Argosy, always neat and readable, is more attractive with its new title page.
....The Dalhousie Gazette has also a new and handsome title page and an interesting table of contents. The issue of such a creditable college journal, once a fortnight, speaks well for its staff of editors.... The N. B. University Monthly has just reached us and promises to keep up its record as a live college journal....The Fordham Monthly (N. Y.,) has a well written sketch on the home of "Evangeline." The handsomely printed pages of the Monthly and its well written articles make it a welcome visitor always.

## N. B. Normal School Entrance Examination, September, 1888.

useful enowfedge.
Time, 1 hr .

1. Make a list of the principal forest trees of New Brunswick, and name the industries connected with each.
2 Write what you know of the useful minerals of New Brunswick, in the following form, viz.:

| Mineral. | Where found. | Uses. |
| :--- | :--- | :--- |

3. Name any five wild animals of New Brunswick, classify them, and give the characteristics of the family to which each belongs. Give answer in tabular form, if preferred.
4. Explain the manner of growth in an animal, a plant, and a mineral.
5. Name the rules of health to be observed in respect to (il) food, (b) clothing, (c) exercise, (d) rest, (e) ventilation, $\left(f^{\prime}\right)$ the use of alcohol in any form.
N. B. -Any four of the above taken as a full paper.
language Time, 1 hr .15 min.
6. Who is your favorite author? What books have you read lately? Give your opinion of one of them.

> 2. The boast of heraldry, the pomp of power, And all that beauty all that weallh e eer gave, A wait alike the ineviable hour; The paths of glory lead but to the grave.
(11) Give the thought of this passage in your own words. (b) What is the subject of "await?" (c) Who wrote the poem from which it is taken, and what gives this stanza a peculiar historic interest?
3. Write a letter to your clergyman, asking him to give you a certificate of character, to be filed at the normal school.

## timb

## For tho to dumb forvetfuness a prev  Oif the warm rechets of the chererful day

(a) Give the full grammatical analysis of the stanza. (3) Passe the italicized words

Write tive arregular plurals, tive feminine forms which are made by using a different word, the comparative and superlative of five irregular adjectives, the past tenses and past participles of tive irregular verbs

$$
\text { history. Time, } 1 \text { /ir. SO min }
$$

1. Give a brief description of the early settlements in New Brunswick.
2. Name any erents in the history of Canada or of New Brunswick which oecurred during the reign of Henry VII Charles I., Oliver Cromwell. George III., and Victoria, respectively.
3. Write brief biographical notes, griving dates when you can, on any three of the following personages in English history, viz :-Suetonius, Simon de Montfort, Cardinal Wolses, John Hampden. the Duke of Marlhorough. William Pitt, W. E. Gladstone; and of any three of the following personages in Canadian history, viz :-Jacypes Cartice Sir William Alexander, Count Frontenac, Sir John Harvey, L. A. Wilmot, and Sir John A. Macdonald.
4. Describe the plan of operations in America at the close of the Seven lears 'War, and illustrate your answerby a rough sketch of the ground over which thes extended. locating battle grounds.
5. Make a list of the sovereigns of the Faxdor line. and describe briefly the reign of any one of them.
6. What attempt has been made during the past year to settle the fishery dispute between Canada and the ['nited States, and what is the present condition of the question?

Describe the law-making power in the several Prusinces of the Dominion.
N. B.-Any fire questions, including the fourth, taken as a full paper.

$$
\text { geograpgy. Time, } 1 \text { hr. } 30 \text { min. }
$$

1. Draw an outline map of New Brunswick and locate oń it the chief rivers, towns, lines of railway, coast waters, capes, islands, and the principal industries of the Province.
2. Contrast New Brunswick and Nova Scotia in respect to ( 1 ) form, ( $i$, area, (c) length of coast line, $(d)$ number and length of navigable rivers, (t) physical features, (. ${ }^{\circ}$ ) number and location of chief towns, (g) exports and imports.
3. Write geographical notes on the following. viz.:Bras dOr, St. Louis, Antwerp, The Isle of Wight, The Catskills, Canterbury, Luzern
4. Give a brief description of the mountain ranges of North America

5 Mate a list of the geographical terms applied to rivers, or parts of rivers, and explain each. On what does the length, volume, and rapidity of a river depend?
6. Latitude and Longitude: (a) What they are, (7) how measured. (c) from what points and in what directions measured. ( $d$ ) state how to find both from a map, ( $($ ) the connection between latitude and animal and plant life, ( $f$ ) between longitude and time. State the adrantages of the twenty-four hour system of reckoning time.
N. B-Any five questions, including the flrst, taken as a full paper.
mental arithmetic.
Time, 10 min .
20 lhes at as cta. per lb. 8
Ans
is rarila at $1!$ cts.l

cent .........fs.
12t tunc of hay at \&12. M) Ans.



\& B An-wers thle plamal on this paper
indtetrial inkawing.
Time 1 hr .
1 What do you understand by the terms free-hand

2. Compare and contrast the following, pointing out wherein they agree and wherein they differ:-
(a) A straight line, a perpendicular and a vertical line.
(h) A compound curve and a reversed curve.
(c) An ellipse and an oval.
(d) A syuare and a rectangle.
3. Draw from memory, without the aid of ruler, compasses or other mechanical help. tion of the following, making each drawing not leas than two inches wide: -
(18) A rosctte compuad of simple curves symmetrically placed in a square.
(h) A vase outlined by compound reversed curves.
(c) A design composed of conventionalized forms.
arithmetic. Time, 1 hr .30 min .

\section*{1. (1) Number of Schools in New Brunswick, <br> | $18 \%$ | $188 \%$ |
| :--- | :--- |
| 1375 | 1504 |
| 1350 | 1565 | <br> |  | Brunswick, | 1375 | 1504 |
| :---: | :---: | :---: | :---: |
|  | Number of Teachers, | 1:350 | 1565 |
|  | Pupils at school, | 67,803 | 68,583 | <br> (i) Prov. Expenditure for Eluca tion, <br> $8151.554 \quad 157.368$}

Find the percentages of increase during the ten years
2. A man has a fieh if rods long and 240 yards wide. From one corner he sells a lot 16 rods square. What is the value of the remainder at $\% 108$ per acre?

3 A man buys $8^{5}$ of a ship for $\$ 2500$. He sells ${ }_{10}^{3}$ of his share for 81000 . Has he gained or lost on the part sold, and how much?
4. A is a merchant, $B$. one of his customers. The fol. lowing transactions take place, viz.: Jan. 1st. '88, B. buys goods to the amount of $\mathrm{f}_{2}$ ? Bll: Feb, 12, **, 813.86; March
 8: bushels of oats worth 4 icts perbushel. Show in proper form how B.'s account stands on A. 's books on May 1st, 1848, and make out a bill for the balance.
5. A steamship crosses the Atlantic, from Queenstown to Sandy Hook, in 5 days, 23: hours The distance is 3,400 miles. Find her average rate per hour.
6. From $\frac{5}{8}$ of a mile take 625 of $\frac{f}{}$ a mile, and express the difference as a decimal of $\ddagger$ a mile.
$\therefore$. If I pay s.2. -0 for $2666^{\circ}$ feet of boards, what is the price per thousand feet?
8. Find the interest of $2655 . \times 0$ from Jan. 13 th, '88, to Aug. 20th, ' $\delta$, at , per cent., allowing three days grace. (Do not reckon 30 days $=1$ month).
9. Define the terms factor, quotient, multiple, ratio, interest, commission.
N. B - Any seven of the above taken as a full paper.

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Rev. E. M. Keiretead, M. A., Professor of English Literature, Logic and Psychology. A. E. Coldwell, M. A., Professor of the Natural Sciences, and
obtman, M. A., Professor of Modern Languages and History.

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Little Saint Elizabeth," by Mrs. Burnett, authnr of Little Lord Fauntleroy"; "The Routine of the Republic; How the (invernment is Carried on"; "College Athletics"; "Amateur Photography"; "Boys and the National Guard "; "The"Girl's Crusade": Indian Stories, School Stories, etc. "The Bells of St. Anne," a serial about Canada. South American stories- A Kailroad in the Clouds"; "Indians of the Amazon," by Mrs. Frank R. Stockton, etc.

EUROPE.
"Life in Norway," by H. H. Boyesen; "Holland and the Dutch," by Mrs. Mary Mapes Dodge, The Queen's Navy, by lieut. F H. Smith, R. N.; "The Winchester School "; "English Railway Trains"; "Ferdinand de Lesseps"; German, Italiin (art) and Russian papers, etc., etc.

## ASIA.

Yan Phou Tee writes of "Boys and Girls in China," and there is description of "Some of John Chinaman's Inventions." Mrs Holman Hunt describes "Home Life in the East" ; papers on Siam, Japan and other countries.

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[^1]:    
    

