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Extension Lecturer.

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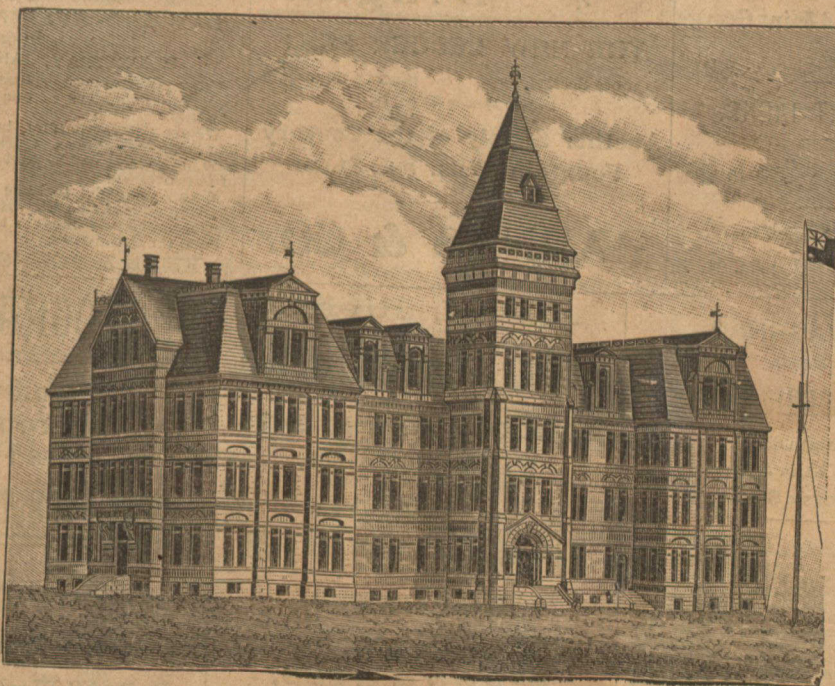
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THE EDUCATIONAL REVIEW.

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FROM an exchange we learn that Boston capitalists are working to get control of the birch in New Brunswick and Nova Scotia. This is a matter of some concern to school-masters.

THE death of Rev. Father Lefebre, who for the past thirty years has been the honored head of St. Joseph's College, Memramcook, removes one who may be said to have founded higher education among the Acadians of the Atlantic Provinces. His scholarly and well-stored mind, his ripe powers as pastor, teacher, and counsellor, were constantly and unselfishly placed at the disposal of those who gathered year by year in constantly increasing numbers at Memramcook. It is safe to say, that no pioneer in education in these provinces has done more to infuse into the youth committed to his care the spirit of education than has the zealous and distinguished teacher who has just passed away.

A Natural History Society has been formed at Fredericton, which starts out with much promise of success, having associated with it such scientific workers as Dr. Bailey, Dr. Cox, and Mr. Brittain.

THE yearly Bulletin of the Natural History Society of New Brunswick, has just been published. In it are many valuable and important papers, showing

the result of the active spirit of research which characterizes the members of this useful society.

THE generous gift of E. H. Wilmot, Esq., of twenty acres within the city of Fredericton for a public park, with \$10,000 for its preservation and improvement, will be of incalculable benefit to that city. The St. John Horticultural and Park Association has secured over 200 acres of land, which for picturesqueness and natural beauty could scarcely be excelled anywhere, and the Association only awaits public encouragement to transform it into a splendid park. Mount Pleasant Park, Halifax, and Victoria Park, Truro, a description of which from *Garden and Forest*, on another page, will be read with interest, show what Nova Scotia has already done in this direction.

THE *Messenger and Visitor* for February 6th, was an education number, a great deal of its space being given up to the publication of papers read at the recent Baptist Educational Institute held in St. John. Among these are papers by Rev. Dr. Sawyer, President of Acadia College, Rev. W. C. Vincent, B. A., Sackville, Rev. W. Camp, Hillsboro, A. C., Prof. F. R. Haley of Acadia College, and H. C. Creed, M. A., Fredericton, with a paper by Rev. W. E. McIntyre, who traces the progress of Baptist academic work in New Brunswick. These papers are interesting and instructive, and with the discussions at the Institute which were published in an earlier number of the *Messenger and Visitor*, show that the Baptists are keenly alive to the importance of education, and take a just pride in the excellent institutions at Acadia, which have done much, not only for them but for the interests of higher education in these provinces. The graduates of Acadia have taken leading positions not only as pastors and teachers, but in the world of letters and science as well, as many names on her long list of distinguished graduates abundantly show. And Dr. Sawyer is respected, not only by the body whose educational interests he looks after with such zeal and earnestness, but by all, no matter what their creed, who recognize his efforts to build deep and broad the foundations of educational work, either in school or college.

PROMOTION OF PUPILS.

In the life of a young person one year is a long period. The proper grading of pupils becomes therefore a serious matter. To place them in the wrong class for a whole year may mean overwork, or it may mean the acquiring of habits of idleness, either of which will cloud their whole lives.

Suppose that promotion is determined by a written examination once a year, and suppose the questions and the estimate of the answers to be faultless, there will nevertheless be great injustice done to many of the pupils. Some will be ill or nervous, and so unable to show what they can do. Others, having fluency of expression and ready memories, will be able to reproduce the review work of the previous week so as to appear to great advantage. It will therefore happen frequently that some unfit pupils will be promoted, while those better prepared will be left behind, to the great injury of both.

This will occur when the examination is ideally perfect. But most examinations are very imperfect. It is most difficult even in the subjects most suited for examination tests to frame six questions that will show the pupil's grasp of the subject.

But there are some subjects, such as science, where little more than the memory work can be shown. There are many qualities which should be taken into account, on which the examination throws no light whatever, such as health, age, prior advantages, etc. Not only is it defective in determining fitness for promotion, but it is attended with many evils. Clever pupils take advantage of it to play the first part of the term relying on the cram of the last few weeks to put them through. Time is taken up in review that should be devoted to teaching. Usually one or two weeks are lost in this way at each examination. Good honest work throughout the entire term is not one of the general results of the system.

When so much depends on an examination, there is much temptation to copy—there is often nervous depression from fear of failure, and there is great labor and responsibility for the teacher. Some of these evils are slightly lessened by letting the result depend on three or four examinations, but other evils are increased.

But there is also danger to the teacher. He will naturally want as many as possible of his pupils to pass. That desire will then determine his mode of teaching more than the desire for the mental and moral growth of his pupils. Cram will take precedence of growth.

Written examinations for teaching purposes are entirely different in their character and results. By

the nature of the questions the teacher indicates the directions that the studies should take. He emphasizes certain subjects. He stimulates thought. He discovers the weak places without producing any injurious nervous tension. He trains the pupils to clear and definite expression. Such examinations should be used frequently throughout the term. They will reveal to teachers and pupils alike weaknesses hitherto unsuspected.

As a substitute for the system of grading now prevailing, the following plan has been tried, and has worked so successfully, that it is being gradually adopted in the best schools.

The teacher makes a monthly estimate of the pupils' standing, basing his judgment primarily upon his recollections of the pupils' daily recitations, and upon the results of such written tests as he finds desirable to use for teaching purposes. These estimates are recorded in a book kept for the purpose. The estimates of each month are made without seeing the estimates of the previous months. As often as convenient throughout the term, the principal verifies these estimates. He examines orally, and also prepares suggestive examination questions for the help of the teacher. At the end of the half year, the teacher gives to the principal the names of the pupils arranged in the order of merit with recommendations regarding the grading of a few of the brightest pupils whose interests would be sacrificed by the pupils being kept longer in the same class. If convenient, such pupils are graded. At the end of the year the teacher again presents a list of pupils in the order of merit, together with a statement of other circumstances affecting any pupil, and which should be considered as entitling him to an advance of class. The principal then grades as many holding the highest rank as the circumstances of the next higher class will permit. Any pupil not graded has the right of appealing to the principal or to the school authorities. The pupils not graded go on with their studies from their present standing, and are not required a second time to go over work which has already been fairly well done, simply because it has not been found convenient to advance them to another grade or class.

In reporting estimates, these characters are used:—

Pr=perfect, E=excellent, G=very good, G=good, T=tolerable, P=poor, P=very poor, F=failure. These estimates are reported to the parents at the end of each quarter. No estimates are made in the first and second grades. This plan has been thoroughly tested, and found to be a great gain intellectually and morally.

It has been decided to close the New Brunswick Baptist Seminary.

NOVA SCOTIA EDUCATIONAL CRITICS.

During the last two months the educational system of Nova Scotia has been under the fire of some antiquated critics. The friends of the system do not seem to be in the least disturbed. So far they have but little cause, for though there has been much smoke it has been chiefly from blank cartridges, or from shots aimed nowhere in particular.

It frequently happens that the critic is of the greatest possible service to the person or cause that he criticizes. This is the case when he really knows his subject and is honest in his exposure of defects. But in the present educational controversy there has been little else than a long and weary waste of words—groundless charges—dreary platitudes—and irrelevant quotations. There has been no careful collation of pertinent facts, no logical deduction, no evidence of a scientific habit of mind, apparently no very definite aim.

Mr. Andrews, formerly principal of the National school, very correctly characterizes these Zoilean critics. When speaking of one of them, he says that his "strong point throughout this discussion has been in dealing in generalities and broad denunciations of the educational systems of the day. When he descends to particulars, he but provokes a smile among all those who are really well informed in regard to the minutiae and the philosophy of the work now being carried on in our schools. * * * His criticisms of our text-books does not even possess the virtue of being fresh or original, as the question has been thoroughly threshed out both in the press and parliament long before he purchased his quart of ink and began this onslaught." * * *

As to the groundless charge that school work is undermining the general health of our school population, it was fully answered in the EDUCATIONAL REVIEW—when made by Dr. Bayard and the Medical Society. If a more complete answer is needed, it is now given by the Halifax Academy, in which the pressure has been severer than anywhere else. Circulars were sent by the teachers to the parents, who include a large proportion of the best educated people of Halifax. The returns are not yet complete, but out of 140 replies received, so far over 50 per cent say that their children could do more work without injury; 75 or 80 per cent express themselves entirely satisfied with the course of study; 10 or 15 per cent suggest some slight changes; only four or five individuals think that their children have been over-worked. Such evidence is worth any amount of guess-work, and shows clearly that the educational system has the public confidence and that it is not detrimental to the public health.

HOW TO IMPROVE THE TEACHING PROFESSION.

Sir Richard Temple, in advocating a state-aided system of superannuation for teachers, said: "We cannot over-rate the importance of this body of men and women to the interests of the country in future. The forming of the minds and characters of the children from infancy to fourteen or fifteen is the moulding of the future destinies of the country. These destinies will depend on the knowledge, sympathy and earnestness which teachers put into the work of education." If this is true, and probably no one will be inclined to dispute it, does it not become most desirable that some means should be adopted to draw to the teaching profession men and women of the highest character and ability. There should be, even in the common schools, many positions that would attract our cleverest young men and retain them for life.

If we are correctly informed, of the young men of Halifax city, only two have offered for examination for teachers' certificates during the last ten years. The number of those throughout the country who, at the beginning of their career, intend making teaching their life work, is very small. Indeed, from this point of view, teaching cannot be said to be a profession in this country. We need scarcely expect that this deplorable state of things will be improved by any material advance in teachers' salaries. It would therefore seem that the best thing to be done would be to have the teachers pensioned like other government officials. Then a faithful teacher might feel that though he received but small remuneration for the present, yet he would at least be saved from the poor house in his old age. Thus protected, many men of ability who love the work of teaching would be induced to continue at it, and the result would be a much improved class of teachers.

THE DANGERS OF EXAMINATION.

One phase of this interesting subject is discussed by Major General Drayson, in the *New Science Review*.

Of course the writer has in mind a state of affairs quite different from that which exists in this country. Yet some of his conclusions may be of benefit to us by warning us of a possible danger.

He says:—"At the present time, where much is to be gained by success of competitive examinations, there are men termed 'Crammers,' who prepare youths to pass these tests. Are these youths educated? From my own experience I unhesitatingly say 'No.' They have been taught and crammed, but not educated. * * * There ought to be a distinction

made between merely storing the mind and actually strengthening it. In the majority of our schools, attention is given almost entirely to storing the mind. A pupil who has been trained to pass an examination has been crammed with stock knowledge, and is often utterly unable to reason on any subject, more especially if the subject is to him a novelty. The capacity for judgment seems to have become almost impotent, in consequence of the brain having been entirely occupied during many years in storing stock knowledge. Hence it has too often been found, that the man who has passed in the most satisfactory manner a very stiff competitive examination, proves to be in after years excessively dull and stupid. People then wonder how this man ever managed to pass, and consequently they come to the conclusion that examinations are no test of intellectual powers. Examinations, if the questions are judiciously selected, are probably the best means of testing the amount of knowledge possessed on any subject; but the forming of these questions is a matter requiring the greatest judgment. After reading some of the examination questions, I have often felt the wish that I might examine the examiners in the same manner in which they have examined the candidates, and I believe very few would have passed. * * * * A number of individuals may be able to pass very satisfactorily an examination on a subject of which they know very little; and although well acquainted with a subject, they may fail to pass a good examination on this subject. * * * * *

The examiner has two great difficulties to surmount. The first is to give the relative marks justly; this is a difficulty not due to any favoritism, but because, when looking over several hundred questions, it is a severe mental trial to keep the mind at exactly the same standard of criticism. The second is to frame questions, the majority of which ought to be correctly answered, but among which there are two or three which require able reasoning and a thorough knowledge of the intricacies of the subject. * * * *

The mind is not necessarily strengthened because it has been stored and has successfully passed examinations. The colossal importance now assigned to competitive examinations seems, therefore, not to be based on facts. * * * * What we require in every walk of life is practical men who can do a thing, not those who can merely glibly write or speak about the theories and principles of how a thing ought to be done. * * * * One among the many dangers of cramming, or over-teaching, and competitive examinations, is not only a loss of health, but a weakening of the brain power of individuals, which may not be prominently shown until some years have

elapsed. Healthy out-door exercise and calm reflection, so essential to keep the brain efficient, are too frequently sacrificed, in order that a quantity of stock knowledge may be packed into the memory, with the purpose of passing an examination. This knowledge not having been digested, is soon forgotten, and consequently only a temporary benefit is obtained."

All this is deserving of serious consideration by every teacher in the Maritime Provinces. In the majority of our schools is attention given to the *storing* or to the strengthening of the minds of our pupils? The latter process is so little understood, appreciated or rewarded by the general public that we fear that it is only our most conscientious teachers who can resist the temptation to make their success depend on the easier process of storing the mind.

The Superintendent of Education for Nova Scotia has some excellent general directions introductory to the course of study. Attention to these directions would render cram impossible. Yet we noticed recently, that when a portion of them was read by a lecturer to a body of teachers, many seemed for the first time to realize its meaning, and others heard it then for the first time.

TALKS WITH TEACHERS.

"What do you think of my school?" This question is sometimes asked inspector or principal by the teacher, and it often proves a very embarrassing one. School officers, if they possess tact, will endeavor as the work of the school progresses, to bring to the notice of the teacher as unobtrusively as possible any defects that may exist, and if the teacher is observant she will take the hint. Nothing is more repugnant to a school officer than to bluntly inform a teacher that her work is not satisfactory. If the work is good, he will always be glad to volunteer the information. When the teacher asks this question, it is often for the purpose of repeating the answer. School officers have their own reputation to preserve, and thus it is embarrassing. He does not wish to hurt the teacher's feelings by a too plain statement of the facts, and he does not desire to be reported as praising work that does not deserve it.

Spelling is a subject that cannot receive too careful attention at your hands. Some argue that it is all important for the pupil to become familiar with the form of the word, and that spelling is best learned by dictation. Sight, certainly, is a safer guide than sound, but I think there should be a judicious mixture of written and oral work to insure accurate spellers. Pupils should be held responsible for the spel-

ling of every word they come in contact with in the course of their work, and pains should be taken to drill them upon them. All exercises should be carefully scanned for mistakes in spelling. Here is where so many teachers fail—the untiring correction of written work. In addition to this, I am strongly in favor of a spelling-book. Its use insures a drill perhaps not to be obtained in any other way, and it brings to the notice of pupils many common and difficult words not to be met with elsewhere. It may be an old fashioned method, but it has always proved a good one.

I object to “scribbling books;” first, because of their name, and otherwise, because of their poor quality and the slovenly habits which they induce. If we must abolish the slates, let us provide a good quality of paper, and use pens and ink. I have nearly as great an objection to the lead pencil as to scribbling books. They are difficult to keep in order, are dirty, and work done by them blurs very readily and seldom looks well. To the careless use of the scribbling book and lead pencils can be attributed much of the poor writing in the more advanced grades.

Be courteous to your pupils, and it will go a long way toward making them courteous to one another. Some teachers make it a practice never to notice their pupils outside of school. It is needless to say that such a teacher can never be a success. It not only hurts the pupils' feelings, but the parents, as well, and there never can be that esteem and good feeling between them and the teacher that should always exist. Always speak to a child; any person who can disregard such a greeting is not fit for the work of teaching.

Let me again urge you to be ruled by your time table. System is quite as important in the work of the school as in any other. If you violate your time table in the morning, you will keep chasing it all day, hurrying all the other work to catch up. All the work will be less effective, and some of it may not be overtaken at all. If you are only half way through—when the time table says stop—stop.

We ought not to confide our children to mere pedants in this seed-time of their life who are too small to look beyond the boundaries of their own school-district. Life and study is something more and larger than this. Let us get teachers who grow and know this, and when we are so fortunate as to secure such wisdom, let us hold on to it and compensate so as to retain it in the school.—*Exchange.*

For the REVIEW.]

New Brunswick Schools of the Olden Time.

By W. O. RAYMOND, M. A.

(Continued.)

It was not until the early settlers had fairly established themselves in their new homes and effected material changes in their surroundings, that they began to think seriously of building school houses. These they had heretofore regarded rather as a luxury than a necessity, and their hands had been so fully occupied in providing the necessities of life, that little attention was paid to aught beside. Any fair sized room therefore was deemed sufficient for school purposes. Accordingly we sometimes find a loft over a store fixed up for a school, or a building erected to serve the combined purposes of school house, public hall, and meeting house on Sundays. If no convenient room was otherwise available, then the necessary accommodation must be sought in a private dwelling in as central a situation as could be obtained. In the majority of cases in rural districts schools were kept in private houses, down to the year 1816, and even later than that.

The school masters employed were licensed as directed by the royal instructions to Governor Carleton of the 18th August, 1784.

We have already noted the rather curious provision in Section 76 of these instructions, namely, that no school master arriving in the province from the mother country should be permitted to keep school without the license of the Lord Bishop of London being first obtained. This, as has been explained, was practically intended to apply to the masters sent out by the Society for the Propagation of the Gospel, whose missionaries and school masters, in the absence of any Episcopal head in America, were supposed to be under the supervision of the Bishop of London.

No resident of the province or person coming into it from the States or elsewhere, was by the royal instructions allowed to keep school without license from Governor Carleton himself.

The provisions in the instructions to our first Lieutenant Governor were modified subsequently, and in 1811 the various governors of British North America received the following direction as regards the licensing of school masters:—

“It is further our will and pleasure that no person be allowed to keep a school in the province under your government without your license first had and obtained, in granting which you are to pay the most particular attention to the morals and proper qualifications of the persons applying for the same, and in all cases where any school has been founded, instituted or appointed for the education of members of the Church of England, or where it is intended that

the school master should be a member of the Church of England, you are not to grant said licenses except to persons who shall first have obtained from the Bishop of Nova Scotia, or one of his commissaries, a certificate of their being properly qualified for that purpose."

The first act which made provision for government aid to parish schools, was passed in 1802. The sum granted by law was only £420, being ten pounds to each of the forty-two parishes then existing; the grant to be expended in the maintenance of such schools as were already established, and to assist in establishing others in places where as yet there were none. The expenditure of the money was entrusted to the justices of the peace for the several counties.

As an illustration of the way in which new schools were established, the following petition found by Dr. W. F. Ganong, among some old Charlotte County documents, is of interest.

"Petition for School License—To his Excellency Sir Archibald Campbell, G. C. B., Lieutenant Governor and Commander-in-Chief of the Provinces of New Brunswick, etc., etc., etc.

The Petition of Margaret Johnston, of the Parish of Pennfield, in the County of Charlotte, humbly sheweth:

That the Petitioner is a member of the Established Church, and a native of Ireland, from which several years since she emigrated to this County:

That the great distance of the place in which she at present resides from any school, induces your Petitioner to devote her time and attention to the instruction of the children of the district, for which she thinks herself duly qualified; and that she may do so agreeably to the law in that case made and provided, she humbly requests your Excellency to grant her a license to teach school in this Province, and as in duty bound she will every pray, etc.

Pennfield, N. B., 9th July, 1833."

The above petition was endorsed by the trustees of schools for the Parish of Pennfield, in the following terms:

"We think it expedient that there should be a Female School established in the District where the Petitioner, Margaret Johnston, now lives, and we believe her to be sufficiently qualified for conducting the same: We therefore beg to recommend the prayer of the Petitioner to your Excellency's favorable consideration."

For at least thirty years subsequent to the establishment of the province of New Brunswick, the number of schools was very small. As late as the year 1815, we find the annual grant for the encouragement and support of parish schools in the whole province was only £375; and it is doubtful if there were at that time more than forty schools outside of the city of St. John. During the next fifteen years, there was a very considerable improvement, due in a large measure to the act passed by the legislature in

1816, a synopsis of which has been already given. In order to carry out the provisions of that act, the House of Assembly in 1817 voted the sum of £3,000 for the encouragement and support of schools, a notable advance as compared with the annual appropriation of about £375 under the former act. The money was expended under the ninth section of the act which provided that when a school house had been built and a master appointed in any town or parish, and money to the amount of £30 raised by the people, there should be granted to the school from the province treasury the sum of £20 per annum.

The passage of the act was the signal for an era of school house building all over the province. In many instances, special grants were voted by the House of Assembly for the completion of these buildings. The journals of the House of Assembly for more than twenty-five years from this date, contain numerous petitions for aid towards building or completing school houses. Many of these were favorably considered, more were not.

The provisions of the Act of 1816, were slightly modified in the Act of 1823, which fixed the amount of the government grant at £20, the people to raise at least a like sum, and no town or parish to receive a larger sum than £100 for one year. In order to draw the grant for a school, the trustees had to certify that a school house had actually been built or provided by the inhabitants of the district, and £20 raised and paid for the support of the same, and that a proper person duly licensed as by His Majesty's royal instructions required, had been appointed to teach, and had kept the said school twelve months.

Five years after the passage of this Act, the House of Assembly appointed a committee consisting of W. Crane, Alex. Rankine, Thos. Wyer, E. B. Chandler, and John W. Weldon, to report on the condition of the schools. The report of these gentlemen, submitted March 14th, 1828, contains the following paragraph: "The committee have had under their consideration the operation of the Act for the encouragement of parish schools, and have much pleasure in stating that from information received from every part of this province, it appears that very great and lasting benefits have been derived from the operations of the said Act, and they have therefore prepared a Bill to continue and amend the same which they beg leave respectfully to submit for the consideration of this house."

The stimulus given to the cause of education, both elementary and advanced, through the laudable efforts of Governor Smyth and his successor, Sir Howard Douglas, aroused much interest in the subject, and

led to a very considerable advance in educational matters. But the zeal evinced by those who were the promoters of the college at Fredericton, and of the Madras system, seems to have flagged under Sir Howard Douglas' successors, and there ensued a period of comparative stagnation, with which, however, it does not come within the province of this article to deal.

In granting licenses to teachers, it is certain the knowledge required was not very great. The license confined the teacher to a particular parish; fees were also required before the license was delivered.

The teachers of olden days were not only greatly inferior to those of the present time in intellectual attainments, but also as regards general character. Disbanded non-commissioned officers and soldiers, not always of the most temperate habits, sometimes took up school teaching as a means of livelihood. By the royal instructions issued in 1811, the Lieutenant Governors were required "to pay the most particular attention to the morals and proper qualifications of the persons applying for a license to teach."

Two instances, at least, occurred in the beginning of the century of gross immorality on the part of school masters, one of which is referred to in the following paragraph in an old St. John paper. "On Thursday, (July 2nd, 1801,) at the General Sessions of the Peace, held for the County of Kings, one Edmund Finn, a school master, was tried and convicted for assaulting Jane L——n, a child under ten years of age, with an intent to commit rape, and was sentenced to one month's imprisonment, and to stand in the pillory one hour."

The other instance is that of one John Smith, a school master in Carleton, who in 1806, was convicted before the Supreme Court of an unmentionable crime, and sentenced to receive condign punishment, part of which consisted in standing in the pillory one hour, at the foot of King street, in the city of St. John. The occasion is said to have been a field day for the school boys with whom Smith was unpopular, both on account of his free use of the rod, as well as abominable misconduct. In the trial, Attorney General Bliss, Solicitor General Ward Chipman, Thomas Wetmore, and Charles I. Peters, were all arrayed against the unfortunate school master. We may congratulate ourselves on the fact, that the instructors of our children in modern days, as a class, bear the highest and most unblemished reputation in every respect, and that such misdeeds as those above recorded, would, to-day, send a thrill of horror throughout the length and breadth of the country.

FOR THE REVIEW.]

Spring Migration of Birds at Pictou, Nova Scotia, 1894.

By W. A. HICKMAN.

We have very much pleasure in publishing the following record of the migration of our birds of last spring for the double purpose of its excellence as a record and its value as an example of how the record may be kept, and of the time at which these birds may be looked for. The time of migration differs from year to year, more or less, with different species; and one object of these observations is to aid in the solution of the migration problem. If the observer does not go out often, the birds may be present for days without his knowing it. In order to be of value, the observer should be every day on the look-out, and, if possible, take a special promenade two or three times a week in search of the appearance of the rarer species. It is a very good plan to note the number of each species seen on such occasions, as it serves to indicate the rarity or abundance of the particular bird.

List of species, with the date of their first appearance and the number of individuals seen, at Pictou, Nova Scotia, 1894:

1 Song Sparrow.....	6 February.
1 Golden-eye Duck.....	17 "
4 Long-tailed Ducks.....	17 "
1 Goosander.....	17 "
19 Canada Geese.....	9 March.
7 Purple Finches.....	14 "
2 Dusky Ducks.....	16 "
9 Brant.....	16 "
24 Shore Larks.....	21 "
4 Robins.....	23 "
1 Pigeon Hawk.....	28 "
1 Rusty Grackle.....	28 "
56 Red-breasted Merganser.....	8 April.
Snowbirds.....	10 "
2 Purple Grackle.....	17 "
1 Wilson's Snipe.....	17 "
2 Fox-colored Sparrows.....	19 "
2 Woodcocks.....	24 "
2 Kingfishers.....	25 "
5 Golden-winged Woodpeckers.....	26 "
4 White-throated Sparrows.....	28 "
5 Yellow Red-poll Warblers.....	28 "
1 Olive-backed Thrush.....	28 "
1 "Brown Crane" (?).....	28 "
6 White-breasted Swallows.....	28 "
1 Yellow-rumped Warbler.....	29 "
1 Bittern.....	1 May.
2 Marsh Hawks.....	1 "
1 Solitary Sandpiper.....	7 "
7 Barn Swallows.....	9 "
1 American Goldfinch.....	9 "
1 Yellow Summer Warbler.....	12 "

2 King-birds (Tyrant Flycatchers)	16 May.
3 Eave Swallows	17 "
4 Chimney Swifts	17 "
3 Pine Creeping Warblers	19 "
1 Black-throated Green Wood-warbler	19 "
5 Bobolinks	19 "
1 American Redstart	20 "
Common Cross-bills	20 "
White-winged Cross-bills	20 "
2 Great Northern Shrikes	2 June.
1 Night Hawk	12 "

This list does not contain some migrating birds which are common in many parts of these provinces, but it is a very good list nevertheless. It is a capital guide to beginners. See how the returning birds of 1895 will deviate from this time-table in each school section. Perhaps next winter we may publish a comparative time-table of this kind, representing various parts of Nova Scotia, New Brunswick and Prince Edward Island. If our readers help we can have a comparative table very interesting to examine. We shall then know where the birds come first, where next, and where last of all. Then we shall try to guess why.

Resident birds of Pictou, Nova Scotia, observed 1894 by W. A. Hickman :

The Ruffed Grouse.
 The Canada Grouse.
 The Great Horned Owl.
 The Barred Owl.
 The Yellow Bellied Woodpecker.
 The Hairy Woodpecker.
 The Downy Woodpecker.
 The Blue Jay.
 The Canada Jay.
 The American Crow.
 The Northern Raven.
 The English Sparrow.
 The Brown Creeper (rather rare).
 The White-bellied Nuthatch.
 The Red-bellied Nuthatch.
 The Black-capped Titmouse.

Master F. S. Kirkpatrick, of Gaspereaux Station, New Brunswick, in Grade IV, writes to say that he has seen snowbirds, greybirds, crows and partridges in their woods in December. His snowbird is probably the Junco, sometimes properly called the slate-colored snowbird to distinguish it from the grey and white snowbird. He must next try to find out how many different kinds of greybirds he has seen ; perhaps it was an English sparrow. A great many different kinds of sparrows are grey birds. By close watching the difference between the different kinds will be noticed. And then there are two different

kinds of partridges. He will soon be able to tell the difference between the ruffed and the Canada. It makes the way to and from the school-house much shorter, does it not, to watch for all the different things along the way? Good fun, and one is always learning something without feeling it. He says the other boys say they saw hawks and robins. He didn't see them, for his eyes are too sharp to see robins in December when they are not there.

December birds at Moulins River, Kent Co., N. B.
 By pupils of Mrs. Allamach's school :

Blue Jay.
 Moose Bird (Canada Jay).
 Snow-birds (Slate-colored Junco).
 Large and small Cross-bills (White-winged and Red Cross-bills).
 Woodpecker (Downy, or Hairy Woodpecker).
 Woodcock (Logcock), which belongs to the same family.
 (See ED. REVIEW, January, 1894.)
 Saw-whet Owl (Acadian Owl,) and an American Crow.

One of the school board saw a flying squirrel (*Sciuropterus volans*). The other two squirrels common in these provinces are the Red and Ground Squirrel, the latter being striped and sometimes called the Chipmunk. The flying squirrel is of a greyer color than the red, and has its skin stretching out as a membrane connecting its front and hind legs, which, when extended, enables it to sail parachute fashion in the air.

December birds of Point Wolfe, Albert Co., N. B.
 By A. D. Jonah :

- 1 Snow-bird (Junco).
- 2 Pine Grosbeak.
- 3 Gray-bird (English Sparrow).
- 4 Chickadee.
- 5 Spruce Partridge.
- 6 Birch Partridge.
- 7 Woodpecker (which ?)
- 8 Sea Gull (which ?)
- 9 American Crow.
- 10 Wild Duck (which ?)
- 11 A bird a little larger than a robin, but slimmer; grey, with white breast and long tail. The feathers are very soft and fine and thick. (Canada Jay).
- 12 Small bird, about size of Chickadee, perhaps smaller, grey and white. Have seen it picking seeds on a tree, but could not get close to it. (Try to get closer).
- 13 Saw-whet Owl (Acadian Owl).
- 14 Blue Jay.
- 15 Owl (Great Horned Owl).

Intelligence never takes repose. It repairs and reproduces itself unceasingly. Each session of the school, like each season, has its own work to prepare for the next step *in advance*.

FOR THE REVIEW.]

University Extension for Halifax Teachers.

A course of lectures on methods in teaching, chiefly by the Professors of Dalhousie College, was begun after Christmas holidays. The attendance was unexpectedly large, and consisted mainly of actual and prospective teachers. The lecturers are superior teachers of their respective subjects, some of them being considered equal to the best in America. But with one exception, they have not made a special study of education as a science, or of method as related to general principles. Their success in their own department is the result of profound knowledge of their subjects, and of great practical ability. Their lectures are therefore all the more interesting. For they give deductions from a large and successful experience, and thus supply the data for larger generalizations. Our readers cannot fail to be deeply interested in the opinions of such able teachers, and we therefore give a brief outline of their lectures:

PROF. McDONALD ON MATHEMATICS.

He did not believe that there is any very definite science of method. The best general rule was that given by Nelson to one of his captains: "Get at once to close quarters, and pound away until you succeed." If there are any principles of method they are not different for different subjects, but equally applicable to all branches of learning.

The first qualification of a teacher, is a profound acquaintance with his subject and a fair knowledge of all related subjects—wide general culture. In the next place the teacher must be possessed of large sympathies, must be able to look at his subject from the standpoint of his pupil—must hold the interest of his pupils. Thirdly, he must be a master of correct English—pure idiomatic English. Accuracy and clearness in a few subjects is better than blundering over a wider range. Grammar does not teach the correct use of English, nor does logic teach us how to reason; but they are useful as mental discipline, and they enable us to criticize the composition or reasoning. In like manner pedagogical lecturers will not make good teachers, though they may be useful in giving them the ability to judge of such work.

The lecturer then gave the following precepts for the benefit of young teachers: Speak low when you want to be impressive; never overlook a first offence; when in a difficulty tell your pupil that you will take time to consider and decide; never expose your pupil to the temptation to tell an untruth.

He condemned the heuristic method of teaching geometry as it tended to inaccuracy of expression. Geometry is useful mainly as a mental discipline.

For practical purposes, Latin is much more useful—the facts gained from it being used a thousand times oftener than those from geometry. The boy who studies Latin, will excel in all other subjects, and will have his Latin with all the culture which it implies as clear gain. Algebra should be taken up after geometry. Except in rare instances, the study of geometry cannot be pursued with advantage before the age of fifteen. The sciences should also be deferred until late in the school course. A smattering extended over the earlier school years will destroy all interest when the pupil is mature enough to take up these subjects in earnest. It is of prime importance that every subject should be made to contribute to the pupil's power of expression in good English.

PROFESSOR FORREST ON HISTORY.

He claimed that no subject studied in the schools exceeds in practical value, history, when taught as it should be. If the facts are fairly presented with the true coloring of time and place, and the student is encouraged to add to these by his own research, and then left to make his own generalizations, there could be no better training of the judgment and conscience, or better developing of the true citizen and the highest type of manhood. The mental exercise obtained from the study of history, is that which best prepares a man to perform worthily and successfully his part in life, and to decide wisely the most important questions which will come before him.

The importance attached to history by every modern civilized nation, is evidenced by the fact that nearly all the best historical literature of the world is the work of this century. The methods of modern historical investigators are as truly scientific as are the methods of those engaged in natural science, and more productive in the light that they throw upon the realities of the past, separating facts and fiction, exposing to view the mainspring of human action.

The old methods of memorizing history are surely though slowly disappearing. History so taught is worse than a useless waste of time. In the light of modern methods, it would soon disappear, were it not for the prevailing system of examinations, so injurious to teachers and pupils alike. It would be a vast gain to all concerned if half the examinations could be abolished, and the grading of the pupils left mainly to the teachers, who after all, are the best judges. By so doing, the school system would be freed from an incubus which prevents the free development of better methods, and pupils would not be, as now, crowded with memory work.

The text-books now in use, and perhaps the historical text-books in particular, are not as good as they

should be. The historical text-book will be very different from what it now is when the teacher comes to know that he is teaching history only when the pupils are made to identify themselves with the environments, thoughts and passions of the historical actors. The good teacher will help his pupils to get their information from many sources. They will be original investigators—an absorbing interest will be their spur to study.

Among the most useful devices for fixing permanently in the memory the results of the information gained by the inspiring methods hinted at, are historical maps. When history is well taught, the pupil is not only interested for the time being, but he will be certain to follow up the subject afterwards as time and opportunity offer. This test will enable teachers to judge of the value of their method.

In his second lecture, President Forrest particularly emphasized the necessity for the teachers having a full and clear knowledge of the subject of each lesson. If he goes to his class well prepared, and takes the trouble to throw side lights from his own reading on what is given in the text-book, he can scarcely fail to have an interested class.

Interesting sketches of biography and mythology should come first as a preparation for the teaching of history. After two years of this work, the pupil should have a text-book of facts and dates, to be used only as the ground work of old lessons by the teacher. The pupil could thus be prepared to begin the serious study of history by the method of original investigation, comparing different authorities, extensive reading, generalizing, etc.

The hints given by Dr. Mackay on the course of study, were highly commended as being unfavorable to cram, and as being in accord with the opinions of the most advanced educationists. The text-books in use, though somewhat defective, should, in the hands of good teachers, give good results. Historical charts are of the utmost importance. There can be no good teaching of history without them. History should be studied as one studies a landscape. Get a clear idea of the great leading features in their relation to each other. A good knowledge of physical geography is the basis of an intelligent appreciation of the great facts of history.

PROFESSOR MACGREGOR ON PHYSICAL SCIENCE.
[Halifax Chronicle.]

* * * The claims of physical science to a place on the prescribed course of study must be decided by the nature and purpose of education, which he defined as a preparation to meet successfully the problems of life. The problems are exceedingly varied and complex. To solve them successfully requires primarily

that the faculties of the body, mind, conscience and feelings be vigorous and well trained, and, secondly, that the appropriate knowledge be supplied. This would seem, then, to be the object of the school. But the conditions of life are so exceedingly varied that no general system of education can supply more than the elements of knowledge common to all conditions.

Knowledge is so evanescent, so easily forgotten, unless used, that the storing up of it for its own sake is largely labor lost. Special kinds of knowledge, when needed, are easily obtained by well trained minds. On the other hand, a healthy body, mental power, good habits and a refined taste acquired in school are so constantly kept in use that they are never lost. Let a pupil be once trained to draw correct conclusions, and that faculty remains with him. It is evident, then, that the development of power is more important than the gaining of knowledge for its own sake.

School studies must then be selected for their disciplinary value. If physical science trains some important faculties better than other studies do, then it should be selected in preference to them as a school study.

In obtaining the facts upon which it is based, the powers of observation receive their best training. In finding the simple laws and larger generalizations which these facts yield, and in testing these theories by finding how they account for diverse facts, the judgment is exercised, and that in much the same way as in solving the problems of life. The moral effect is no less valuable, for the scientific habit of mind not only carefully sifts all evidence, but also honestly rejects or modifies theories which are found to be contradicted by facts. The physical sciences cultivate the taste by showing the exquisite beauties and harmony of nature.

Mathematics is mainly deductive and may be a useful training for a lawyer whose work largely consists in making deduction from precedents. Latin and Greek cultivate mental power, but lead the pupil to rely too much on authority.

Literature is particularly useful, for it furnishes us with the accumulated wisdom of the race, all ready for use.

Deductions from history are too difficult for ordinary minds. Physical science more than any other study exercises the faculties of the mind required for every-day use. It is based upon every-day experience; it cultivates the best habits and leaves the man more self-reliant and honest in his conclusions, and is therefore, when properly taught, the most valuable discipline of the school-room.

Education in New Brunswick.

The annual report of the Chief Superintendent of Education for New Brunswick is at hand, and is of much interest. It shows an increase in the number of teachers and pupils in attendance, improved regularity of attendance, increase of the period of service of teachers of the higher classes, a largely increased attendance at the normal school, increased intellectual activity on the part of teachers and pupils as indicated by the departmental examinations, marked improvement in the quality and equipment of school buildings, and in the number of school libraries. The "slow process of general enlightenment" is awaited to get rid of some of the obstructions in the path of progress, chief among which are the apathy, ignorance and selfishness of trustees and rate-payers in many districts.

The percentage of the population of the province enrolled in the public schools is 21.69; and the average attendance, for full year, of pupils enrolled is 59.27. These figures compare favorably with the statistics of the other provinces of the dominion, as well as with those of the United States.

Of the cities and incorporated towns the percentage of attendance is, with one exception, considerably higher than in former years. Milltown heads the list with an average attendance of 82.66 per cent of the enrolment for the first term, and of 90.61 per cent for the second term of 1894. Of counties, St. John shows the highest average of attendance, being for the year 75.39 per cent.

One point of special interest noted by Dr. Inch is the increase in the number of trained teachers and the decrease in the number of teachers employed under special license; but he deplors the fact that there is a slight decrease in the salaries of teachers, and refers to the increasing number of those seeking admission to the teaching profession as one cause, and adds that this cause

"Can be easily counteracted by a judicious narrowing, as circumstances may warrant, of the entrance door to the profession. A sufficient supply of *trained* teachers must be provided; when it becomes apparent that more are licensed than the demand calls for, it will be expedient to sift even more rigidly than heretofore the candidates who apply. For any considerable and permanent increase in the salaries we must, however, look to the dissemination of enlightened and liberal views among the rate-payers of the wealthier districts, to the increased efficiency of the teachers, and to a general increase of prosperity throughout the province."

The total expenditure during the year for the grammar, superior and common schools (not including district assessments for school buildings, apparatus, fuel, etc.,) is approximately as follows:

Provincial Grants,	\$150,882 20
Schoolhouse Grants,	885 00
County Fund,	92,281 43
District Assessment (approximate)..	183,166 34
Total,	\$427,214 97
Average cost per pupil, \$6.13.	

While the total number of teachers has been increased since 1891 by 112, the increase of first-class teachers has been 86.

The reports of the inspectors, while revealing many difficulties yet to be overcome before an ideal condition of common school education can be reached, are encouraging in tone.

Inspector Mersereau says:

In many respects the year just closed has been the most satisfactory one of my official life. None other than trained teachers have been employed. Ratepayers have been more generous in voting supplies. Trustees have exercised greater discrimination in employing the best talent available for the money at their command. Parents have shown an increased interest in their children's progress. District difficulties have yielded more readily to reason and common sense. Teachers have exceeded their former efforts to "magnify their office."

Inspector Smith says:

On looking over my district as a whole, I can point to many evidences of improvement and advancement in educational work.

Inspector Steeves says:

In many schools the quality of instruction imparted is, in most subjects, excellent. The work exhibited shows that the pupils have arrived at stated conclusions by intelligent processes, that they have been trained to use their powers of observation and to reason from the knowledge thus obtained.

Inspector Carter says:

I have to report many improvements generally during the year. The school-houses in my district are almost invariably comfortable, well furnished and fairly well supplied with apparatus. Trustees are generally very careless about their out-buildings. There is, of course, constant wear and tear in buildings and appliances. This, I think, is more than made good each year. I have taken occasion in former reports to mention the fact that nearly all the school-houses are painted, not only externally, but internally, and many houses are very attractive in appearance. There has been no falling off in the work in this direction. In addition to this, many school flags have been procured during the year. Some new school libraries have been provided, and many additions to existing ones have been made.

In no year since I have held office has there been a better opportunity for children to attend school than during the past. I do not recall any organized district in my territory but what has had a school in operation during some part of the year.

Inspector Bridges says :

Throughout this inspectorial district during the year the schools have been kept in operation quite as regularly as in any preceding twelve months. No local licenses have been issued, the supply of licensed teachers being fully equal to the demand, and the present term affords no example of a case where a school remained closed for the reason that no regularly licensed teacher could be obtained.

Inspector Meagher notes marked progress in many of the districts of his inspectorate. Special difficulties present themselves in obtaining trained teachers for many of the schools in Madawaska and a few in Victoria ; but on the whole there is ground for encouragement.

There is a great deal of valuable and interesting information included in the report—in statistical tables, publication of the revised course of study, reports of the university and normal school, of the inspectors and other school officers, with some of the papers read at the County Institutes.

EDUCATIONAL OPINION.

True science work does not stop with mere seeing, hearing, or feeling ; it not only furnishes a mental picture as a basis for reasoning, but it includes an interpretation of what has been received through the senses. A child and a goat may see the same thing, with the advantage of vision on the side of the goat ; but the latter has no power to interpret what he sees, and is, therefore, essentially non-scientific. Within these early interpretations lies the beginning of the reasoning power, and with its development comes self-reliance, independence of thought, and a general strength of character, which marks a man among men.

If a pupil be permitted to examine an object carefully, or a set of conditions, and then be required to interpret what he sees, he is from that moment ever after stronger than he was before. By that act, no matter how trivial, he begins a great work of self-emancipation from the rule of chance, in so far as his interpretation has taught him how the forces about him may be resisted, guided and controlled.—*Jackman. International Educational Association, Toronto, 1891.*

The very learned and conservative French academy has agreed to changes in French spelling, so that the orthography of the language may be more logical and easier of acquisition by foreigners. These changes, which go into use at once, were forced upon the academy by public opinion. They affect about 1,200 words in most common use. Does it not seem strange that the savans of Germany and France are able to

effect reforms in languages in which the spelling is comparatively uniform, while the extraordinary anomalies of English spelling must continue to hamper the speech which is destined to become universal? At least one year in the life of every pupil is entirely wasted by our absurd spelling. Max Muller says that English spelling has indeed become a national misfortune which swallows up millions of money every year and destroys all attempts at a universal education.

The scientific alphabet, consisting of forty-three characters, is used by the Standard Dictionary to indicate pronunciation. Its use in primary reading books would make learning to read an easy and delightful task. The experiment has been repeatedly tried, and always with great success.

In order to help the teachers to become acquainted with the reformed spelling and to hasten the good time coming, our superintendents of education might adopt the reform in their annual reports. *

Tonic Sol-fa.

The subject of which I wish to speak to-day is methods in teaching music. By this I mean methods adapted to the requirements of the public schools of the present day. This is a subject which cannot be well treated in a written paper, but can be best exemplified by practical demonstration with a class of every-day public school pupils. In the brief space at my disposal I will confine myself almost entirely to the latter course, and will illustrate a few of the methods which I have found most useful in connection with my work in the Toronto public schools.

With regard to the system used, I may state at the outset that we use the tonic sol-fa system. This statement is one which somehow is usually expected to be accompanied with an apology, as if the teacher felt that it was not quite orthodox. I have no such apology to offer. On the contrary, I use the tonic sol-fa system because I have found it to be the best. It is based on sound educational principles, and will bear the most searching investigation. It is not, as some erroneously suppose, an untried innovation. It has been tested and tried in conservative England for the past fifty years, and what is the result? At first despised and suspected by all who claimed to be ranked among musicians, it is now approved of by nearly every musician of note ; it is taught in *ninety per cent* of the public schools which pass the government examination in music ; it has done a noble work in elevating the masses and improving the standard of music in church and school. Last week, in St. Paul's Cathedral, in London, there was assem-

bled a vast congregation of ten thousand souls to commemorate the founding of the system fifty years ago by that noble man, Rev. John Curwen, who devoted his life to the perfecting of the system in the cause of humanity. On Saturday next twenty thousand singers from all parts of the British empire will raise their voices in song as a living testimony to the benefits which this system has conferred on them by cultivating and developing the gift of song, with which God has endowed the majority of mankind. To-morrow will see five thousand of the public school children of the city of London assembled in the Crystal Palace to demonstrate the results of the system in training the voices of the young through the agency of the ordinary public school teachers. We in Toronto will contribute our share by giving a concert with fifteen hundred young volunteers from our city schools. To-day I will not attempt to show results, but methods only.—*Cringan. International Educational Association, Toronto, 1891.*

Victoria Park, Truro, N. S.

With Mount Pleasant Park, in Halifax, Nova Scotia, a natural woodland of undisturbed beauty extending along the magnificent harbour of that city, Victoria Park, in the town of Truro, ranks as the most distinctive and beautiful of natural parks in Nova Scotia. Founded eight years ago on the occasion of the Queen's Jubilee, by donations of land from seven citizens, one hundred acres of wooded ravine were thus acquired. The entrance is a wide open park space, which soon narrows to a shaded walk beside a brook. A succession of six waterfalls extends through the mile of park, the largest cascade, known as the Joe Howe Falls, being, perhaps, thirty-five feet high. Four miles of paths and walks lead through the densely wooded hill-sides and afford views of the precipitous opposite side of the ravine, one hundred feet high. In narrow side gorges, extending at right angles, springs have been opened up, and here the heavy cold air under the perpetual shade of dense spruces and firs, is twelve to fifteen degrees lower even than in more open parts of this charming rustic woodland. A carriage road, three miles long, encircles the outer edge of the park on the plateau high above the ravine. This driveway overlooks Truro and many miles of rich agricultural country, and to the northward the headwaters of Cobequid Bay, the limit of the Bay of Fundy tides. The park is unspoiled woodland, and we hope that the utmost caution will be used in developing it so that its true spirit will be preserved, especially against the intrusion of any ornamentation or construction, beyond that which is necessary to make its natural beauties available.—*Garden and Forest.*

An Appetite for Nature Study.

John Burroughs, in his recently published collection of essays called "Riverby," gives some valuable suggestions as to instruction in the natural sciences. He says :

"To teach young people or old people how to observe nature is a good deal like trying to teach them how to eat their dinner. The first thing necessary in the latter case is a good appetite; this given the rest follows very easily. And in observing nature, unless you have the appetite, the love, the spontaneous desire, you will get little satisfaction. It is the heart that sees more than the mind. To love nature is the first step in observing her. If a boy had to learn fishing as a task, what slow progress he would make; but, as his heart is in it, how soon he becomes an adept."

The *Courant*, of Hartford, Conn., referring to this passage in an able editorial note says :

"Mr. Burroughs never wrote a more suggestive and deep sentence than when he said the heart sees more than the mind; the instructor who can quicken the pulses of his pupils and make them wider eyed in class, is worth a hundredfold more than one whose specialty is getting scholars so filled up with facts that they can pass a certain examination. It isn't what we have forgotten, but what we know, not what has gone through us, but what is in us, that makes us of some account. The knowledge acquired for an examination does not stay beyond the week; the knowledge acquired by an impulse of genuine interest lasts as long as we do. The great justification of the elective system is the fact that it is based upon study with appetite presupposed; its danger lies in the other fact that all appetite is not normal and that in youth it is immature.

"Milk for babes, meat for men, and not too much sweet stuff for anybody; with those restrictions, the wisest philosophy of education can do no better than follow this simple law."

The German Emperor on Education.

Educational circles in Germany are said to be greatly excited over Emperor William's recent speech on education, in which he severely criticized the present system, both as to the matter taught and the manner of teaching. His Majesty held that as regards the basis of instruction in gymnasial schools it ought to be German, and the principal aim ought to be to turn out Germans instead of youthful Greeks and Romans. Said he, "We must courageously break with the mediæval and monkish habit of mumbly away at much Latin and a little Greek, and take to the German language as the basis of all our scholastic studies. It is this cruel, one-sided, and eternal cramming, which has already made the nation suffer from an over-production of learned and so-called educated people, the number of whom is now more than the nation can bear, and who constitute a distinct danger to society." His Majesty also dwelt on certain evils which prevailed to an intolerable extent in high schools, and quoted figures to prove

that certain physical ailments, especially short-sightedness, which was increasing to an alarming extent, were directly due to too long hours and bad ventilation in school rooms. He asked his hearers to reflect on the meaning of these figures in relation to the question of national defence. What they wanted was soldiers. The country also stood in need of intellectual leaders and efficient servants. But how was the stock of these to be replenished when the number of short-sighted youth in the upper forms of the schools rose in some cases to as much as seventy-four per cent.

When he studied at Cassel, no fewer than eighteen of his fellow pupils out of a class of twenty-one wore spectacles, while some of these with their glasses on could not even see the length of the table. As Landsvater or Father of his country, he felt bound to declare that such a state of things must cease. Naturally, such unsparing condemnation of the traditional system has created a feeling of consternation in the ranks of the old-fashioned schoolmen. The conservative newspapers too, are dumb-founded, and admit that the last vestiges of the ancient regime have been thrown overboard, while the organs of the liberal Progressists and Freisinnige parties laud their Kaiser as the most far-seeing of contemporary sovereigns.—*Exchange*.

Within College Walls.

This is a collection of ten short papers on matters pertaining to the college. The author is Pres. Chas. F. Thwing of Adelbert. The tone of the book is religious and ethical; its real subject, the college as a Christianizing agency. The author is of course right, when he dwells on the importance of the college in developing character, on its possible influence in leading to faith and to a sustaining trust in things divine. But just as distinctly he seems wrong when he insists that all this is the underlying principle and definite purpose of the college's existence. Every college, indeed, stands or should stand for the right; but its real aim is to assist in the search for truth. Its religious and moral influence is a means, not an end. This distinction between truth and right as the first aim of an institution of learning, is not a verbal quibble. Its practical test lies here: build up your college as Pres. Thwing would have it, and you run no end of risks. For instance: in engaging a professor, choose a good religious man who doesn't know his subject, in preference to a scholar who is less holy but more erudite; ask this new professor to make character-building his main work in the class-room: will this, or will it not, approximate toward the ideal

college? The author thinks it will. But the fact is that this plan has been tried disastrously over and over again. The scores of small and struggling denominational colleges that have followed the scheme, contrast pitifully with the no less struggling state universities to which the plan was impossible. Could the plan be fairly tried, the religious would at once crowd out the scholarly; and in the present system of our great universities the scholarly has never once crowded out the ethical. Lofty, then, as is the author's aim, it is the aim of the man who sees but one side of the question, and that, tested by theory and experience, the unsafe side.—*The Dial, Chicago*.

The Los Angeles, Cal., *Express*, says:

"It is a curious fact that while Americans all take a pride in the public schools of the country, and are ever ready to vote large sums to promote the cause of education, they are as a rule utterly indifferent to the personnel of the school board. A school election as a rule brings out scarcely a handful of voters, if it is held at a time when there is no other election. If the voters are asked, "Are you interested in having good schools," they would answer, with much indignation at the question, "Yes, of course we are." Yet they will not give themselves half as much concern about who are the candidates for the school board as they do about the election of a petty township constable."

QUESTION DEPARTMENT.

FOR J. A. P.—Hamblin Smith's Arithmetic, page 193, Ex. 8.

The wheat was sold for a certain amount, of which \$600 was paid for commissions and the remainder invested in silk. The \$600 was made up of 2 per cent on the whole amount (including, of course, the \$600) obtained for the wheat and of 4 per cent on the amount spent for silk. Now if 2 per cent had not been charged on the \$600, it would have been reduced to \$588, and then the commission on the sum invested on silk would have been 6 per cent.

$$\begin{array}{rcl} \therefore 6 \text{ per cent of the investment} & = & \$ 588. \\ 1 \quad \text{''} \quad \text{''} \quad \text{''} & = & \$ 98. \\ 100 \quad \text{''} \quad \text{''} \quad \text{''} & = & \$9800. \end{array}$$

This is an interesting and easy problem when solved in this way. It can be made very clear if lines are made to represent the amounts.

FOR X. Y. Z.—Hamblin Smith's Arithmetic—(1) Page 273, Ex. 138.

$$\begin{array}{l} \text{A can make 50 while B makes 45, or C 40.} \\ \therefore \text{B makes 90 while C makes 80.} \\ \therefore \text{B can afford to give C 10 points.} \end{array}$$

(2) Page 293, Ex. 339.

Solved in the EDUCATIONAL REVIEW for Feb., 1893.

(3) Page 293, Ex. 349.

4285 - 2540 - 980 = 765 lbs. of soda and potash.

But 32 lbs. of soda unite with 49 of sulphuric acid.

∴ 1 lb. " unites " $\frac{49}{32}$ " "

And 1 lb. of potash " " $\frac{49}{38}$ " "

∴ $\frac{49}{32}$ of the soda + $\frac{49}{38}$ of the potash = 980 lbs.

∴ $\frac{1}{32}$ " + $\frac{1}{38}$ " = 20 "

3 times the soda + 2 times " = 1920 "

But 3 " + 3 " = 2295 "

∴ 1 " = 375 "

∴ Soda = 765 - 375 = 390.

FOR P. J. B.—A and B begin business with capital in the proportion of 7:8. After 3 months they add respectively to their capitals $\frac{1}{4}$ and $\frac{1}{8}$ of their former investments, and at the end of the next 3 months each withdraws $\frac{1}{3}$ of his capital. At the end of the year their profits are \$1652. How much should each receive?

A has 7 for 3 months.
 A " $12\frac{1}{4}$ " 3 "
 A " $6\frac{1}{8}$ " 6 "
 B " 8 " 3 "
 B " $14\frac{2}{3}$ " 3 "
 B " $7\frac{1}{3}$ " 6 "

Divide in this proportion.

[Your other questions may be solved with a little outlay of mental vigor.]

FOR L. M. C.—Explain how you find all the divisors which a number has. Also how you find whether it is prime.

You are supposed to know the prime numbers in order, 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, and so on indefinitely. Divide by each of these, beginning at the lowest, and you will find all the *divisors*, if there are any. If there are none, of course the number is prime.

In reply to "Subscriber"—First: A teacher who applies for advance of license, but not intending to attend the Normal School, is *not* required to forward a certificate of health to the Education Office.

Second: The amount of mathematics required at the preliminary examination for the first-class is given in Regulation 32 of the School Manual, namely:—Arithmetic, including the keeping of accounts by single entry; the first book of "Euclid" with easy exercises, and the elementary rules of Algebra, together with simple equations of one unknown quantity.

M. R. B.—Where can I buy natural history specimens and chemical apparatus in cheap lots?

The best houses for the purchase of minerals are: Dr. A. E. Foote, Philadelphia; Geo. L. English & Co., New York; Wiley, of Fredericton, and Brown & Webb, of Halifax, sell chemical apparatus at reasonable rates.

FOR E. G. S.—(1) If two lines be drawn from the extremities of the base of a triangle to bisect the opposite sides, the line joining their intersections with the vertex, if produced, will bisect the base.

Let ABC be a triangle on the base BC. Let the straight line BOE bisect AC in E, and COD bisect AB in D, then AO produced will bisect BC in F. Triangle AEB = the triangle ADC (each half of ABC).

∴ " DOB = " EOC (Ax. III.)

∴ " AOE = " ADO (Ax. I.)

∴ " AOB = " AOC (Ax. II.)

But they are on the same base, AO, and must have the same altitude, which is the same as being between the same parallels.

∴ The triangle BOF = the triangle COF (I. 37).

∴ The line BF = " CF (I. 40).

(2) If any three circles, whose radii are known, be drawn touching each other externally, how can I find the enclosed area?

Join the centres of the circles by straight lines which will of course pass through the point of contact (cor. III. 12). A triangle will be formed of which the three sides are known. Its area and angles can therefore be found. The angles and radii of the circles been known, the areas of the enclosed sectors of the circles are easily found. The sum of these areas taken from the area of the triangle will leave the area of the space enclosed without the circles.

FOR W. L. T.—How do you account for the four years' omission in reckoning time?

If this question refers to the fact that the Christian era began four years after the birth of Christ we refer our readers to Ency. Brit., Vol. XIII, page 659. There we find it stated, that our present era was fixed by Dionysius Exiguus, who not having as many of the historical facts of that period at his command as modern chronologists, made a mistake of four years and placed the birth of Christ four years later than he should. After the date which he fixed had been accepted by all civilized nations, and used for many centuries, it became inconvenient to change it. However, the best authorities do not agree either as to the exact year or month on which it should begin.

FOR J. B. S.—Hamblin Smith's Arithmetic, page 166, Ex. 3.

Pipe A—pipe C empties the cistern in 40 hours.

∴ Pipe C—pipe A would fill it in 40 hours.

∴ Cistern $\frac{1}{4}$ filled by A+B in 1 hour.

" $\frac{1}{60}$ " C-A " "

" $\frac{1}{80}$ " B-C " "

∴ " $\frac{1}{4} + \frac{1}{40} + \frac{1}{80} = \frac{7}{40}$ filled 2 B's in 1 hour.

∴ " $\frac{7}{40}$ filled by B in 1 hour.

∴ " $\frac{1}{4} - \frac{7}{40} = \frac{9}{40}$ filled by A in 1 hour.

∴ B fills the cistern alone in $\frac{40}{9} = 6\frac{4}{9}$ hours.

A " " " $\frac{40}{9} = 9\frac{1}{9}$ "

SCHOOL AND COLLEGE.

Frank Ingram Stewart, vice-principal of the Sydney Academy, Cape Breton, has obtained the degree of B. A. from the London University. Only three candidates at the late colonial examinations were successful, namely, one from Nova Scotia, one from Jamaica, and one from Tasmania.

Miss Annie M. Prescott and Miss Mary Hawkins, teachers in adjoining districts in Pennfield, Charlotte Co., recently gave a joint entertainment for the purpose of better equipping their schools. The proceeds, which were quite large, were divided between the schools.

The following Charlotte County teachers are employed elsewhere: Misses Mary Allen, Ella Simpson and Lottie Coates are engaged in St. John County; Miss Bessie Young, in Westmorland; Miss Edith Young, in Albert, and Miss Maud Waldron, in Kings. Some of these are first class and nearly all are experienced teachers. While this exodus indicates the appreciation in which Charlotte County teachers are held abroad, it is to be hoped it does not show any lack of it at home. First class and experienced teachers of all classes are not to be lightly parted with.

Inspector Carter will complete his work in the country districts on the main land of Charlotte County during the first part of February. He will be engaged during the latter part of February and the first part of March with the country districts in St. John and Kings Counties.

We are pleased to learn that the pupils of Kentville Academy have had the enterprise to organize a lyceum, which promises to be of much benefit to the institution. At their first meeting, which was on the 23rd of January, they had a reading by Miss Johnson, music by Miss Caldwell, and a debate in which Miss Hamilton, Miss Newcomb, Mr. Borden, Mr. Fisher and others took part. In discussing a topic requiring research into the recent history of the dominion, they are taking the true way to study history.

Some of our academies are devoting their energies too exclusively to the work laid down in the course of study. To have a large percentage of pupils beyond the pass mark may be gratifying to the teachers, but a preparation for life's work implies other training than that which enables one to pass examinations successfully.

For the sake of physical development, out-door games, in which all the pupils can join, should be encouraged. The gymnasium should be liberally supplied with apparatus. There should be an academy paper issued at least once a month. A good debating society would be of very great benefit in giving interest to all school work, in English, elocution, science and history. Let all these things receive proper attention, and let there be less haste in trying to pass the final examination and we will have a much abler and better developed race of young men and women.

Inspector Mersereau is visiting the graded schools of his inspectorate this month.

The calendar of the University of New Brunswick has been received. It has much interesting information, and

indicates that the affairs of the university are in a prosperous condition. The list of students for the current year shows: Graduates, 2; Undergraduates—Seniors, 12; Juniors 12; Sophomores, 15; Freshmen, 25; Partial students, 9; total, 75. The university extension classes in St. John were very well attended last season. They are growing in interest every year, and the increased work undertaken by the professors in conducting these classes without any remuneration, and at a great deal of personal sacrifice, speaks volumes for themselves and for the university.

The new school building of Parrsboro was formally opened on the 11th ult. Dr. MacKay, Superintendent of Education, Inspector Craig, the Principal, and the local clergy made stirring speeches. The building has eight large departments, is well fitted for science work, and cost \$9,000. The audience was evidently at one with the Superintendent of Education as he pointed how admirably the course of study was adapted to train the faculties in the most useful directions,—supplying useful information, creating capacity and discouraging cram.

We are pleased to note the success of two Nova Scotians in Johns Hopkins University,—Mr. Ebenezer MacKay, recently principal of the New Glasgow High School, and Mr. J. W. Tupper, who was a student at the same institution, were both successful in obtaining bursaries of considerable value. Other two Nova Scotians who took a course at Johns Hopkins are teaching,—Mr. A. M. Morrison at the University of Chicago, and Mr. S. McKenzie at Bryn Mawr College for Ladies.

We also see by the calendar of Cornell University that Canada has thirty-seven students among its classes, of whom a large proportion are from the provinces by the sea, and that they stand particularly well. Agnes S. Baxter, A. M., (Dal. Col.) took the Erastus Brooks Fellowship in mathematics and the degree Ph. D. Albert R. Hill, A. B. (Dal. Col.) holds the Susan Linn Sage Fellowship in philosophy and ethics. Another of the same is held by Melbourne S. Read, A. B. (Acadia University). George A. Cogswell, A. B. (Dal. Col.) is a graduate scholar in the School of Philosophy, and Ph. D. Wm. Mackintosh, of Halifax Academy, holds the Sibley Scholarship in civil engineering. Frank R. Higgins, A. B. (Acadia University) took the degree Ph. D. Albert R. Hill, A. B. (Dal. Col.) took the degree Ph. D. Ethel Muir, B. L. (Dal. Col.), M. L. (Dal. Col.) took the degree Ph. D. Edgar Wood, A. B., undergraduate (Hebert, N. S.) George Randolph Baker, undergraduate (St. John, N. B.) Joseph C. Hilton, undergraduate (Yarmouth, N. S.) F. J. A. MacKittrick, B. S. (Dal. Col.), pursuing a course of original investigation in physical science and holding a Prince of Wales 1851 Science Exhibition, tenable for two years, worth \$750 a year. Clarence A. McDonald, undergraduate (Sherbrooke, N. S.) Albert J. D. Martin, undergraduate (Valley Field, N. S.) J. M. Turman, undergraduate (Point de Bute, N. B.) John W. Hibbert, undergraduate (Yarmouth, N. S.) Edward L. Moore, undergraduate (Halifax, N. S.)

When our teachers are trying to stimulate the ambition of their pupils, they can point with effect to such a list of names, all from one only of the great universities.

BOOK REVIEWS.

THE PHILOSOPHICAL REVIEW for September and November, 1894, and for January, 1895. This magazine continues to maintain the high standard of excellence proposed by its editors at the outset of its publication. Let us remind our readers that its founder-in-chief, J. G. Schurman, Principal of Cornell University, is "one of ourselves," a native of P. E. I., who has risen to the distinguished position occupied by him in virtue of the remarkable ability he has displayed alike in the acquisition and impartation of knowledge, and in the administration of university affairs. His influence has secured a private endowment on behalf of the magazine, enabling the publishers to put the numbers at a lower figure per annum than is charged for any similar magazine,—certainly, for any of even approximative merit,—throughout the literary world; and also to secure articles from the most illustrious students of philosophy in both Europe and America. Thus among the contributors in the numbers referred to above, in addition to the editors (Principal Schurman and Professor J. E. Creighton), are such well known names as those of Professor Royce, of Harvard, admittedly among the very foremost on the staff of that great university, with its upwards of two hundred teachers; Watson, of Queens University, Kingston, second to none as an interpreter of the critical philosophy heralded by Kant; Seth, of the University of Edinburg, many articles by whom occupy a conspicuous place in the "Encyclopædia Britannica;" Dyde, of Kingston, familiar to many of our readers on account of the position held by him for some years in the University of New Brunswick, and for whom it is safe to predict a distinguished career, as he fulfils his brilliant early promise; and several others.

The plan of contents ought to commend this magazine to a wide class of readers. It consists, first, of leading articles, so to call them,—essays upon such themes as The Problem of Hegel (Watson), The Consciousness of Moral Obligation (Schurman), Evolution and Development (Dyde), Pleasure and Pain Defined (Mezes), and so forth,—there being in all thirteen such articles in the three numbers in question. Then follows reviews of leading books published recently in the several departments of ethics, metaphysics, psychology, logic, etc., embraced within the compass of this very able magazine. To these succeed summaries of articles worthy of notice published in kindred magazines, English, American, French and German. Brief notices of new books bearing upon the purpose of the *Review*, and occasional notes of leading events in the philosophic world, complete the bi-monthly contents, the price being but \$3.00 per annum.

It is difficult to "sample" the contents of a magazine such as is *The Philosophical Review*. The leading essays are almost invariably models of condensed thought, to attempt an abridgement of which would be almost akin to exhibiting a can of preserved or pressed vegetables by way of imparting some acquaintance with the form, beauty and properties in general of the original plants. Here, however, is a short account and extracts from Prof. Schurman's article on Consciousness of Moral Obligation. After distinguishing between the "origin of authoritative moral law in the history of humanity," and "the emergence in each individual of a feeling of obligation to obey those objective behests," and stating that he proposes to confine himself to "the latter question alone," Prof. Schurman alleges that "from every point of view, the feeling of moral obligation—'I ought to do the right'—is an ultimate,

self-supporting, self-authenticating experience,—a characteristic of human nature as such,—a function of reason itself." If this be so, the question naturally arises, "How so many different theories of obligation should have gained a footing in ethical philosophy?"

Dr. Schurman discusses this aspect of the case at some length, showing that "obligation, as an abstract feeling, rarely, if ever, rises above the threshold of consciousness; it is apt to appear in union with piety, devotion, sympathy, propriety and prudence,"—meaning, with one or more of these associated feelings. So that while the sense of obligation in itself is simple, "our *actual* sense of obligation is not simple, but compound;" duty for its own sake having for auxiliary possibly "the rewards and penalties of the future state," or "sympathy or love for our fellow-men," or that given "men feel they ought to be good, because in the life of goodness they are fellow-workers with God." "On its lower, as on its higher levels, religion is the indispensable ally of morality; and wise men cannot survey without anxiety and alarm the demand for secular, as opposed to religious, moral instruction in our schools; as though children could be influenced by abstractions like the categorical imperative. . . . Whatever makes men sensitive to the claims of moral law, has its place and worth in the evolution of human character; but the noblest spring of obligation is a love of goodness, which is fed by love of God and love of our fellow-men."

Then follows an estimate of the different ethical theories of obligation,—the intuitional or transcendental, with its recognition of "free homage to a law or ideal of goodness" as the quintessential element of moral obligation,—the empirical theory, which "gives a true account of the associated feelings which in our concrete experience accompany the sense of duty, foster its growth, and perhaps even make its first emergence in consciousness a possibility,"—and the theological, which "explains our consciousness of moral obligation as the effect of commands and prohibitions laid upon human beings by the Infinite Being." The curious supposition of "one lone man in an atheistic universe," regarding the possible development of whose consciousness some have indulged in speculation, is dismissed with more courtesy of contempt, perhaps, than it merits. And the conclusion of the whole matter is thus expressed: "To the question, Why ought I to do the good? the answer will still be, Because it is good. To say, Because God ordains it, would only be a short-hand formula for the complete statement: God is good, and the good has inherent authority over a nature like mine. Of course, for rogues and criminals this angel of goodness would be a poor scare-crow; but, so far as I know, there is no theory of obligation which proposes to abolish the auxiliaries and supports of obligation in dealing with natures that refuse to hearken to the voice of its persuasions. No particular theory of obligation, on the other hand, has a monopoly of jails, penitentiaries, the gallows,—or hell."

The foregoing will give our readers some idea of the tone pervading the purely ethical department of the *Review*. How thoroughly it is in accord with the teachings of St. Paul, *e. g.*, a simple reference, say to Eph. vi. ("Children, obey your parents in the Lord: for this is right") will suffice to make manifest. Other departments have their own significance, and amazingly varied interest, as taste may dictate. On the whole, we know of no publication calculated so fully and clearly to keep its readers abreast of the philosophic thinking and tendencies of our age. And it is worth while remember-

ing that what the philosopher is thinking to-day, in his study, the people will be carrying into effect to-morrow in the political and social movements of life. D. MACRAE.

[In a future issue, attention may be drawn to some of the critiques contained in the *Review*,—as of Kidd's Social Evolution, and Professor James Seth's Study of Ethical Principles, etc.—D. M.]

EXERCISES IN ARITHMETIC, by W. N. Cuthbert. Part I, 95 pages; 1440 problems, price 25c. Part II., 167 pages; 1872 problems, price 35 cents. Answers in a separate volume at 25 cents. Published by The Copp, Clark Co., Toronto. These volumes consist of well selected and carefully graded exercises in clear print and excellent binding. There are thirteen miscellaneous problems in each exercise. In teaching the first principles of any subject in arithmetic, these volumes will be of little use to either pupil or teacher. But they will be found to be most helpful in reviewing—probably the cheapest and best selection that can be found. There are, of course, many problems different from any that arise in practical life, but they afford an agreeable mental gymnastic to those who have time and taste for that sort of thing.

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A SCIENTIFIC GERMAN READER, by G. T. Dippold, Ph. D. of the Mass. Inst. of Tech. 322 pages, price \$1.00. Publishers, Ginn & Co., Boston. To the advanced student of science German is a necessity. The sooner he becomes familiar with German scientific terms, the sooner does he become able to consult German scientific treatises. He thus receives a stimulus in his science studies which reacts beneficially on his study of German. We can most cordially recommend Dr. Dippold's excellent articles on chemistry, physics, geology,

geometry, etc., as being well-adapted to familiarize the student with German science terms, and as at the same time conveying much valuable information.

"WE are in receipt of a copy of the special edition of Copp, Clark & Co.'s Canadian Almanac for 1895, printed for the enterprising corporation of H. H. Warner & Co., Ltd., of London, England. It is full of valuable information and reflects credit on the publishers as well as on the enterprise of the English Company."

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The February Magazines.

A varied and attractive table of contents is offered by *The Popular Science Monthly* for February. Prof. James Sully opens the number with one of his Studies of Childhood, entitled, "First Attacks on the Mother Tongue." It deals with the struggles and the amusing mistakes and vagaries of children in learning the speech of their elders. . . . The first number in February of *Littell's Living Age* shows a delightful table of contents. Any reader desiring to be in touch with foreign periodical literature cannot do better than subscribe for this invaluable magazine. A prospectus with special offers to new subscribers may be obtained by addressing Littell & Co., Boston. . . . In the *Atlantic Monthly* Mr. M. V. O'Shea makes a clear and elaborate survey of physical training in the public schools. . . . The *Delineator* (Toronto) for March is the great spring number and is one of the finest yet published of this popular magazine. Mrs. Carrie M. Dearborn, writes of the Teaching of Cookery as an Employment for Women, and Josephine Adams Rathbone of A Girl's Life and Work at the

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M. CHAMBERLAIN, Clerk of Committee.

University of Michigan. . . The *Forum* for February contains an article on Student Honor and College Examinations. The conclusion reached is that cheating at examinations is most likely to be done away with by entrusting such matters to committees or courts of college students. . . In the February *Century* The Life of Napoleon is continued. It becomes more and more interesting after the first decisive success at Toulon.

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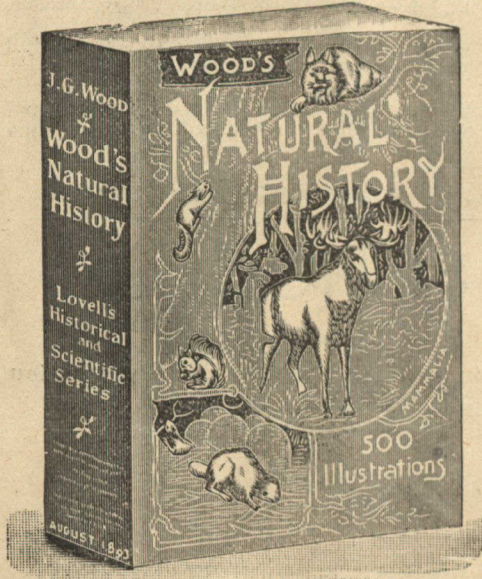
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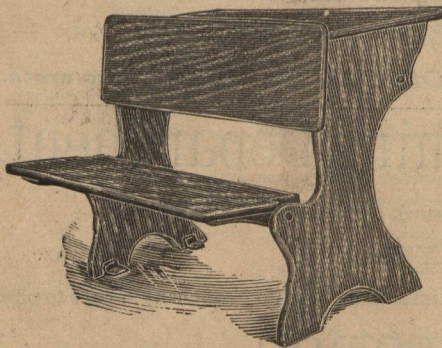
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