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COMPANION AND TEACHER

We Study to Instruct; We Endeavor to Amuse.

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Editorial.

The New School Bill.

The School Bill submitted to the Legislature by the Honorable the Minister of Education, has passed its second reading. It is entitled a "Bill to amend the several acts respecting the Education Department, Public and High Schools, and the University of Toronto." Although strictly speaking the Bill, as its title implies, contains only amendments to the existing laws, nevertheless, some of them are so important, embodying as they do new principles, that certain parts of the school machinery will be entirely changed.

After the Bill has passed we shall give the substance of it. The following proposed amendments show the direction in which it tends and the parts of the school system likely to be most deeply affected. It is contemplated to empower the Education Department to grant equivalents to candidates at the examination of teachers for such High School examinations as they may have passed. To meet the urgent necessity for trained teachers, the County Model School system is proposed; also a power restriction of the existing Normal Schools to the work for which they were established. Third-class certificates might then be granted to graduates only of the County Model School, and second, to those who had attended at least two months one or other of the Normal Schools. To encourage teachers to proceed to the higher certificates the Education Department will pay travelling expenses to the Normal School, and part of the maintenance while attending. The chief aid to continued improvement of the Teachers' Association—will be encouraged as provided for in the ninth section, (b), "An annual County payment of the sum of fifty dollars towards the County Teachers' Institute or Association," which uses ten and thirteen of the first section bringing them under the control of the Minister of Education.

Terms and Holidays are fixed in the 15th clause. The first teaching term "shall begin on the third of January, and end on the seventh of July; the second term shall begin on the 13th day of August and end on the 23rd December.

The twenty-first clause abolishes City Boards of Examiners. The twenty-third provides for the

protection of the teacher in the matter of payment for vacations covered by the time for which the agreement is drawn or following the expiry of the time of engagement within a fortnight. Agreements which are evident evasions of this enactment "shall be invalid and of none effect."

The third section provides practicable and reasonable means of establishing and conducting Township Boards of Trustees. Provision is also made for their repeal, and for the consideration of the claims of union sections. The text of this section will be given in a future number.

A clerical omission occurred in the consolidation of the School Act of 1874. It related to the formation of union sections. Some harm resulted, but the Bill wisely minimizes the evil by declaring the unions existing in fact, whether in accordance with the provisions of the law in that behalf or not, to have been legally formed. The mode of forming union sections (fifth section) is to be entirely changed. Hitherto they were formed by the Reeves and Inspectors concerned. The amendment is to empower the Township Councils to form them on the report of a committee appointed by the Township Councils. The power of dissolving a union section held by the Council of a municipality, which was taken away by the Consolidated Act of 1874, is restored. But the union can be dissolved only in answer to a petition of the majority of the ratepayers of the part desired to be separated. There is no provision to alter the boundaries of a union section. Cases might arise in which there is just reason and urgent need for the alteration of a union. Unless sec. 3, sub-sec. 4, be amended, there will be no means of altering except by dissolving and re-uniting the union section.

A new section is added to 37 Vic., c. 28, s. 105, providing for the better inspection of schools in remote districts.

The seventh section is a much required amendment of the duties of the Assessor and Collector of the township. It requires the former, in recording each taxable person's religion, to distinguish between Protestant and Catholic, and whether supporters of public or separate schools. Omissions and mistakes are to be appealed to the Court of Revision.

Section eight speaks for itself. There is no valid

reason why teachers should be the only class receiving their earnings in annual instalments.

"To arrange for the payment of such sums as may be required for teachers' salaries, so that the salaries may be paid at least quarterly in each year; and if there are not sufficient funds, to borrow from any banking corporation such sums as may be required in the meantime, until the taxes imposed therefor can be collected; and the council shall regulate by by-law the amount to be so borrowed at a rate of interest not to exceed seven per cent. per annum, and the promissory note to be given under the seal of the corporation."

Section nine (2) lessens the absolute school accommodation required by one-third, "according to the census taken the next preceding year."

(3) "Third-class certificates only shall be awarded by County Board of Examiners, first and second-class certificates by the Educational Department; also, County Boards shall have power to renew third-class certificates, subject to the regulations of the Educational Department."

The tenth section bears on the relation of the county to the High School, and the means of raising money for High School support. It proposes to make the county payment equal to the Legislative Grant, instead of one-half the amount as at present.

The High School terms (section 11) are from 7th Jan'y to Thursday before Easter; first Tuesday after Easter to 13th July; and from 1st September to 22nd December.

The proposed amendment of the University Act allows convocation; the discussion of the terms of affiliation of teaching colleges, instead of deciding upon their convocation.

Association Meetings.

Will Inspectors or Secretaries of Associations please inform us in good time of the date of the next meeting of their respective associations, so that we may give the same notice under this head.

NAME.	PLACE.	DATE.
East Bruce.....	Walkerton...	Feb. 3rd.
Haldimand.....	Caledonia.....	Feb. 10th.
Lanark.....	Carleton Place	Feb. 16th & 17th.
E. Middlesex.....	London.....	Feb. 23rd & 24th.
South Essex.....	Kingsville...	Feb. 23rd & 24th.
Perth.....	Stratford.....	Feb. 24th.
Prince Edward..	Picton.....	March 3rd.
Warwick & Bruce.	Watford.....	March 17th.

Educational Intelligence.

Berlin University has four hundred distinct lecture courses.

An addition which will cost \$1,600 is to be made to the Cataragui school in Kingston.

Embro has a new Public School. It will accommodate 200 pupils. Cost \$3,700.

In the United States, as well as in Canada, the average of teaching service is less than five years.

The Ottawa school debentures, lately issued, have been sold to a citizen at 95c.

Goderich school had 1,035 pupils enrolled last year, the average attendance being 79.

In 1876 the total number of pupils attending the Public Schools in Ontario was 474,241.

Oxford University is one thousand years old. It has an income of \$1,000,000, and a library of 520,000 volumes.

In the United States, nearly one million dollars have been bequeathed to educational institutions during the last half year.

The average attendance in Walkerton High School in January was 62; total number of pupils 67; boys 36, girls 31.

The salary of Mr. Alex. Campbell, the newly appointed School Inspector for West Bruce, has been fixed at \$1,200.

A school teacher at Beebe Plain, Quebec, has been fined for too severely beating one of his pupils with a club.

According to the census recently taken in the town of Ingersoll, there are 1,135 children of school age in that town.

The Inspectors of High Schools are James A. McLennan, M. A., J. M. Buchan, M. A., and S. Arthur Marling, M. A.

The sessions of the Normal Schools in Toronto and Ottawa commence on the 15th September, and close on the 15th July in each year.

Fifteen or eighteen thousand dollars will be expended this year in Winnipeg, Manitoba, in purchasing sites and building school houses.

The condition of the public schools in Ingersoll is so satisfactory that the ratepayers that private schools in that town have been discontinued.

In 1869 the amount contributed out of the Provincial funds to Grammar Schools was only \$27,613 while in 1875 the handsome sum of \$85,000 was contributed by the Province.

There were 100 High Schools and 8 Collegiate Institutes, with 5,342 pupils, in Ontario in 1873. Pupils attending these schools are prepared for matriculation in the Universities.

The will of the late A. Huntingdon, of Banford, Quebec, leaves \$202,000 for the benefit of the Common Schools of Vermont. Happy Vermont! Unfortunate Quebec!

About 110 are in attendance at the Normal School in Nova Scotia, and no more can be admitted until the completion of the new building, the old one being crowded to its utmost capacity.

At the semi-annual examination in December, of the Toronto schools, 1,398 honor certificates were distributed to the pupils for regularity, punctuality, and good conduct. The registered attendance during the year was 6,509; average, 5,651.

The Government proposes to establish one or more Model Schools in each county, where candidates for third or second-class certificates may have the opportunity to gain that practical knowledge which will enable them to become efficient teachers.

One of the Bills to be introduced during the present session of the Ontario Legislature is "An Act to provide for the Election of School Trustees by ballot," in the same manner as elections of councillors.

There were three private Educational Bills before the local House this session. One relates to the College of Dental Surgeons; one to the Canadian Literary Institute, Woodstock; and one to the Alma Ladies' College, St. Thomas.

In the year 1875 there was 30 per cent. of the entire school population in the first or lowest reading book; 19 per cent. in the second; 29 per cent. in the third; 15 per cent. in the fourth; and only two per cent. in the fifth or highest.

The total number of educational institutions of all kinds reported by the Educational Department as in operation in Ontario during 1875 was 5,258, attended by 494,065 pupils, and expending \$4,212,360 in their support.

The Montreal *Gazette*, referring to the establishment of an Educational Depository for the Province of Quebec, lately provided for by a grant of \$15,000, says:—"It is a step in the right direction, and we hail its establishment with pleasure."

Among the measures to be introduced at the Manitoba Legislature, now sitting in Winnipeg City, is "An Act for establishing a University of Manitoba, and, eventually, a Provincial Normal School."

A change of Readers will shortly be made in the schools in Nova Scotia. The Collins series and the Royal series of Readers each has its own advocates. We trust an intelligent choice may be made, as the series chosen will doubtless be used a good many years.

The death of Alexander Bain, LL.D., Professor of Logic in the University of Aberdeen, is reported. He was an eminent psychologist, and an author of high reputation. One of his best works is "Mind and Body," in the International Scientific Series.

The number of Public Schools in Ontario in 1876 was 4,834, and of teachers 6,018, of whom more than one-half held third-class certificates. Out of 1,801 candidates who were successful at the July Examination, 1,668 were for third-class, 122 for second-class, and only 11 for first-class certificates.

Connected with the Educational Department is a Museum, containing specimens of school apparatus and furniture, a collection of Italian, Dutch and Flemish oil paintings, and statuary casts and busts. This Museum is open to the public from 9 a. m. to 5 p. m.

The Board of Education in New York City have decided to have the children in the public schools trained in an alarm drill, so that in case of fire or other accident they may be got out of the building in order in the shortest time possible. This is an example worthy of general imitation.

The pupils attending the Vellesey street and Berkeley street schools, Toronto, complain bitterly on account of a non-supply of water, and the oversight of the Public School Board is the subject of serious complaints on the part of parents. About 600 children are in attendance at Dufferin School.

A correspondent of a city daily argues "that after a certain number of years' service (say twenty or more) every teacher should, whether sick or well,

rich or poor, be entitled to the pension he has so hardly earned, and which he himself has helped to pay for."

From the *Tiverton Watchman* we learn that Mr. D. W. Ross, of Walkerton, and Mr. Campbell, of St. Catharines, were the applicants for the position of Public School Inspector in West Bruce, Mr. B. Freer having resigned. Mr. Campbell was elected by a vote of 16 to 13.

The library in connection with the Port Burwell Public School contains 400 volumes. The number taken out in 1876 was 2,024 volumes, of which only one was lost. At the late annual meeting a committee was appointed "to draft and forward to the Government a resolution favorable to the substitution of township for section boards of trustees."

Mr. Deroche, M. P. P., and others of his colleagues, have expressed a desire to see the *Journal of Education* "wiped out of the estimates" at no distant day. The predominating feeling, however, is that the *Journal* occupies a sphere of usefulness that can be filled by no other publication, and that as such it should be continued.

Mr. McEvoy, a late and efficient member of the County Council of Middlesex, has re-entered the ranks as a teacher, and is now engaged in S. S. No. 12, Caradoc. "Mr. McK.", says the *Strathroy Dispatch*, "was chairman of important committees, and brings back to school life an enlarged experience in the art of governing."

The Minister of Education has formally stated that the Government will not propose any expenditure for additional Normal Schools this year, inasmuch as the necessity for Normal School accommodation is lessened by rigidly excluding from the Normal Schools all except those who actually intend to teach.

School Inspectors in Quebec receive \$4,500 more this year than last. The individual salaries, however, are still miserable pittance, ranging in many cases from only \$125 to \$500 per annum. In Ontario the lowest salary which can be paid to those officials is \$500 or \$600; while the average salary and allowances are from \$800 to \$1,200.

Dr. Miles, Secretary of the Council of Public Instruction in Quebec, sued Mr. Tackabury, a publisher, for \$275, being price claimed for an article written by him for the "Dominion Atlas." A few days ago Judge Johnston ruled that the plaintiff should receive \$25 and a copy of the Atlas, and that he (plaintiff) should pay costs of the action.

The *Lakefield News* says:—"A friend informs us that several school sections in Stanhope are in want of teachers—*females preferred*. Now, girls, get on your finest frills, smiles, &c., and apply for a situation. The last two lady teachers in one section secured good husbands by teaching the young idea how to shoot out there."

The following programme will be taken up at the next meeting of the Warwick and Bruce Teachers' Association, to be held in Watford on the third Saturday in March—Fractions, A. Leitch; Education, J. Mitchell; Grammar, H. Leacock; Arith. Analysis, J. Tullock; Etymology, W. Brice; and an essay by Miss M. Corry.

Quebec has borrowed \$800,000 to build railways. It would be better if half that sum had been expended in building school-houses and paying fair salaries to teachers, many of whom only

receive \$60 per annum, and out of that sum have to furnish wood for their school room. It is not uncommon for a man to be paid only \$120 a year.

The Walkerton Board of Trustees has resolved "That the time allowed children of the Public Schools for the purpose of obtaining their dinner be one hour and a half, and that school be continued until half-past four, p.m." Now run for the doctor, but "don't tell Mr. Crooks."

The County of Lanark Teachers' Association will meet in Carleton Place on Friday and Saturday, 16th and 17th February, commencing at one o'clock p.m. on Friday. In addition to the usual papers and discussions, the subject of "Competitive Examinations" will be taken up. H. L. Slack, M.A., President.

Previous to Jan'y 1st, 1876, 1,390 free public libraries, containing 273,790 volumes, had been established in connection with the Public Schools in Ontario, the Educational Department aiding largely in the establishment of the same by granting 100 per cent. on local appropriations, and supplying books from the Depository in connection with the Department.

From the report of the Inspector for Oxford we observe that the following improvements were made during last season. — Sites enlarged, 5; sites fenced, 8; buildings repaired, 3; outhouses provided, 6; new buildings, 3; new sites, 3; new furniture, 5; grounds improved, 1. Also that preparations are being made to build new houses in eleven school sections.

Archbishop Tache has issued a pamphlet opposing the unsectarian school agitation in Manitoba, and the Protestant section of the Board of Education has become so discouraged that they will not ask the Local Government to introduce the Bill this session. The indications are that "rotentants will wait a more suitable time for agitating a reform in the Provincial Constitution.

According to census recently taken, Woodstock has 1,214 children of school age, of whom 1,187 attended school last year. There are four private schools in the town with an average attendance of about 90 pupils. In the Canadian Literary Institute there are fourteen teachers, and a library of 3,330 volumes. Last year the attendance at the Institute was about 280.

Mr. J. Millar, Principal of the St. Thomas Public Schools, complains of the lack of room for teaching purposes, and says the most prudent plan would be to erect a High School building, and use the whole of the Central School for Public School purposes. The actual cost to the town for keeping up the schools last year was \$4,068.05, or about \$3.41 per pupil. The cost per pupil on the basis of salaries paid to teachers was \$3.92.

Mr. Bethune, M. P. P. argues in favor of the discontinuance of the Book Depository in connection with the Educational Department, on the grounds that there is no longer any necessity for its existence, and that it is a means of unfair competition with the many excellent book-stores that are now to be found in every county. There are many whose views are in entire accord with those expressed by Mr. Bethune.

The programme for the next meeting of the E. Middlesex Teachers' Association will comprise Geography, by Mr. Dickie; Letter Writing, by Mr. Jarvis; President's Address, by Mr. Dearness,

I.P.S.; Microscope, by Mr. W. Saunders, chemist-Shakespeare and his times, by Mr. J. Cameron (Advertiser); Teacher's first day in School, Mr. Dixon; Grammar, by Mr. Hands; Drawing, by Mr. Wilkins, Sculptor; and Fractions by Mr. Carson, I.P.S.

The question of education in Prince Edward Island has caused some strange vicissitudes. It has overthrown many a government that looked stable, and has been the means of raising up many an individual that seemed obscure. It was the corner stone of Laird's greatness; without it Davies could never have reached the eminence where he now sits. Strangely contradictory, too, have been its workings. The former gained notoriety by the abuse of their opponents.—*Exchange.*

The educational grants voted recently by the Quebec House of Assembly are as follows.—Superior Education, \$78,410; Common Schools, \$155,000; Schools in poor Municipalities, \$8,000; Normal Schools, \$46,000; School Inspectors' Salaries, \$30,000; Books for Prizes, \$4,000; Journal of Education, \$2,400; Superannuated Teachers, \$3,000; Schools for the Deaf and Dumb, \$12,000; Depository of Books, Maps, Globes, &c., \$15,000; Jacques Cartier Normal School, \$80,000; Three Schools of Medicine, \$2,250; Literary Institutions, \$2,000; Agricultural Schools, \$3,600; Literary School, Montreal, \$1,000.

From the report of the January meeting of the Sarnia Board of Education we clip the following:—"The chairman read a telegram from the Deputy Minister of Education in answer to one sent by him, to ascertain whether the children of supporters of the Separate Schools ought to be included in the census, to be taken under the direction of this Board, of all children of school age in the town. The telegram was as follows:—"All must be included; the law makes no distinction." Instructions were, therefore, given to the census-taker to govern himself accordingly."

A pupil of the Brampton School refused to obey the commands of his teacher. He was whipped but still refused, and told his teacher she'd "better quit." The Principal was sent for, but the boy jumped out of the window and ran away. He returned a few days after, but refused to tell the Principal why he had acted so or to make amends for his fault. He was therefore suspended. The boy's father, on the morning of his suspension, had addressed him thus:—"Now, Willie, if you make any apology that will be degrading to you, as my son, I will whip you on your return." Is there any wonder that the boy has become so hopelessly rebellious?

At the annual school meeting last year in a school district in N. B., power was given to the trustees to build a new school-house, and the district was taxed accordingly. They, however, expended the money in fitting up and paying rent for "an old rum shop," (says our exchange) owned by one of the trustees, which will not hold one half of the children in the district. The ratepayers being dissatisfied, at the annual meeting this year over-ruled a motion of the trustees to raise \$200 for school purposes, by carrying an amendment to the effect that the district be assessed for the sum of \$5, thus closing the school until the trustees are willing to provide a better accommodation.

The Executive of the Ontario Teachers' Association held its usual meeting last month, and selected the following subjects for discussion at the annual convention, to be held in Toronto on the 7th, 8th and 9th days of August next:—(1) Township School Boards. (2) Uniform promotion Examinations in the Public Schools. (3) The relation of the programmes of the Public and High School. (4) Training Schools for Teachers. Several prominent gentlemen are expected to deliver addresses during the sessions of the convention.

Among the items of supply granted by the Ontario Legislature now in session in Toronto are the following:—

Public and Separate Schools, \$240,000.
Inspection of the above, \$23,600.
Schools in poor townships, \$12,000.
Collegiate Institutes and High Schools, \$78,000.
Inspection of the above, \$8,200.
Superannuated Teachers, \$35,500.
Toronto Normal and Model Schools, \$26,750.
Educational Museum and Library, \$3,950.
Journal of Education, \$2,300.
Education Department, \$20,350.
Ottawa Normal School, \$13,850.

From the annual report of the Inspector for Welland Co. we glean the following:—"Total number of schools in county, 93, number of pupils enrolled, 6,314; average attendance, 2,666, or only about 42 per cent. of the number enrolled. Total amount paid teachers, and for improvement on buildings, &c., \$37,499.76, or about \$6 for each pupil enrolled. The compulsory clause requiring four months' continuous attendance of pupils is not strictly enforced, and can scarcely be looked for under the Section system. The examination of pupils for admission into the High Schools are having a beneficial effect upon the schools, serving, as they do, as county examinations, at which the best pupils in all the schools can compete."

The following paragraph, clipped from a city weekly in Canada, does not say much for the educational attainments of its editor. Comment would be superfluous:—

"Having paid a visit to Hull yesterday, to see if the authorities had found the missing man Hutobinson. But what was my surprise to find no person there: and Dame rumour had it that the authorities had liberated the prisoners. Now that the Hull authorities fails to own the arm of the law, which they are the administrators—it now behoves law-abiding men to come forward and volunteer to help the friends to clean out that pond, and endeavour to support the arm of the law, where the Hull Magistrate now fails to make the sword of the Magistrate a terror to evil-doers."

A Trustee in the County of Oxford charged the Public School Inspector with "giving illegal advice to the Trustees and with refusing to investigate protests made against the annual school meeting, &c." The Committee on Education reported to the Council "that having made full inquiry into the charges made against the Inspector, they found them unnecessary and uncalled for; that they had ascertained from the Inspector and the admissions of the complainant, that the section is in a very disorganized state, there being bickerings and ill feelings between the inhabitants; and that the Inspector did all that the law required in the matter, and endeavored in a courteous and peaceable manner, to heal the ill-feeling and strife that had existed." The report was adopted by the Council.

At a meeting held in School Section No. 5, Bonanquet, last month, the following, among other resolutions, were submitted and adopted:—

(1) That thoroughness in the branches taught is of the utmost importance; and as there are too many branches attempted to be taught, considering the time children generally attend the rural schools, none are so thoroughly taught as they should be, and, as a consequence, the system is defective.

(2) That there is too great a difference between third and second-class certificates, and that thereby many good teachers are lost to the profession; and that we recommend an intermediate grade.

(3) That the Christmas vacation should begin on the 25th December and end on the 1st January; that the Easter vacation be abolished; and that the summer vacation do not exceed four weeks.

A difficulty has arisen in Whitley out of the election for school trustees. One gentleman was elected for the remainder of an unexpired term: a voter for the full term of a retiring trustee. The voters' notices of election were in the usual form for the annual election of trustees to fill vacancies at the board, nothing being said about the election of a trustee for the unexpired term. The puzzle, therefore, is which is which—which was elected for the full term, and which for the unexpired term?

In reference to the above the *Whitley Chronicle* says—"Our own reading of the Act is that there has been no election for the unexpired term; that only one trustee has been regularly elected, viz., he who receives the highest number of votes; and that there must be a new election for a trustee to complete the unexpired term."

In a recent issue of the *Dublin Freeman* is an advertisement for a school teacher, in which the manager, anxious to secure an efficient master, inserts the following clause:—"He must not have been trained in any of the Board's Model or Training Schools." Such an announcement will strike our readers as being somewhat extraordinary, in as much as the Model and Training Schools in Ireland have the name of being very superior seats of learning, being well endowed, and equipped with every appliance that can make their labors successful. That a teacher trained in these national institutions would not be engaged by the advertiser is explained by the fact that the reverend manager is a parish priest, and that the Bishops of Ireland no longer sanction Catholic teachers going to the Board's training establishments.

At the meeting on the 26th ult., of the Prince Edward Teachers' Convention in Picton arrangements were made to put into general practice the plan devised by the County Inspector, as follows:—"On the two days in each half year which the law allows for the purpose of visiting other schools, the teachers of a township meet at some central school which is kept in operation for the purpose of mutual improvement. The classes of this school are taught the usual branches by the senior teachers in attendance, and there is thus an excellent opportunity of comparing and criticising the various modes of instruction." The plan is found to work well, and is very highly commended by the teachers present at the first trial. It is especially beneficial to the younger members of the profession.

Rev. Mr. Young having returned to Ontario, his place at the School Board in Winnipeg, Manitoba, has been filled by the appointment of Mr. W. H. Ross to the position. The *Christian Guardian* com-

plains that on a board of twenty-one members the Methodists have now no representation, and names a number of resident Methodists who are eminently qualified to fill the position vacated by Mr. Young. The *Winnipeg Standard*, in reply, says that wire-pulling and cheek secures such positions in that young province, and that had the gentlemen named by the *Guardian* "magnified their experience in the older provinces and exerted themselves directly or indirectly to bring ecclesiastical, parliamentary, journalistic, and other influences to bear upon the Government, one of them would have, in all probability, been appointed to fill the vacancy." Oh!

We notice in an exchange from Monckton, (N. B.) that at the annual school meeting held in one of the school districts "\$170 was voted, which, with a balance of over \$100 on hand, was deemed sufficient to meet all current expenses for another year." Also that "the system adopted here is worthy of imitation in other places. From the previous year the trustees have the means to meet their liabilities for the winter term, there being no time to collect the rates in the same year by the end of that term." It would, therefore, appear that according to the "system adopted" there that a proportion of the above amount is intended to be held over to provide for the winter term of next year, so that the current expenses of the year would probably be less than \$200. If the teacher is not to be pitied there the Government surely makes a liberal provision for the schools.

The Executive Committee have reported to the Board of Education in Winnipeg, Manitoba, a draft of a School Bill embodying the following principles:—

- (1) The establishment of a purely non-sectarian system of public schools.
- (2) The appointment of one or more Inspectors of said schools.
- (3) The compulsory use of English text-books in all public schools.
- (4) All public schools to be subject to the same rules and regulations.
- (5) The establishment, as soon as practicable, of a training school for teachers.
- (6) The examining, grading and licensing of all public school teachers by one Board of Examiners, and subject to the same rules and regulations.

We are pained to notice that the York County Council have felt it their duty to recommend the resignation of the Inspector of Schools for North York. Since Mr. Fotheringham's appointment he has been one of the most diligent and painstaking inspectors and under his charge the character and efficiency of the schools have been greatly improved. No legal offence is charged against him: his sole offence having been that he has so earnestly endeavored to do his duty "without fear or favor." We had hoped that the County Council would have supported the Inspectors in case when the law, as enforced by the Inspectors, was opposed by those who cared not whether the schools in their sections were advanced or not; but in this it seems we are to be disappointed. As, however, the appointment of a successor to Mr. F. cannot be made until the next meeting of the Council in June, we trust wiser counsels will prevail, and that Mr. F. will be allowed to retain the position he has filled with so much credit to himself and benefit to the schools under his Inspectorship.

The minutes of the Provincial Teachers' Associ-

ation are ready for distribution. They contain the minutes of the general meeting as well as the minutes of each of the sections of the Association, also Dr. Ryerson's Presidential address; an excellent paper on the Examination of Public School Teachers, by M. Lewis, elocutionist, Toronto; a comprehensive paper on the High School System, by Mr. John Leath, B.A., Head Master, St. Catharines Collegiate Institute. But what will be of most general interest is the instructive, interesting and striking new and original paper on, we may say, the new science of chemistry, by Dr. Haanel, of Victoria College. Every student of chemistry should secure a copy of these minutes for the sake of Dr. Haanel's paper. Copies are obtained on application to the Secretary of the Association, Mr. A. McMurchy, M.A., Collegiate Institute, Toronto. The East Middlesex Teachers' Association has taken 100 copies. Write to the secretary of your local association to be sure to have them on hand for your next meeting.

At midsummer, 1875, Geo. Edgecumb, B.A., of Victoria University, received the appointment of head master of the Elora High School, which, under his management, has become one of the most popular in Ontario. Until recently Mr. Edgecumb was a general favorite among all classes, his many excellent qualities, his temperate habits, and his position as teacher of the Bible class in connection with the Methodist Church, causing him to be generally regarded as "a model man." While still in his teens he was married to an American lady, whose retiring and modest disposition on her visit to Elora last summer, made her many warm friends. Unfortunately, however, they were not happily mated, and, unknown to outsiders, an agreement of separation was signed, by which she was to receive \$200 per annum. She accordingly returned to the United States. Some time afterwards, a Miss Boister, from Cobourg, went to Elora, and while attending the High School as a pupil, was given a home with the family of Mrs. Mr. Cobb, by whom she was treated very kindly. No undue familiarity existed between master and pupil, and the most watchful could find no cause for complaint. At Christmas, however, they left together to spend the holidays, but instead of going to Cobourg, went to Niagara and were married. Mr. Edgecumb having previously obtained a divorce from his wife in the State of New York. There are many who will not condemn the act taken by Mr. Edgecumb thus far. Subsequently, however, Miss Boister, now Mrs. Edgecumb, made a visit to her friends in Cobourg alone, and on the re-opening of the school in Elora, she again appeared as a pupil, no one suspecting what had happened. But a few weeks made the secret known, and she went to live with Mr. Edgecumb, great excitement existing among the people. A meeting of the Board of Trustees was called, and it was resolved to accept the resignation of Mr. Edgecumb, which he had already tendered, the same to take effect as soon as a suitable successor could be provided. And thus ends another chapter in human life, as we must now draw a veil over the future, and leave our readers and all those concerned to their own reflections.

The committee of sub-examiners appointed to assist in examining the papers of candidates at the late International Examination, reported as follows:—

"Although the total number of candidates was

less than at the examination held in June last, yet owing to the 'grouping system,' the amount of work to be done was very much greater, and therefore your committee could not finish its labors in less than double the time it was engaged at last examination.

"Mathematics.—The paper in algebra offered few difficulties to candidates. That in arithmetic, however, afforded an excellent test, and your Committee desires to say that it felt the greatest pleasure in reading the papers of the candidates in this subject, that the power of analysis evinced by many pupils was astonishing, and that very great improvement has evidently been made in the schools during the last half-year. In Euclid a fair knowledge of book work was shown; the solution of geometrical problems, other than book work, was not frequently attempted.

"Dictation, Composition, and English Grammar.—The spelling both in the set pieces and in the papers generally was exceptionally good. The compositions were fair; in grammar the analysis and parsing were in general good. On the other hand, the Greek and Latin roots of English words were seldom correctly given, and the criticism of sentences of ambiguous or doubtful construction, was scarcely attempted. Punctuation with many candidates seems to have been entirely neglected.

"History, Geography, and English Literature.—This was one of the most satisfactory groups your committee examined. In history the questions demanded of the candidates not only a knowledge of particular facts, but a power of generalization, a conception of method, and a faculty of arranging disjointed details (as given in the text books) in one comprehensive answer. These requirements were evidently possessed by many candidates. In geography there has been considerable improvement on last year. Some of the maps were drawn with remarkable fidelity. In literature your committee met with results which testified in the strongest manner to the wisdom of the Department in substituting the study of particular works of authors for a general acquaintance with the subject. The answers to questions bearing on the works of Scott and Grey were remarkably good. The candidates had evidently carefully studied these works and caught their spirit and meaning. But when answers were attempted having reference to authors not read in the schools, numerous and egregious blunders occurred.

"Optional Subjects.—It seems to have been thought by some candidates that to pass in these subjects was not obligatory. At all events the papers in this set were not so good as in the others. But few attempts at translating English into Latin were made. The French was not nearly so good as last year's. The translation from De Fivas was in general very badly done, and the accident not more than passable. The questions in chemistry were not of a character to enable your committee to determine whether candidates had been accustomed to experiments. Most succeeded in passing in natural philosophy. The answering in book-keeping was bad, owing possibly to the essentially practical character of the subject, which makes it a difficult one to teach in schools.

"In conclusion, your committee desires to speak in terms of the warmest commendation of the answering as a whole, the improvement on last June being such as to evoke frequent expressions of astonishment from the examiners."

Contributed.

Valedictory.

RESPECTFULLY INSCRIBED TO THE PUPILS OF SOMBRA SCHOOL, NO. 14, BY THE TEACHER.

Can it be true that I must part
With those I love so well,
Must give the parting hand and go
Away from them to dwell.

No more to meet their playful smiles,
Or share their merry glee;
No more with them in solemn prayer
To bow the suppliant knee.

Oh! yes, the time draws to a close,
And I must bid farewell
To this dear, happy, youthful band,
With whom I love to dwell.

But while I bid you all adieu
The tears unbidden start,
Yet faith points to a time when we
May meet no more to part.

With you, my pupils, ever dear,
I've met day after day;
Two years and more, now passed and gone,
Nor wished from you to stay.

For in "The School" I loved to meet
Your smiling faces bright,
And hear your voices softly raised,
Your lessons to recite.

You heeded not the summer's heat,
Nor feared the winter's cold,
But to the school-room found your way
With footsteps firm and bold,

The path of learning to pursue,
Your youthful minds to improve
And store with various sciences,
With virtue and with love.

But now the solemn hour has come
And we must parted be,
Permit me then, my pupils dear,
To say, "Remember me!"

When youth and beauty fade away
And age is drawing nigh,
Remember when I said to you
These solemn words: "Good bye!"

And if we never more should meet
On this side of the tomb,
May Heaven's angels guard you to
Your everlasting Home,—

Where Jesus says we all may come
And never more shall part,
But dwell with Him at His right hand—
The Teacher and the taught.

AMELIA BEAN.

Sombra, December, 1876.

The Extension Object.

AN ESSAY READ BEFORE THE EAST MIDDLESEX TEACHERS' ASSOCIATION, NOV. 4, 1876, BY MR. J. G. HANDS, JONES' COMMERCIAL COLLEGE, LONDON.

After the routine of parsing and analysis has once been fairly mastered by the student in grammar, he imagines perhaps that all will be plain sailing for the future, and that his rules and methods being perfect, will enable him to group all the intricacies and explain all the subtleties of that vast and wonderful growth—the English language. But the very fact that it is a natural growth, as much a real production of nature as an oak or an elephant, will always preserve it from the uniformity so dear to the mathematician, so utterly “stale, flat and unprofitable” to the lover of nature and the admirer of beauty. The variety which nature loves and which art cannot imitate we meet at every stage in our study of the English tongue. As a tree has its main branches, ramifying into smaller branches, these dividing into twigs, and these again bearing each its share of leaves, flowers and fruit, so we have the majority of words, in a well-arranged discourse, grouping themselves naturally into phrases and propositions, these joined to form sentences, and these sentences again combined to form the main branches of an argument or a narrative. But some leaves and leaflets of an independent turn of mind will grow out directly from the branches, and some twigs will spring directly from the main trunk, eluding our classifications, however deftly made, and only proving our rules by forming exceptions to them. There are words and phrases in our language which have the same independent vitality, and scorning to be bound in any cast-iron set of grammatical rules, depend upon their inherent force or beauty for their existence, and are justified in living by common usage and universal acceptance by the best writers.

In the limited time and space at my command to-day, I must confine myself to words, and I have selected a class of nouns, joined upon a sentence, like leaves growing on a branch, without a supporting twig, and forming a part of it without the usual connecting link of a transitive verb or a preposition. If we take the sentences—“He ran a mile,” “Fight the good fight,” “Victoria was crowned queen,” “Show me the road,” the words *mile*, *fight*, *queen* and *me* are unquestionably in the objective case, but we have no governing word, and our rule “the objective case follows an active transitive verb or a preposition” seems altogether at fault. In one case only, that of the word *me*, can a preposition be supplied without injuring the sense; two of the verbs are intransitive and one is transitive, but in the passive voice. The attempt to parse such a word as *mile* by the rule “nouns of time, place and measure are in the objective case without a governing word,” should be regarded as a bare-faced fraud, subversive of the first principles of grammar, and in flat contradiction to the dictum of one of the most successful teachers of grammar of whom Canada can boast. The late Mr. Robertson, of the Normal School, Toronto, laid it down as an axiom in grammar that “One word belongs to another,” and to recognize Independent Objective, which is not the object of any other word, is simply confessing our inability to trace its connection with the rest of the sentence.

But there are special rules for each of the four

examples chosen which will bring them into logical connection with the sentences to which they severally belong. Taking the first, “He ran a mile,” we can apply the rule.—Nouns limiting the action expressed by the verb, as to time, place, manner or degree, like adverbs, are in the objective case, and parsed as the adverbial object. *Mile* limits the verb “ran” as to the degree or amount of distance traversed, and is therefore parsed as the adverbial object after the verb “ran.”

Our second rule is:—Nouns of similar signification to the verb can follow an intransitive verb as the cognate object. The noun *fight* is of similar signification to the verb “fight,” and is therefore parsed as the cognate object of that verb.

The rule applicable to the third sentence is:—When a noun becomes an object it is by the action of the verb, it is in the objective case and called the factitive object. “Factitive” is from the Latin “facio.” I make, and since, in theory at least, a queen is made in the ceremony of coronation, *queen* is the factitive object of the verb “crowned.”

In the fourth sentence, *me* is called the indirect object of the verb “show,” and the difficulty is often evaded by supplying the preposition “to,” when the sentence becomes, “Show the road to me.” This renders it exactly similar to the dative case in Latin, and the adverbial object supplies in most cases the place of the Latin ablative case.

My object in reading the present paper was not to point out these constructions, which are no doubt sufficiently familiar to many of those now present, but to show the difficulty and incongruity of so many different rules and constructions for a single case, all being considered objects of more or less peculiarity. It is obvious that all belong to the verbs they follow, but an application of the principles of grammatical analysis will show that in one important particular they all differ from the objective case as defined by rule, sometimes called the direct object. The direct object always completes the verb, and the sense of the sentence would be incomplete without the object following it. But in all these sentences the verb requires no completion, and an extension of the predicate can be readily substituted for the constructions under consideration. “He ran very quickly,” “Fight only in a good cause,” “Victoria was crowned in Westminster Abbey,” “He sold a horse,” are grammatically as complete as before. In one case the verb is satisfied by the direct object which is its proper completion, and the others being intransitive require no completion at all.

It appears, therefore, that there are two objective cases entirely distinct from each other, and we can satisfy all the requirements of a logical classification by dividing nouns in the objective case into objects completing the predicate, and objects extending the predicate. In analysis, the former should be called completions of the predicate and the latter extensions. All the necessities of correct parsing will be met by calling them respectively completion objects, and extension objects.

The point is of sufficient importance to demand the careful consideration of every one engaged in teaching grammar, and it can now be safely left in your hands with the assurance that you will bestow upon it the attention it deserves.

ADDENDA.—The following authorities may be consulted upon the various points raised in the paper.

coding paper. As will be seen on a perusal of them, they vary considerably in their treatment of the subject.

Angus' Handbook of the English Tongue, p. 246.
Flomings' Analysis of the English Language, p. 34.

Fowler's English Language, p. 527.
Abbott's How to Parse, chap. v., p. 38.

The Authorized Grammar, par. 100, par. 181, syntax rule viii.

They give, among many others, the following examples:—

They made Cromwell Protector.
Tell him to wait.

He taught them logic.
I have given him every indulgence.

At Rome it was deemed a crime to despair of the republic.

The lake of Genesaret measures eight miles across.

{ Nine times the space that measures night and day

{ To mortal men, he—lay vanquished.—Milton.

{ Did I request thee, Maker, from my clay

{ To mould me man?—Milton.

The book is worth a dollar.
The father allowed his son two hundred pounds a year.

I envy her her good health.
Three questions were asked me by the examiners.

He has fought a good fight.
He struck him a severe blow.

The poet told them a story.
I call a miser a poor man.

The Teachers' Library.

AN ESSAY DELIVERED BY MR. C. H. ASHDOWN BEFORE THE NORTH ESSEX TEACHERS' INSTITUTE, OCT. 19th, 1876.

Mr. Chairman, Ladies and Gentlemen,—I have great respect for a book. As I look upon it, I can but think of the hopes and fears which alternately awayed the mind of the writer as word by word his busy fingers planted the product of his still more busy brain upon its pages.

Perhaps it is a history, and if so, every line tells me of years of preparatory study amid the tombs of bygone ages, unearthed from musty hiding places in the old manor-house, the half-ruined abbey and the ancient crypt—tells me of work begun when youth's blood was hot and youth's hopes were high—of work ended when the buffetings of three score years have bleached the once brown locks, and graven deep lines of care and thought upon the once smoothly handsome face. Or it may be the ideal off spring of a prolific fancy, told with such power in either poetry or prose that as I read, I find the incidents interweaving themselves with my daily life. Or it may be the record of Arctic or Asiatic explorer, and as I turn page by page, I can realize something of the joy or disappointment of the traveller as success or disaster attends his path. And again, as I look upon a book I can but remember the many industries... represents—the paper mill, the tannery, the loom, the type foundry, the machine shop, and the printing office—have all taken part in the make up of the book before me.

I repeat, I have a great respect for a book. And this evening, in taking as the subject of my essay,

'The Teachers' Library,' I set out with the assumption that every teacher in this Association is a lover of books; a lover of books for their own sake, not merely as the tools of trade with which to accomplish a certain amount of work for a certain amount of pay; but a lover of books because books are knowledge, and knowledge is more than power, it is mental wealth—peace, enjoyment.

Nay, I further assume that it is this friendship for books, this thirst for knowledge combined with adaptability to impart to others, that have been the leader by which every teacher has been drawn into the ranks of the profession. For although I can understand how occasionally some one without any liking for literature may resort to teaching as a stop-gap, a forlorn hope between bread and starvation, I can not conceive how such a one can ever be a good and successful teacher. Of course, the first requisite in a teacher's library will be his text-books—never borrow a text-book. Remember that the very book you borrow to-day, may be wanted by the lender to-morrow. Get text-books for yourselves, and when you have got them, keep them. Keep them carefully, treat them kindly, for although at first they may be somewhat ostentatious in their newness, and in their stiff-backness may look you in the face with an "I-know-more-than-you" leer from their rustling pages, the time will come, if you are but a careful student, when you will have mastered their secrets, when, abounding in foot-notes and formula, queer jottings and caricatures of clever but eccentric professors, your text-books, with their limp leaves and ragged coats, will be amongst the dearest of your library friends, around whom will cluster the happy, hopeful associations of that time that comes to each of us but once,—the time of early man and womanhood.

And in this department of your library do not forget a place for some works upon the science of teaching, and see to it that your manual of School Law is always within reach. One of the questions put to us from time to time by the Inspector is, "What books have you read upon your profession during the last year?" and our inspector tells me that as a body we do not attach sufficient importance to this question, that the answer is too often misty and evasive, and that, unfortunately, not a few of the applicants at the last sitting of the Board were unsuccessful because they failed in their papers upon School Law and School Organization.

As teachers, we must bear in mind that whatever may be our natural ability, both to acquire knowledge and impart it to others, that which we do most of ourselves we are sure to do better, after becoming familiar with the methods of those who have made "How to teach" the study of their lives. As teachers, we must not fall into the popular error that when we have attained a certain degree of proficiency in the studies prescribed by the Council of Public Instruction, that our education is finished. My fellow-teachers, let us at once and for ever disabuse our minds of any such fallacy. Our education is not finished, it is but just begun, upon the foundation of which our certificates of different grades as the guarantee it is for each of us to rear up for him and herself a literary sub-structure, whose coping-stone shall be laid only when the shadowy silence shall have fallen upon the builder. No matter how much we know ought to know more. This may be an age of money-getting, but it is also an age of intelligence, and the teacher of to-day is expected to possess a

certain amount of literary culture, is expected to be somewhat in advance of the village schoolmaster as described by Goldsmith in those now almost forgotten lines :—

“ Beside yon straggling fence that skirts the way,
With blossomed furze unprofitably gay,
There, in his noisy mansion skilled to rule,
The village master taught his little school.
A man severe he was, and stern to view,
I knew him well, and every truant knew.
Well had the boding tremblers learned to trace
The day's disasters in his morning face.
Full well they laughed with counterfeited glee,
At all his jokes, for many a joke had he;
Full well the busy whisper circling round
Conveyed the dismal tidings when he frowned.
Yet he was kind, or if severe in aught,
The love he bore to learning was in fault.
The village all declared how much he knew;
’Twas certain he could write and cypher too—
Lands he could measure, terms and tides pre-
-sage,
And e'en the story ran that he could gauge.
In arguing, too, the parson owned his skill,
For even though vanquished, he could argue still;
While words of learned length and thundering
—sound

Amazed the gazing rustics ranged around,
And still they gazed, and still the wonder grew
That one small head could carry all he knew.”

That we as a body may hold our own with the brain-workers of the time, we must read. Our field of knowledge must reach far beyond the home-acre of the subjects of our text-books. If we would take our place with intelligent thinkers we must know more of the past than can be found in the pages of Collier and Hodgins—more of the books of the by-gone days and the men who wrote them than either Spalding or Collier have room to tell us.

That is but a bare, starved kind of book knowledge, which is summed up in the tabulated form.

	BORN	DIED	WROTE.
Geoffrey Chaucer	1328	1400	Canterbury Tales.
Edmund Spenser	1553	1599	Fairie Queene.
Wm. Shakespeare	1564	1616	Several Plays.
Ben. Jonson.....	1574	1637	Plays.
John Milton.....	1608	1674	Paradise Lost.
etc.,	etc.,	etc.,	etc.

This much we should know, but we should know much more. As a class we have a fair share of leisure at our command, and it is for us to use that leisure to advantage. With books so cheap we ought to be intimate with most of our English classics. It is a duty we owe to our pupils, to ourselves, and to society at large, that we will be acquainted with the writings of such historians as Alison and Macaulay, Hume and Gibbon, Hallam and Robertson, Motley and Prescott; that from their pages we may learn something of the passions and motives which swayed the minds of monarchs and statesmen; something of the progress by which nations emerged from barbarism to the grandeur of greatness, and then drooped and died as luxury snapped their vitals and robbed them of their courage; something of the price paid by our forefathers for the privileges, immunities and liberties we so freely enjoy to-day; something of the upgrowth of a people next to our borders, who sprung from the same stock, and speaking the same mother language with ourselves, have, in one short hundred

years, attained the proud position of the foremost nation on this continent—a position which we, as Canadians, have reason to believe, taking the past as a precedent for the future, will, when another hundred years shall have rolled by, not be awarded to that nation alone, but, we too, shall have grown into a mighty people, numbering many millions, with populous cities in every province, our merchantmen upon every sea. Two nations, side by side, rivals only in all the arts of peace—the one proud of its free form of government; the other, equally free, and if possible, yet more proud of its two centuries' loyal adherence to the British flag.

From history we naturally turn to biography. It is a laudable curiosity which prompts us to learn something of the every day life of those names which are “familiar in our mouths as household words;” know how Johnson and Goldsmith, Swift and Coleridge, Newton and Hunter, Reynolds and Hogarth, Pitt and Sheridan, Watt and Stephenson, with a host of other equally illustrious men, lived and acted, deriving practical lessons from the story of their past, applying those lessons to our daily life, and shaping the future of ourselves and others by them :

“ Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time;
Footprints that, perhaps, another
Sailing o'er life's solemn man,
A forlorn and shipwrecked brother
Seeing, shall take heart again.”

And we must give no dark corner to the narratives of those who, fired with a desire to explore unknown regions, braved the intensity of the scorching rays of a tropical sun, or the bitter, piercing cold of that latitude where

“ The wind from Thule freezes
The word upon the lip.”

In the pages of Cook or McClintock, or that brave Christian hero, the beloved and lamented Livingstone, there is much to thrill the soul and excite the wonder of every reader, and on our shelves we should place the essays of Addison and Goldsmith, Sidney Smith and Charles Lamb, Macaulay and Talford, Emerson and Oliver Wendell Holmes. To every thoughtful reader these books will be a source of constant enjoyment. But our library would not be worthy of the name did we omit the poet and the novelist; and in this department a foremost place must be assigned to England's dramatist, of whom it may be said, the better we know him the more we wonder and admire; and Chaucer, father of English poetry, should have a place beside him, with Spenser, Butler and Dryden to keep them company. Moore, Campbell and Scott must stand together; and of the living poets, we will make choice of Tennyson, Longfellow, Whittier and Bryant; and among the novelists, Thackeray, Collins and Trollope should be well represented; and Charles Dickens, the man whom we all loved so much and mourned so deeply a few years ago; the man who has touched our sympathies oftener and made us laugh more heartily than any other; for him, with dear old Sir Walter's Waverley, we ask that they be placed within easy reach, for we shall want to see them often.

I have thus briefly glanced at some of the branches of literature which should have their re-

representatives upon the shelves of every teacher's library, and in the authors I have only mentioned such as I can recommend from a personal perusal. My fellow-teachers, we cannot all be great men; we cannot all be gods upon the Olympic heights, but, as mortals, we may sit at their feet and hold converse with them. In the evening quiet, when the cares and labors of the day are over, we, in the comfort of our own homes, can enjoy the companionship of our books, a companionship of which we must not easily grow weary, because the more intimate we are with our library, the better teachers and the better citizens we shall become.

The Centennial and Its Educational Features.

NO. 5 (CONCLUDED).

In previous articles, the exhibits of a number of the States of the American Union were briefly referred to. The fact that the great International Exhibition of 1876 has for some time belonged to the category of things that were as well as the great similarity between the exhibits of different States, will be a sufficient excuse for passing over a few that have not been mentioned. I am persuaded the readers of the *COMPANION AND TEACHER* will be better entertained with other matter than with lengthy descriptions, more and more stale in proportion as the Centennial recedes further and further into the past; and I will, therefore, with a brief reference to the exhibits of foreign countries, bring this series of articles to a close.

Speaking of the foreign educational exhibits in general, the *Pennsylvania School Journal* says:—

"We desire to make confession right here that our educational systems and appliances in the United States are far from being in all respects superior to those of the nations that have come over to compete with us. We can learn much from them: and if we are wise we will gratefully accept and profit by the lessons they teach us. Several European nations have better systems of school supervision than any of which our states can boast; skilled government officers build better school-houses and provide them with better furniture and apparatus in many places than the untrained local school boards can do in this country; in Sweden, Belgium, Holland, Switzerland, and Germany elementary instruction receives more attention than ours; school authorities accord to it, and collections of objects are found much more frequently in school rooms, and object lessons are much more generally and skillfully given than with us; and Russia has established, for the instruction of her teachers and for use in schools, a splendid pedagogic museum, the equal of which does not exist elsewhere in the world."

SWEDEN.—This country made a very prominent exhibit on account of having a school house erected on the grounds, presumably after the usual model of Swedish school houses. This school house was built of logs, squared so as to fit closely, and varnished. At the entrance was a commodious ante-room, and the interior was divided into two apartments, one opening into the other. The inner room seemed to be used as an office by the gentlemen in charge; the other and larger room was fitted up with seats, desks, and other appliances for teaching. Some of these desks were single, and some double; all were strongly and durably made, but inferior in mechanical execution to those made

on this continent. The walls were decorated with maps and diagrams, and among those I noticed a plan of the city of Stockholm. The visitor could not fail to be struck with the collection of animal, vegetable, and mineral specimens, forming an excellent museum of Natural History, and proving that the educators of Sweden are fully alive to the value and importance of object teaching. There was also an extensive collection of school apparatus, which, though not equal to what is manufactured in our own country, was of such a nature as to reflect much credit on the country.

RUSSIA.—Russia had two separate exhibits, one in the Main Exhibition Building, consisting mainly of collections selected and forwarded by the Pedagogic Museum of St. Petersburg; the other in Machinery Hall, consisting of an exhibit of their system of technical education. It may be as well to say that the Pedagogic Museum has for its main object the collection of information regarding the manufacture of school apparatus, in order to aid educational establishments in selecting apparatus suitable to their requirements. It was begun in 1864, as an auxiliary to the military schools, but in 1871 assumed its present character. It has now 2,700 kinds of illustrative apparatus, 12,000 volumes in its library, and subscribes to fifty educational publications. The Russian exhibit of apparatus, models, &c., was allowed by competent judges to be superior to anything of the kind on the grounds. Among the exhibits I may mention the following:—Collection of skeletons and stuffed animals; models of birds, fishes, reptiles, &c.; models of mammalia (papier mache); models of the races of men; apparatus for teaching the elements of physics; collection of anatomical models, &c. The school furniture shown was not remarkable for excellence; indeed, it was inferior to what is manufactured in the States and Canada.

GERMANY.—This country, so noted for scholarship and erudition, as well as for the general attention paid to education, made no educational exhibit at all commensurate with her exhibit in other departments. Except the Polytechnic Institute, at Dornstadt, there was really no exhibit of the schools of Germany. This school made a very fine exhibit, but for the rest, it was mainly made up of a display of pamphlets, books, atlases, globes, charts, &c., exhibited by the great publishing houses of Berlin, Leipzig, Stuttgart, &c. Their globes, maps and charts, in shading, coloring and general execution, are superior to anything the Americans have yet produced, while their books are quite equal to any turned out by the publishing houses of America.

FRANCE.—The educational exhibit made by France also compared very badly with her exhibits in other departments. The school furniture shown was very inferior, but her books, stationery, charts, globes, &c., were very creditable. There were also a few specimens of drawing and designing, sent over by some of the schools, but nothing like what might be expected.

BRAZIL.—This country made a very creditable educational exhibit. It is more after the model so extensively adopted by the American States, consisting largely of specimens of scholars' work. These included specimens of writing, drawing, needle-work apparatus, and other work, designs, book-keeping, &c., from primary schools, deaf and dumb asylums, academics, &c. Besides these,

there were specimens of text books, a collection of newspapers, and a large number of natural history specimens. The exhibit was, on the whole, far beyond what most people could expect. It may be of interest to make the following extract from the *Pennsylvania School Journal* in regard to the educational progress of Brazil:—

"Brazil has made great advances in education within a few years. In the strong language of a patriotic Brazilian, 'the present Emperor, Dom Pedro, has abolished both ignorance and slavery.' A system of elementary instruction has been established throughout all the provinces of the empire. It is partly supported by the central and partly by the local authorities. The attendance at the schools is rapidly increasing. An efficient system of inspection has been adopted. Teachers are at first employed on trial, but after five years of satisfactory service they become teachers for life, and no one can be forced from his position without being convicted of some grave offence in the courts or before high officers entrusted with the investigation of charges of the kind. The school-houses generally have teachers' houses connected with them. All teachers receive at first \$400 a year, but after a certain length of time spent in teaching, the salary is largely increased, and at the end of thirty years of service a teacher can retire on his salary as a pension. Similar branches are taught in the schools of Brazil as in the schools in this country, and in addition all the girls are taught sewing.

"The present enlightened ruler of Brazil has not only provided a system of elementary instruction for his people, but he has established a large number of institutions for secondary and higher education. Even technical education is receiving considerable attention."

SWITZERLAND.—This little Republic made a very large and creditable exhibit in proportion to the size of the country, indicating the great attention paid to education. There were maps, drawings of school materials for object lessons, consisting of minerals, seeds, woods, wings of birds, &c.; exhibits of kindergartens, orphan asylums, free schools for apprentices, industrial schools, houses of refuge, literary institutions, &c. Some of the maps, charts and globes exhibited were very superior in mechanical execution, as well as in general accuracy.

BELGIUM.—This country made a creditable exhibit, having a school house in the space allotted to her in the Main Building. There was a large exhibit of natural history specimens, and a good collection of apparatus. The system of public instruction is a very efficient one, and the plan of inspecting schools is said to be one of the best in the world.

A Literary Curiosity.

An Inspector has contributed the following letter received by him some years ago, and which, we think, merits a place in our columns.—[EDITOR.]

_____, April 1st, A. D. 1874.
Ontario.

Hon. Mr. _____, M. A., County Inspector of public schools:—

DEAR

SIR

Perhaps I should beg your pardon for presuming to address you, but, on the receipt of

your letter to the Secretary of the 21st he desired that I should in return endeavor to represent to you an answer to what you kindly requested of him to delineate, & being conscious of my incapacity of fulfilling the responsibility which you implied I am sure your kind heart will look over any mistakes on the person's part who address you I shall in the following autographical topic give you a brief outline of my history concerning the profession of which I am at present occupied in. . . I emigrated from the Co of Lanark near the town of Perth in the year 1871 to commence school teaching as my intended profession during an interval in the term of life, my motives that estranged me so far from my native land was viz. being acquainted with a W. M. Missionary that was laboring on the _____ mission, emphatically requested me to commence a course of labors in the back woods, so I ventured, & holding a second Class with honors under the Old County Board in the Co of Lanark at the time, when arriving at Renfrew I remained as a candidate while the Board was sitting and obtained a second until annulled under the former law and with that certificate I have taught school for three years on the borders of Renfrew Co surrounding _____ and intending to resign the profession the year before I came to this new field of labor and go back to my own County, the people of the District flattered me so much to undertake a school in the place already mentioned, that I thought I would not be doing them justice by excluding their hospitality & proffered items, & reluctantly I was let take leave of Renfrew jurisdiction I am going on my second year in this school and sometimes I feel almost discouraged to persevere any longer in the intellectual field of knowledge by not experiencing an Inspector's visit upwards of one year and three months.

I wrote to Mr. _____ shortly after my entrance in the school about the government instituted, discipline, furniture, Locality, &c. &c. &c and certificate which I possess (I see in the last _____ he granted me a third) whether I am capable of it or not I cannot surmise. . . Mr. _____ expressed an injunction in his letter to me that he would pay a visit to this school in the month of May but I was sincerely disappointed, and entertained every prospect that he would confer a visit sometime during the year, but was foiled in all my imaginations . . .

DEAR

SIR: could I venture to appeal to you for the privilege of having the honor of a visit from you I know the roads are disagreeable even in the best part of the season, and the country very, very, backward and not likely accustomed to the cottages we have here, even in the humblest hamlet you will find hospitable hearts No doubt you will find it all very strange, however if you could manage it I am certain your visit would not only be a benefit to me, but also to the section at large The grant which Mr. _____ made to this school (from Poor School fund) I suppose you know was _____ for the first year of which I received _____ at the termination of the first half year, I conjecture the recent change made, with regard to Inspector's confused the opportunity of receiving the annual A'm't at an earlier period than what we will have it I think, though, that I will be greatly favored to know that I will get it sooner than I expected.

My attendance of pupils very small this year, they do not amount to near the num-

ber of the first year's proceedings. The school erected especially for the purpose is very small it can only accommodate about twenty-four, but situated in a very healthy place, being free from damp and other artificial causes.

I am getting very tired of country teaching, I often think a Teacher in the country cannot accomplish anything good or great on account of the irregularity of the pupils.

I think I shall have to draw my roughly written letter to a close

And remain

Your obedient servant

Scientific and Literary.

A SANITARIUM AMONG THE HIMALAYAS.—Darjeeling was fixed upon as the site of a sanitarium in 1835, and the Rajah of Sikkim, who had come under the amiable "protection" of the British, was politely requested to cede a small tract for this purpose. After no little pressure, he consented, "out of friendship to the British government," in consideration of an annual payment of £300. Some fifteen years later the Rajah offended his "protectors," who revoked the payment, and "annexed" a considerable additional tract of territory. Meanwhile barracks and a hospital were established, European residents of the plains erected pleasant cottages, and native villages grew up at a little distance around them. When Dr. Hooker was there, a quarter of a century ago, the entire population was about 5,000; it now numbers about 20,000.

The bulk of the native population consists of Bhootias and Lepchas. The former are a stout, hardy race; the latter are smaller and more effeminate. The Bhootias are inclined to industry, have goats, pigs, cows, and buffaloes, and cultivate the fertile valleys. The Lepcha men are averse to hard work, which they throw upon their wives, while they spend their time in fishing and butterfly-hunting. The district is famous for its lepidoptera, and not a few of the English health-seekers busy themselves in making collections. Both tribes are fond of dirt, gay clothing, and ornaments, and every one wears an amulet box containing relics of some departed Lama, clippings of his hair, parings of his nails, or, most prized of all, a decayed tooth.

The cantonment of Darjeeling occupies the summit of a ridge, from each side of which deep valleys slope steeply, but not precipitously. A walk or pony ride of a couple of hours will bring one from a climate like that of London to spots where the orange and the sugar-cane flourish. Looking northward, the horizon for a third of its circuit is bounded by the most magnificent mountain scenery of the globe. Right in front is Kinchinjunga, 28,177 feet, the second loftiest peak, whose summit reaches a mile nearer the stars than any other upon earth saving a few of his gigantic brethren. The still loftier Gaurisankar or Deodunga, which the English have named Mount Everest, seventy miles to the west, and more than 29,000 feet high, is not seen from the cantonment, being hidden by an intervening lower and nearer range, but is visible from many points in the neighborhood. Just to the west of Kinchinjunga are Junnoo, 25,311 feet, and Kubra, 24,015 feet, the view on the east being

bounded by the square gigantic mass of Donkia, 23,176 feet. At least twelve peaks, each more than 20,000 feet, are visible at a glance, the most beautiful of which is Pundecm, 21,107 feet, almost on a level with Aconengua and Sahama, the loftiest in the Andes. Pile the Jungfrau and Mont Blanc, and the summits would not reach that of Geurisan-kar. Upon Mount Washing heap the three loftiest summits of the United States east of the Rocky Mountains, and the pile would not reach within half a mile of the white crown of Kinchinjunga.

During a great portion of the year a clear morning is almost the exception at Darjeeling; but when one does occur, the view at sunrise has no parallel on earth. The peaks are so lofty and sharp that they catch the rays of the rising sun while all below is shrouded in darkness. The first beams strike the white summit of Kinchinjunga, which puts on a rosy glow against the dark-blue sky; Junnoo is next aflame, then Kubra and Pundecm, and one by one all the others in rapid succession. — ALFRED H. GUERSEY, in *Harpur's Magazine*.

A CLOCK IN THE SKY AT NIGHT.—There are some old churches in England which have clocks showing the time with only one hand, the hour hand. I dare say that it will seem very strange to active and busy minds in America that such clocks as these should still continue in existence. A slumberous place it must be, truly, where men are content to know time by the hour, and to take no note of minutes. Or, if that is not really the way of it, still it must be a strangely backward world where such clocks, once sufficient for their purpose, have not yet been replaced by time-measures better suited to active, business-like folks. When such clocks were more common, and house-clocks and watches less used (and probably very seldom in order), it would have been useful to know what I am now going to tell you about a clock in the sky, though at present the knowledge will help rather to teach young folks the stars, than to show them how to learn the time from the stars; for the clock I have to describe has only one hand, and not only so, but that hand goes the wrong way around, and only once round in a day.

The first step toward a knowledge of the stars should be the recognition of the pole-star, because the pole of the heavens being the point round which all the stars are seemingly carried, so soon as we know the stars around the pole, we have a center, so to speak, from which we can pass to other groups until we know them all. Once known, the pole-star can always be found by the learner, supposing he observes the heavens always from the same station; for it lies always in the same position (or so nearly so that the change can scarcely be noticed). If, for example, you have once been shown, or found out for yourself, that from a certain spot in your garden, or from a certain window in your house, the pole-star can be seen just above a certain chimney or tree, then at any time, or any night when the sky is clear, if you betake yourself to that spot, or look through that window, you will see the pole-star over its accustomed chimney or tree. It is there, indeed, all the time, whether the sky be clear or cloudy, whether it be day or night. Not only does a knowledge of the pole-star give you a known central point whence to proceed to others, but it gives you the means of knowing where lie the cardinal points round the horizon

for, of course, when you face the pole-star, the north lies before you, the south behind you, the east on your right, the west on your left.

But to find the pole-star, it is well to begin with the dipper. This well-marked group includes two stars which are called the "pointers," because they point to the pole-star. The dipper is so conspicuous and well-marked a group that it is easily learned and cannot easily be forgotten. Although not very near the pole, it is yet not so far from it as to range very widely over the heavens; and if you look toward the north at any hour of any clear night, you will seldom require many seconds to find the familiar set of seven bright stars, though at one time it is high above the pole, at another close to the horizon, now to the right of the pole, and anon to the left. In England the dipper never sets; in America it partly sets, but still can be recognised (except at stations in the most southern States) even when partly below the horizon.—*Prof. R. A. Proctor, in St. Nicholas.*

INFLUENCE OF ALCOHOL ON THE CIRCULATION.
—Dr. Richardson, in answer to a question put by the Ladies' Convention recently in London, says—The effect of alcohol on the circulation of the blood is to quicken the circulation. The heart beats more quickly after alcohol is imbibed; the vessels of the minute circulation are dilated, and, at the same time, are reduced in their contractile power. A moderate degree of cold applied to the vessels of the body produces the same effects, and hence cold and alcohol go hand-in-hand together in producing torpidity and general failure of vital activity. During the time when the heart is beating more quickly, and the blood is coursing more rapidly through the weakened vessels of the vital organs, a flush or glow is experienced which, in time, becomes a sensation, if not of pleasure, at least of excitement. By continued use of alcohol, the vessels lose their control, and the heart fails in its power unless the stimulation be renewed. At last the sense of want of power and of languor, when the stimulant is withheld, is transformed into what is conceived to be a natural necessity. The weakened stomach yearns first for what is called its stimulant, and then the languid body craves, in response, for the same. But the rapid course of the circulation leading to the increased action of the vital organs is, after all, the rapid running out of the force of the body. It is like the rapid running down of the timepiece when the pendulum is lifted. The running down demands, in turn, the more frequent winding up, and the result is premature wearing out and disorganization of those organic structures on the integrity of which the steady maintenance of life depends.

During these unnatural courses of the circulation under alcohol, the degrees of structural change which occur are most serious. The minute blood-vessels are rendered feeble, irregular in action, untrue to their duty. The membranes of the body become changed in structure. The organs that are most necessary for life, such as the brain, the lungs, the liver, the kidneys—organs which are failures unless their membranes and their vascular parts be kept intact—lose their power for work, and from their defects disease, in tangible form, is organically developed.

Another cause of feebleness from alcohol, indirectly connected with the circulation, is the change to obesity which alcohol produces. It is one of the effects of alcohol to check the natural process of oxidation in the body, and for this reason, as I have experimentally proved, it reduces the animal

warmth. The influence of this repression does not end here: under it there is an impaired nutrition, and in many instances a great and unnatural increase of fat in the body, what physicians call fatty change or fatty degeneration. In the beginning of this change it is usual that the fatty substance is laid up outside and around the vital organs, or beneath the skin, where it is stored away in great abundance. In later stages, and occasionally from the first, the fatty particles are deposited within the minute structures of organs, in the muscular structure of the heart, or in the substance of the brain or kidney. The fatty degeneration, in this manner induced, is, of necessity, a permanent cause of feebleness, of premature decay, and, not unfrequently, of sudden death.

A WONDERFUL INSTRUMENT.—Probably no instrument yet invented has caused or is likely to bring about so entire a revolution in scientific thought as the prism. Discovered by accident, improved by degrees, it has changed the whole current of astronomical and chemical research, and to-day the three-cornered piece of flint glass which decomposes light is the most valued because the most potent adjunct to the laboratory and the observatory. Who shall foretell the discoveries to which the spectroscope may lead? A ray of light from the sun, passing through its centre, and thence thrown upon a screen, tells of truths and marvels which had else been forever beyond our ken. That broad, gaily-colored band which we call the solar-spectrum, with its brilliant yellow sodium lines, and its green of thallium, its dark red and purple streaks of potassium, and its wondrous blue of rubidium, teaches us the grand lesson that in the sun all these metals and many more are incandescent and glowing, and that, united together in one vast blaze, they endow this little planet of ours with all the light and heat which make life joyous and glad. Or, penetrating the vast abyss of the stellar depths, it shows us Sirius enveloped in flames of sodium, magnesium and hydrogen; while farther yet afield, embracing the great Aldebaran itself, centre of the universe and guiding star, it reveals to the astonished eye the wondrous fact that, just as in this terrestrial sphere, so countless myriads of miles away, burn hydrogen, sodium, bismuth, iron, magnesium, mercury, and many other elements, each fulfilling its part in the economy of nature, and assisting to prepare the vast ball of fire to which it belongs for the destiny that awaits it. And though the brain may even whirl as it strives to contemplate the distant nebulae which neither eye nor telescope, be it ever so powerful, can resolve in the far-off space of heaven, the spectroscope seizes upon them with undiminished power, and decomposing their feeble, trembling light, tells us of the existence of hydrogen and nitrogen in regions incalculably distant, and of which the mathematician has no conception. It goes farther even than this, for, with a certainty which cannot be surpassed, it classifies the stars, and gives to them all their age, placing the white, or those most redolent of hydrogen, in the foreground, as the youngest and most recently incandescent; ranking the yellow, such as our sun, Aldebaran and Arcturus, as the more advanced in chemical decomposition; while it demonstrates that the colored stars, which give off the spectra of metals, and show channelled spaces like the lines of compounds, are those which, having been acted upon by intensest heat, are gradually cooling

and consequently emit less light. Stopping short at no difficulty, receding from no position, it grasps the universe, analyses it, and calculates its constituent parts, their action and their history, and with no uncertain pen writes down upon the tablets of scientific research marvellous discoveries, each of which has a present and important bearing upon the daily concerns of life.

THE WORLD'S POPULATION.—The United States Bureau of Statistics, getting its information from reliable sources, mainly from a work published at Gotham, by Drs. Behm and Wagner, furnishes the following interesting facts and figures on the above subject:—The aggregate population of the earth is 1,391,032,000. Asia being the most populous section, and containing 798,000,000, while Europe has 300,500,000; Africa, 203,000,000; America, 84,500,000; and Australia and Polynesia, 4,500,000. In Europe the leading nations are credited with the following numbers—Russia, 71,000,000; the German Empire, 41,000,000; France, 36,000,000; Great Britain and Ireland, 32,000,000; Italy, nearly 27,000,000; Spain, 16,500,000, and Turkey, nearly 16,000,000. The other countries do not exceed over 5,000,000 each. In Asia, China, which is by far the most populous nation of the earth, is credited with 425,000,000; Hindostan, with 240,000,000; Japan, 33,000,000; the East India Islands, 30,500,000; Burmah, Siam and Farther India, nearly 26,000,000; Turkey, 13,500,000, and Russia 11,000,000. Australia's population is given at 1,674,500, and the Polynesian Islands, at 2,763,000; New Guinea and New Zealand being included in the latter. In Africa, the chief divisions are West Sudan and the Central Africa Region, 39,000,000; South Africa, 20,250,000; the Gala country and the region east of the White Nile, 15,000,000; Samauli, 8,000,000; Egypt, 8,500,000, and Morocco, 5,000,000. In America, two thirds of the population are north of the isthmus, where the United States has nearly 39,000,000; Mexico, over 9,000,000, and the British Provinces, 4,000,000. The total population of North America is given at 52,000,000, and South America, 25,000,000, of which Brazil has 10,000,000. The West Indies has over 4,000,000, and the Central American States not quite 3,000,000. According to the tables, London, with 3,254,260 inhabitants, is the most populous city in the world, while Philadelphia, 674,022 inhabitants (in 1870), is the eighteenth city in point of population. These 18 cities, in their order, are the following—London, 3,254,260; Sutchan (China), 2,000,000; Paris, 1,851,792; Pekin, 1,300,000; Tschantschau-fu, 1,000,000; Hangsta-fu, 1,000,000; Siantan, 1,000,000; Sangnan-su, 1,000,000; Canton, 1,000,000; New York, 942,292; Tientsin, 900,000; Vienna, 834,284; Berlin, 826,341; Hankau, 800,000; Tschmtu-tu, 800,000; Calcutta, 791,645; Tokio Yeddo, 674,447, and Philadelphia, 674,022. Of cities smaller than Philadelphia, the leading ones are—St. Petersburg, 667,970; Constantinople, 600,000; Glasgow, 594,536; Liverpool, 493,405, and Rio de Janeiro, 420,000.

Telephony is the transmission of sound by electric telegraph, and is of recent discovery. Some time ago Sir William Thompson, in an address to the British Association, gave an account of a successful experiment in sound telegraphing over a distance of several hundred yards. The words were shouted by his assistant while holding his

mouth close to a stretched membrane, carrying a little piece of soft iron, which was thus made to perform in the neighborhood of an electro magnet in circuit with the telegraph wire motions proportional to the sonoric motions of the air. The words thus uttered were distinctly heard by Sir William Thompson, coming from the thin circular disc, which formed the armature of the electro magnet at the other end of the wire, hundreds of yards away from where the words were spoken. This experiment is, however, quite eclipsed by one which took place on October 9, and which we find reported in the *Boston Advertiser*. On the occasion referred to a telephone was placed at each end of a telegraph line, owned by the Wolworth Manufacturing Company, extending from their office in Boston to their factory in Cambridgeport, a distance of about two miles. A conversation was carried on by two electricians for a long time, and the words spoken and heard were accurately reported. A comparison of record shows that the transmission of sound was perfectly accurate, except where words were spoken in a low whisper, when, although the whisper was heard, the words could only now and then be made out. If conversation by telegraph can be successfully carried on over a distance of two miles, why not over hundreds of miles when the mechanical appliances have been perfected? One may yet be able to gossip with a friend in London by Atlantic cable.

THE FIERY LAKE.—A remarkable address has been delivered by Sir William Thompson in the Physical Section of the British Association, on the subject of the fluid or solid nature of the earth's kernel. While not denying that certain portions of the earth's interior are in a molten or fluid state, Sir William Thompson maintained, on various more or less recondit grounds, that no large proportion of the earth's interior can by any possibility be in the condition of molten fluid.

"I may say, with almost perfect certainty, that whatever may be the relative densities of rock, solid and melted, at or about the temperature of liquefaction, it is, I think, quite certain that cold solid rock is denser than hot melted rock; and no possible degree of rigidity in the crust could prevent it from breaking in pieces and sinking wholly below the liquid lava. Something like this may have gone on, and probably did go on, for thousands of years after solidification commenced; surface portions of the melted material losing heat, freezing and sinking immediately, or growing to the thickness of a few metres where the surface would be cool, and the whole solid dense enough to sink.

"This process must go on until the sunk portions of crust build up from the bottom a sufficiently close-ribbed skeleton or frame to allow fresh incrustations to remain, bridging across the now small areas of lava-pools or lakes." That is a striking picture of the growth of the "round earth," which was once supposed to have been made from the first "so fast that it cannot be moved." We are rather sorry to be robbed of the belief in the central lava ocean after all.

HEIGHT OF WAVES.—J. W. Black, in *Nature*, says: "Dr. Scoresby's observations in the North Atlantic record 24 feet, 30 feet, the highest 43 feet, and the mean 18 feet in westerly gales; and the frigate Novara, 20 to 30 feet off the Cape Promontory. French observers in the Bay of Biscay state

a height of wave of 36 feet; Capt. Wilkes, U. S. N., writes of 32 feet in the Pacific, and Sir J. Ross of 22 feet in the South Atlantic. Heights of waves in N. W. gales off the Cape of Good Hope were computed at 40 feet, those off Cape Horn at 32 feet, in the Mediterranean Sea at 14 feet 10 inches, and in the German Ocean at 13½ feet; but in British waters they are only found to average 8 to 9 feet. The velocity of ocean storm waves was observed by Dr. Scoresby in the North Atlantic to be about 32 miles per hour; Capt. Wilkes recorded it at 26½ miles in the Pacific, and French sailors in the Bay of Biscay at 60 miles an hour. Dr. Scoresby has estimated the distance between or breadth of his Atlantic storm waves at about 600 feet from crest to crest, which is only about half of that stated in the letter, and with a proportion of only 1-20th for height to breadth. Dr. Scoresby states that his waves of 30 feet in height move at the rate of 32 miles per hour."

Steel telegraph wires covered with copper are now prepared by tinning steel, and then covering it with copper tinned on one side. The united metals are then drawn into wire, and in the heat developed in passing the wire through the draw-bench, the tin is fused and quickly solders the copper covering to the steel core. The finished wire resists rust, weighs one-third less than common telegraph wire, and is said to be a better conductor, while it has greater tensile strength. In this wire the steel merely serves for strength, and the copper for protection and conduction.—*Ex.*

Every one is familiar with the blanching of grass under stones, or of celery, sea kale and rhubarb when grown in the dark; but it is remarkable that as a rule this "etiolation," as it is termed, does not extend to the flower. Their petals will acquire their color in the dark, while their normally green calyx is blanched like the leaves. There is, however, at least one exception to this rule in the white lilac obtained by the Paris florists, by forcing the colored kinds into almost complete darkness.

Mathematical Department.

SAMUEL R. BROWN, EDITOR, BOX 67 D, LONDON.

Teachers and others are invited to forward any problems they may think worthy of a place in these columns, provided always that the solutions accompany the problems.

Send Solutions before 15th inst., to receive attention, and address the Editor as above.

When sending solutions, correspondents will please send each month's problems separately.

The names of those who solve the several problems correctly will be published with the solutions thereof.

The solutions of all problems published in this department will be printed in the second number following that in which the problems appear.

Problems.

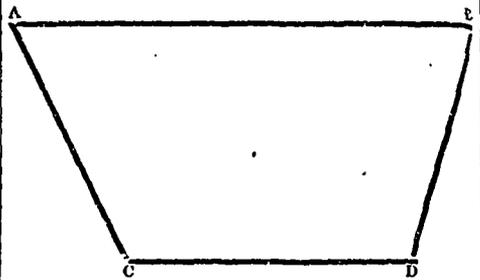
No. 42.—

Two persons, A and B, can perform a piece of work in 16 days. They work together for 4 days, when A being called off, B is left to finish it, which he does in 36 days more. In what time would each do it separately? *By Arithmetic.*

No. 43.—

$$\frac{\sqrt{c} - \sqrt{c-x}}{\sqrt{c} + \sqrt{c-x}} = c, \text{ to find the value of } x.$$

No. 44.—



A farmer has a field in the form of the above figure ABCD. AB and CD are parallel, and are respectively 160 and 80 rods; AC is 90 and BD 80 rods. He sells the field for \$40 per acre. How much money does he receive?

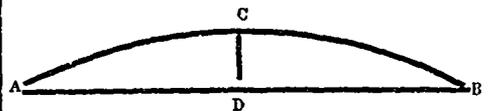
No. 45.—Proposed by John Anderson, Dixie, Ont.

Two trains travelling, one at 20 miles an hour, the other faster, came into collision at a level crossing, where the two lines (both being free from curves) cross each other at an angle of 36°. Some time before the collision, a passenger in the slower train observes the other exactly abreast of him on the other line of railway, and judges the trains to be a quarter of a mile apart. How far from the crossing were both trains at that moment, and what was the speed of the faster train?

No. 46.—Proposed by G. W. Priest, Ayr, Ont.

A merchant has a quantity of coffee on which he wishes to gain 37½%. After selling three-fifths at this gain he is obliged to reduce the price two cents per pound, and finds after selling it that he has gained only 1½% of what he had desired. What did the coffee cost him?

No. 47.—Proposed by A. S. McGregor, Avonbank.



ABCD is a segment of a circle, whose chord AB is 120 feet, and the versed sine CD 1 foot. Find the diameter of the circle.

No. 48.—Proposed by H. T. Scandamoro.

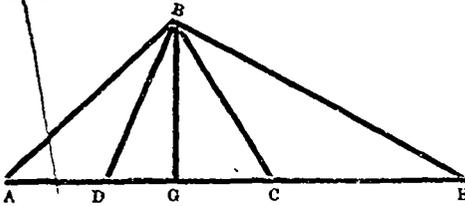
Two equal inelastic bodies move in the same vertical line, the 1st upward with an initial velocity against the force of gravity, and the 2nd downward from rest with the force of gravity. After impact their united motion just brings them to rest at the point from whence the second started. What are their comparative velocities at the time of impact?

No. 49 — Proposed by W. J., engineer, Garden Island.

(a) What power of steam will raise a safety-valve 4 inches in diameter, held down by a weight of 50 pounds at the end of a lever which has a leverage as 5 to 1?

(b) How far apart each way should ½ inch stay bolts be placed in the flat surface of a boiler to carry 60 pounds per square inch—supposing a ½ stay bolt is equal to a pressure of 3607 pounds.

No. 30—



Solutions.

ABC and DBE are right-angled triangles ;
 AB=40, BE=50 and DC=30.

Find BD and BC.

Draw BG perpendicular to AE. Let AG = x, then BG = $\sqrt{40^2 - x^2}$,

and AG : BG :: BG : CG \therefore GC = $\frac{BG^2}{AG} = \frac{40^2 - x^2}{x}$,

then DG = $30 - \frac{40^2 - x^2}{x}$, also DG : BG :: BG : EG \therefore EG = $\frac{40^2 - x^2}{30 - \frac{40^2 - x^2}{x}}$,

But EG = $\sqrt{50^2 - (40^2 - x^2)}$, $\therefore \frac{40^2 - x^2}{30x - (40^2 - x^2)} = \sqrt{900 + x^2}$, or $\frac{1600x - x^3}{30x - 1600 + x^2} = \sqrt{900 + x^2}$,

$$2560000x^2 - 3200x^4 + x^6 - 2300x^2 - 96000x + 60x^3 + x^4 + 2560000 = 900 + x^2, 2560000x^2 - 3200x^4 + x^6 = 490000x^2 - 86400000x - 42000x^3 - 1400x^4 + 60x^3 + x^6 + 2304000000.$$

$$60x^6 + 1800x^4 - 42000x^3 - 2070000x^2 - 86400000x + 2304000000 = 0$$

$$x^6 + 30x^4 - 700x^3 - 34500x^2 - 1440000x + 384000000 = 0$$

Now let $x = 5z$ and we reduce the equation to

$$z^6 + 6z^4 - 28z^3 - 276z^2 - 2304z + 12288 = 0.$$

Now find the value of z by Horner's method.

6	-28	-276	-2304	-12288) 6.4535567
6	72	264	-72	-14256	
12	44	-12	-2376	196800000	
6	103	912	5400	166915534	
18	152	900	30240000	29884416	
6	144	1776	11488896	27840420	
24	296	2676000	41728896	2043996	
6	180	196224	12297344	1723492	
30	47600	2872224	5402624,0	320504	
6	1456	202112	165460	287835	
360	49056	3074336	5568084	32669	
4	1472	208064	166800	28792	
364	50528	32824,00	573488,4	3877	
4	1488	268	1009	3455	
368	52016	33092	574497	422	
4	1504	268	1009		
372	,053,520	33360	57550,6		
4		268	17		
376		,03,36,28	57567		
4			17		
,0380			57,5,84		

$$z = 6.4535567$$

$$\therefore x = 32.2677835 = AG.$$

$$DG = 30 - \frac{40^2 - x^2}{x} = 12.682723,$$

$$EG = 44.059163,$$

$$BG = \sqrt{40^2 - x^2} = 23.6387425,$$

$$GC = \frac{BG^2}{AG} = 17.317277,$$

$$\left\{ \begin{aligned} BD &= \sqrt{BG^2 + DG^2} = 26.8261372, \\ BC &= \sqrt{BG^2 + CG^2} = 29.3032124. \end{aligned} \right.$$

[The above is a very fine, and we might say difficult, problem, and as our solution involves considerable Geometry and Algebra, we would advise our readers to study it carefully.—Ed.]

No. 31.—

Let x = No. of rods in a side of one field,
 then $x + 10$ = " " " the other field,
 x^2 = area of smaller field,
 $(x + 10)^2$ = area of larger field.
 $x^2 = \frac{1}{2}(x + 10)^2$, or
 $x = \frac{1}{2}(x + 10)$,
 $\frac{2x}{5} = 6$,
 $x = 15$,
 $x + 10 = 25$.

No. 32.—

Let m represent one of the equal payments; p the principal, r the rate, and n the number of payments. Then $p(1+r) - m$ denotes what is due after 1st payment; $p(1+r)^2 - m(1+r) - m$ denotes what is due after 2nd payment; $p(1+r)^3 - m(1+r)^2 - m(1+r) - m$ denotes what is due after 3rd payment, etc., etc.; or $p(1+r)^n - m(1+r)^{n-1} - \dots - m(1+r) - m$ due after the n th payment. And since the debt is to be paid by the n th or final payment, we have
 $p(1+r)^n - m(1+r)^{n-1} - m(1+r)^{n-2} - \dots - m(1+r) - m = 0$, or
 $p(1+r)^n - \{ (1+r)^{n-1} + (1+r)^{n-2} + \dots + (1+r) + 1 \} m = 0$.

Hence by summation of series, or summing the series in the parenthesis,

$$p(1+r)^n - \left(\frac{(1+r)^n - 1}{r} \right) m = 0.$$

Now, substituting the value of p , r and n in this formula, we get

$$1500 \times 1.6288335 = \frac{1.6288335 - 1}{.07} m,$$

from which $m = \$194.26$.

Geo. W. Woodward, Excise Officer, late Principal of the Elmira Public School, sends the following methods for solving No. 32: The \$1500, if allowed to stand till the end of the term, and the interest added annually, would amount in the ten years to \$2443.34925; similarly, \$1 paid at the end of each year, and put on interest, would amount to \$12.57789, then \$2443.34925 \div 12.57789 = 194.257, the sum to be paid at the end of each year.

The present value of \$1 paid at the end of each year is \$7.72173, and \$1500 \div 7.72173 = 194.2569, the sum to be paid.

No. 33.—

By transposing in (1) and (2) we have

$$\begin{cases} y^4 - 12xy^2 = 432, & (3) \\ y^2 - 2xy = 12, & (4) \end{cases}$$

By completing the square in (3) and (4) we have

$$\begin{cases} y^4 - 12xy^2 + 36x^2 = 432 + 36x^2, & (5) \\ y^2 - 2xy + x^2 = 12 + x^2, & (6) \end{cases}$$

Dividing eq. (5) by eq. (6), $\frac{y^4 - 12xy^2 + 36x^2}{y^2 - 2xy + x^2} = 36$.

Extracting sq. root, we get

$$\frac{y^2 - 6x}{y - x} = 6, \text{ or } y^2 - 6x = 6y - 6x \therefore y^2 = 6y, \text{ and } y = 6. \text{ Substituting this in eq. (2) and we get } x = 2.$$

No. 34.—

Let x = the number of apples,
 $80 - x$ = the number of pears,
 $\frac{10}{80 - x}$ = the price of an apple,

$\frac{45}{x}$ = the price of a pear,
 $\frac{10x}{80 - x}$ = the cost of the apples,
 $\frac{45(80 - x)}{x}$ = the cost of the pears.
 $\therefore \frac{10x}{80 - x} = \frac{45(80 - x)}{x} \times 2$,
 $5x^2 = 45(80 - x)^2$,
 $x^2 = 9(80 - x)^2$,
 $x = 3(80 - x)$,
 $4x = 240$,
 $x = 60$ apples,
 $80 - x = 20$ pears.

No. 35.—

[The solutions this month have used so many of the different mathematical signs, that we are obliged to defer the solution to this problem till our next No.—Ed.]

CORRECT SOLUTIONS have been received as follows:—

- No. 31. Sarah Maccausland, Walpole; M. Church, London; R. Coutes, Lowville; A. Gilbert, Derwent; P. George Cavanagh, Jarvis; John McKenzie, Lorne.
- No. 31, 34. E. T. Hewson, Garnet; Bonus Puer, Beverly; P. G. Kimmerly, Napanee.
- No. 31, 33, 34. A. H., Toronto.
- No. 33, 35. Thomas Cameron, Arkona.
- No. 31, 32, 34. H. M. Hicks, Trenton; no name.
- No. 31, 32, 33, 34. John Anderson, Severn Bridge; A. S. McGregor, Avonbank; A. G. Henderson, Ashburn; Jas. W. Morgan, St. Helens.
- No. 31, 33, 34, 35. Thomas Worden, Cromarty.
- No. 31, 32, 33, 34, 35. Wm. Johnston, Watford; James Millar, Grimsby; G. W. Priest, Ayr.

The following has been kindly sent us by J. G. Hands:

Arithmetic.

Answers to Questions, First Class Paper, Midsummer Examinations, 1876.

- (1) (b) $\frac{1}{4}$.
- (2) Ans. \$8221. $\frac{1}{143}$.
- (3) (b) Whole capital, \$574.65. Rate of interest is 6%.
- (5) Cost price of cloth is \$1701; length of yard stick is $\frac{140}{7}$.
- (c) Cost of the Canada Pacific Railway, \$120,000,000.
- (7) (b) Multiplication first introduces the notion of ration in "Twice 1 are 2."
 $\frac{1387.431 \times 22 \times 16.08}{(\sqrt{1387.431})^2}$
- (c) Ans. =
- (8) Ans. 50 years' purchase at £1600 per ann.
- (9) Alloy is reduced from $\frac{1}{3}$ to $\frac{1}{5}$. Ans.
- (10) (a) Radius = 15.118 + (b) Base of triangle, 16 $\frac{1}{2}$.

An exchange is asked—"Did you know that 123456789 multiplied by 9 gives 111111111?" Another multiply 987654321 or 123456789 by 9, or any multiple of 9, and the answer will be curious.

Ancient History.

QUESTIONS AND ANSWERS, BY W. R. BIGG, ESQ.

(Q.) 123. Who formed the Second Triumvirate, and when? Give brief particulars.

(A.) On the death of Julius Cæsar, Antony seized the public treasury and in conjunction with Octavianus Cæsar (afterwards called Augustus), and Lepidus, formed the Second Triumvirate, B.C. 43, each of the three agreeing to sacrifice his own friends to the vengeance of his colleagues. The horrors of the former Triumvirate were far exceeded by this, as 300 Senators and 2,000 Knights were proscribed, the great orator Cicero being among the number. Brutus and Cassius were still at the head of a powerful army, but were defeated at the battle of Philippi, B.C. 42, and their death relieved the Triumvirs of all cause of fear.

(Q.) 124. Who became King of Judea during the 2nd Triumvirate; and what prophecy was fulfilled thereby?

(A.) Herod the tetrarch of Galilee, obtained from Antony and Octavianus the crown of Judea, B.C. 40, and returning to his dominions accomplished the prophecy of Jacob foretelling the appearance of the Messiah, when the sceptre should depart from Judah. Having overthrown his rival Antigonus, Herod by the favor of Augustus added Samaria, Galilee, Perea, Iturea, Trachonitis and Idumæa to his dominions, and from the magnificence with which he rebuilt the Temple, he received the title of Great.

(Q.) 125. Name some celebrated poets and prose writers who flourished during the Augustan age?

(A.) Horace, Virgil, Ovid, Livy, Sallust, Cornelius Nepos, and Cicero.

(Q.) 126. Sketch briefly the career of Augustus from the Triumvirate to the Empire, and give the boundaries of the latter during his reign?

(A.) After the defeat of Brutus, Antony went to Asia, where he was captivated by Cleopatra, and departed with her to Egypt, totally disregarding Octavia, the sister of Augustus, whom he had married. This affront, together with an unsuccessful expedition against the Parthians, afforded Augustus a sufficient excuse for declaring him a public enemy, and armed with the specious authority of the Senate, he declared war against Antony, whom he defeated in a naval engagement at Actium, B.C. 30. Antony's death soon after, and the resignation of Lepidus, placed the whole government in the hands of Augustus, B.C. 27, who now became Emperor. Augustus had endeavored to get Cleopatra into his power, in order to bring her to Rome to grace his triumphal return, but the last Queen of Egypt foiled his plans by causing herself to be poisoned by the bite of an asp. During the reign of Augustus, the temple of Janus was shut for the third time, after the revolted Spaniards had been subdued, and the Parthians compelled to restore the standards taken from Crassus and Antony. The Empire was bounded on the north by the North Sea, Rhine, Danube, and Black Sea; on the east, by the Euphrates; on the south, by the deserts of Africa and Arabia; and on the west, by the Atlantic Ocean. Two fleets, one at Ravenna, and the other at Misenum, protected the commerce of the Mediterranean; forty vessels guarded the Euxine Sea, and armed boats secured the navigation of the Rhine and the Danube.

(Q.) 127. Name the twelve Cæsars in their order, with dates.

(A.) Julius, B. C. 49; Augustus; B. C. 27; Ti-

berius, A. D. 14; Caligula, A. D. 37; Claudius, A. D. 41; Nero, A. D. 54; Galba, A. D. 68; Otho, A. D. 69; Vitellius, A. D. 69; Vespasian, A. D. 69; Titus, A. D. 79; Domitian, A. D. 81.

(Q.) 128. Name, seriatim, some important event, with the date, as occurring in the reigns of Augustus, Tiberius, Nero, Vespasian, Titus and Domitian.

(A.) Birth of our Saviour, A. D.; the Crucifixion, A. D. 31; first persecution of the Christians, A. D. 64, during which the Apostles Peter and Paul suffered martyrdom; the destruction of Jerusalem, A. D. 70; the destruction of Herculaneum and Pompeii, A. D. 79; and the second persecution of the Christians, A. D. 95.

(Q.) 129. To what countries did the missionary labors of St. Paul extend?

(A.) To Asia Minor, Greece, and Rome, and probably also to Spain, Gaul, and Britain.

(Q.) 130. Give an account of the Roman occupation of Britain.

(A.) In the years 55 and 54 B. C., Julius Cæsar invaded Britain, but his two campaigns were un- decisive, and the country maintained its independence until A. D. 43, when the Emperor Claudius in person, and afterwards the generals Plautius and Vespasian, compelled various tribes to acknowledge the majesty of Rome. Caractacus opposed Claudius for five years with varying success, but was at length defeated and taken to Rome, where he was pardoned and set at liberty by Claudius. Suetonius endeavored to destroy the Druids, and quelled a formidable insurrection, headed by the celebrated Boadicea, A. D. 61. In the course of seven years, A. D. 78 to A. D. 85, Agricola firmly established the power of the empire, subduing the natives as far north as the Forth, and defeating Galgacus and his Caledonians at the foot of the Grampians, A. D. 84, during the reign of Domitian. Agricola endeavored to civilize the island by inspiring the barbarians with a love of letters, and by the introduction of the Roman dress, language, and luxurious manners. Four legions were stationed in Britain, and as many great roads facilitated the communication between distant points. Adrian, the successor of Trajan, visited Britain, and built a wall from the Solway to the Tyne. In A. D. 208, Severus went to Britain with his two sons, Caracalla and Geta, and penetrated through the Caledonian forests to the Moray Frith. The whole Southern part of the island during the Roman domination was divided into thirty-three districts, in each of which was a fortified town termed Castrum, and nearly all the places in England which end in cester or chester have their names from Roman fortresses. Honorius, A. D. 420, when Rome was rapidly declining, formally released the Britons from their allegiance.

(Q.) 131. Where was the word "Christian" first used, and when were the four gospels written?

(A.) The name of "Christian" was first used at Antioch, in Syria, where Barnabas and Paul taught the faith. The four gospels were written in the order in which they stand, between A. D. 37 and A. D. 98.

(Q.) 132. Mention some celebrated poets, prose writers, and historians, who flourished during the first century A. D.

(A.) Quintus Curtius, Plutarch, Lucan, Martial, Juvenal, Seneca, Pliny, Quincitilian, Tacitus and Josephus.

(Q.) 133. Name the ten great persecutions of

the early Christian Church, stating under what Roman Emperor they occurred, and give the dates.

(A.) 1st persecution A. D. 64, under Nero; the 2nd A. D. 95, under Domitian; the 3rd A. D. 106, under Trajan; the 4th A. D. 166, under Marcus Aurelius; the 5th A. D. 202, under Severus; the 6th A. D. 235, under Maximin; the 7th A. D. 250, under Decius; the 8th A. D. 258, under Valerian; the 9th A. D. 272, under Aurelian; the 10th A. D. 303, under Diocletian and Maximian.

(Q.) 131. In whose reign did the Roman Empire begin visibly to decline?

(A.) In the reign of Commodus A. D. 180.

(Q.) 135. In whose reign was the Roman Empire first divided into Eastern and Western, and by whom was this arrangement finally consummated, and when?

(A.) The sovereignty was first divided in the reign of Diocletian A. D. 284, and finally settled by Constantine the Great, who constituted Byzantium the seat of the Eastern Roman Empire, and Rome that of the Western, A. D. 332.

(Q.) 136. In whose reign occurred the first permanent dismemberment of the Roman empire?

(A.) In the reign of Jovian A. D. 363, who was compelled to restore five provinces to Spain, King of Persia.

(Q.) 137. Name the different German tribes, that first invaded the Roman empire; state also the dates, including those of the first invasion of the Huns and the Vandals.

(A.) The Goths, divided into Eastern or Ostrogoths, and the Western or Visigoths, A. D. 250; the Franks A. D. 256; the Allemanni, Suevi, and Mercomanni, A. D. 259. The first invasion of the Huns was in A. D. 374, and that of the Vandals in A. D. 410.

(Q.) 138. Mention a celebrated chief of each of the tribes of the Goths, the Huns, and the Vandals, and connect each with some event.

(A.) Alaric (Goth) took and plundered Rome A. D. 410.

Attila (Hun) invaded Italy A. D. 452; origin of the City of Venice.

Geneseric (Vandal) captured Rome A. D. 455.

(Q.) 139. State briefly the tenets of Arius, their effects on the early Christian Church, and the object of the Council of Nice, with the results.

(A.) Arius taught that Jesus Christ was essentially distinct from the Father, and only the first and noblest of created beings. These tenets convulsed the Church during three centuries, and led to the summoning of the General Councils of the bishops and doctors of the Church at Nice, 325; Constantinople, 381; Ephesus, 431; and at Chalcedon, 451; by which the opinions of the primitive Christians were confirmed on the subject of the person of Christ, of the Trinity, the Incarnation, and the Atonement. The object of the Council of Nice was to settle the Arian disputes, and the result was the Nicene Creed, in which is recognised the consubstantiality of the Son with the Father. The symbol of the Mass was first proposed at the Council of Constantinople.

(Q.) 140. Give the date of the fall of the Western Roman Empire and the name of its last Emperor? State also who founded the Kingdom of the Ostrogoths in Italy, and when?

(A.) A. D. 476. Romulus Augustulus was the last Emperor, and was banished by Odoacer the Goth, who was subsequently defeated by his rival Theodoric, who became King of Italy 493, and laid the foundation of the Kingdom of the Ostrogoths.

(Q.) 141. Compare the different systems of Greece and Rome in founding colonies?

(A.) The Grecian colonies never entered into a relation of dependence on the Mother State, but were entirely free in their internal administration and government, whereas the Romans merely established colonies in the States conquered by them, sending out the poorer class of citizens, who formed a kind of garrison, and were held together by a constitution formed on the model of the Parent State. The law for sending out a colony was virtually an agrarian law, since lands were invariably assigned to the colonists, and the privileges of the conquered were restricted, being absolutely excluded from the comitia and magistracies, deprived of their internal constitutions, and governed by annual prefects chosen in Rome.

(Q.) 142. What law prevails in history with reference to the subjugation of a civilized people by a barbarous?

(A.) Whenever a barbarous nation conquers a civilized people, and rules over it, the barbarians gradually adopt the civilization of the conquered, and become absorbed by them. Hence the Teutonic tribes in Gaul, Spain and Italy, soon became Romanised, adopting the language, customs and laws of the conquered people; hence, even at the present day, these countries form the links which connect our modern civilization with that of the Roman Empire, and their languages still are living monuments of the dominion of Rome.

(END OF ANCIENT HISTORY QUESTIONS AND ANSWERS.)

Medieval History Questions and Answers.

(Q.) 1. Under what monarch did the Eastern Roman Empire revive, and mention two celebrated generals: what contributed to extend its conquests? Give brief particulars.

(A.) The Eastern Roman Empire began to recover from its lethargy, and to extend its conquests under the celebrated Justinian, A. D. 527. He erected the church of St. Sophia at Constantinople, but his noblest monument is the Justinian Code of Laws, which consolidated the chaotic Roman Laws into an orderly system.

Having formed the design of reconquering the Roman Provinces which had fallen into the hands of the barbarians, he turned his views first on Africa, and Belisarius, a Thracian peasant, the Africanus of New Rome, was intrusted with the command of the expedition. The Vandals, taken by surprise, were completely defeated; Carthage surrendered without a blow, and in the short space of three months the whole of Northern Africa was subdued, Gelimer the vanquished sovereign, gracing the captor's triumph, A. D. 534. After reducing Sicily, Belisarius over-ran Southern Italy, and Rome became his prize, A. D. 526. The Ostrogoths then besieged Rome, but were defeated, and Belisarius having taken Ravenna became master of Italy. His later achievements were the repulse of Totila the Gothic chief, and the defeat of the Bulgarians, who had crossed the Danube on the ice and threatened Constantinople.

Narses, the rival of Belisarius, succeeded to the supreme command on the death of the latter, and defeated Totila at Tagina, 552. After subduing the Franks and Allemanni, 554, thereby overthrowing the Ostrogothic kingdom in Italy, Narses became the first Exarch of Ravenna.

Selected.

SCIENCE AND HOUSEKEEPING—A great interest has been taken of late in the higher education of women. Philosophers have been studying over the question; metaphysicians have been endeavoring to prove that the feminine brain has not the capacity of the masculine, but the fact remains, that in comparison with its cultivation, the mind of woman has yielded as fruitful results as that of man. We are enlightened people in this nineteenth century, and do not believe that a study is pursued merely for the purpose of cultivating the intellect. To us, an education does not imply simply a gaining of knowledge. Who will recognize the power of a mind that yields no practical results?

Education is the cultivation and development of all our faculties. The power of application then must be included in the word. Verily has this been clearly demonstrated. What did the twenty centuries of the use of the Aristotelian Philosophy produce? What has been the result of three centuries' use of Bacon's inductive method?

Give woman a higher education. Ancient philosophers based one of our greatest scientific truths upon the theory that nature abhors a vacuum. The mind as well as nature abhors a vacuum. Why is it that you so greatly undervalue a woman's mental force? Has her education been such that the mind of woman will sustain a pressure of anything else than nonsense and vain theories?

A century after them Torricelli proved that the reasoning of the ancients was defective; the liquid was sustained in the tube by the pressure of the atmosphere, a much more solid maintenance. When America holds her next Centennial birthday, will not some modern philosopher have demonstrated that the brain of woman is better sustained by its then acquired learning?

Will a higher education enable a woman to be a better housekeeper? Most assuredly it will. We know of a lady who is a most competent and highly educated housekeeper; she wanted her fire-place rebuilt, and, making a calculation, sent to the city for her bricks, allowing two for accidents. The mason built the chimney, and when completed, there was one brick and a half remaining.

Ah, you saving men, if you want an economical housekeeper, procure one who is capable of solving domestic problems. Set before her a great example of economy if you wish to make her saving; make it necessary that she should understand the science of nature's process of assimilation if you wish her to waste nothing. How wonderful is science, how scientific is nature! Oh, ye moderate imbibers, who cheat yourselves into thinking intoxication is found only in distilled liquors, your educated housekeeper will tell you that fermented liquor contains as much alcohol as distilled.

And ye exquisites, who admire taste in dress, impart a knowledge of chromatics to your daughters, that they may know that orange is not the complementary color of red, and that indigo does not look well with green. If you desire good housekeepers, develop the tastes of women. Deplore not their present "love of dress and pleasure," but give them schools equal to those of men, and make it as easy for a poor girl to work her way through them as it now is for a poor boy.

Cultivate our intelligence, not with homeopathic doses of literature and language, but in good strong

remedies of the higher mathematics and sciences, and you will no longer find it necessary to form clubs for the advancement and amusement of the lords of creation, but will have interesting and instructive society at home.—*J. D., in "High School," Nebraska.*

THE SCHOOL ROOM.—There is no influence emanating from the teacher during recitation which so completely paralyzes the mind of the pupil as the practise of scolding or ceaseless fault-finding, once so prevalent, but now rapidly disappearing from the public schools. The temptations to petulance and snappishness on the part of the teacher are manifold, and, at times, almost irresistible. Lack of faithful preparation, of quickness of perception, of moderate reasoning power, of interest, of enthusiasm, of uninterrupted attention, of just appreciation of the objects and advantages of recitation, are causes of irritation to be found in almost all classes. Those who possess but little love of the work of education, who regard neither the present happiness of children nor the future welfare of individuals and states, who in short, work in the educational vineyard exclusively for dollars and cents, or because more congenial fields of labor are not immediately accessible to them, are peculiarly liable to infuse this kind of narcotic influence into all the intellectual exercises of the school. Sometimes the most conscientious teachers, through excessive anxiety or impatience resulting from the slow or otherwise unsatisfactory progress of those whom they most earnestly desire to benefit, relapse almost unconsciously into habits of peevishness which largely nullify their most indefatigable exertions. Whatever may be the cause of a teacher's recurring seasons of irritability, the briefest reflection when free from the harassing cares inseparable from the instruction of children, will certainly show that no mental state should be more strenuously resisted, more completely suppressed.—*N. Y. Journal of Education.*

Effect of the Kindergarten System.

COMPILED FROM REPORTS.

"Physical development, manual skill, habits of clear thinking, order, precision and attention."

"Freedom and grace of movement, command of language and superior preparation for public schools."

"Development of the powers of application, perception and reasoning."

"Harmonious development; the mind is made active and the body is strengthened."

"Excellent; minds clearer and quicker in acting."

"Mental and physical development, and ability for self-occupation."

"Beneficial to mind and body; all organs and powers are developed harmoniously."

"It promotes a healthy and harmonious growth, a habit of attention, and a clear perception."

"Mental and physical development and quickened observation."

"Excellent progress without overtaxing the pupils."

"Harmonious and natural development of every faculty, and strength, agility and healthfulness of body and mind."

"The best preparation for the common schools."

"Habits of observation, correctness and application."

"Habits of attention, concentration and obedience, and progress in studies."

"The child becomes graceful, polite, self-dependent, skillful, thoughtful, constructive, and eager for knowledge."

Teachers After School Hours.

We observe in the schools an increasing evil, in that teachers are required to labor after hours. We do not find the requirements in the published rules, but in practices that are often more tyrannical than rules. A certain amount of work is allotted to the teacher. The day prescribed by law, is wholly occupied in teaching the several branches assigned on the programme. At the close of a week or month, there must be reviews of the subjects taught. And this is well. A subject is not well taught until it has been repeated in review, until a pupil shall have set before himself anew, in clear outline the combined result of study and instruction. And it is a most important duty of the teacher to see to it, that every pupil performs this, his peculiar part of the educating process, completely.

But the school-room is the place and school-hours the time for the teacher's part of the work at least. The law is very careful in prescribing six hours as the school day. And this is for the teacher as well as for the pupil. It presumes that the specified time is sufficient for all the purposes of instruction. To what use shall a teacher put the remaining hours of a working day? Shall they have any reference to the main business in hand? Most certainly, but they should by no means be burdened with the drudgery of teaching, as is becoming quite the custom, especially with the teachers of city schools. A teacher is readily known on the street by the bundle carried. But "dinner basket and water-proof" are no longer the most striking insignia of the vocation. They have been replaced in the public vision by a long thin book, with a motley colored cover, and a roll of manuscripts, "registers," and "written reviews," in the hands of care-worn teachers as they pass out of the school-room, along the street, and homeward, betoken hours of wearying brain toil "after school," nay, long after, and not seldom into the small hours of the night, when the manual laborer is at rest, renewing his strength for another day. Hours that should be given to mental and physical recreation are perforce yielded to the task of "examining papers" and correcting the errors of pupils. And this is the most tiresome and disagreeable work of the teacher. It brings very little personal pleasure or self-improvement. And the task is usually so exacting of the time and powers as to leave no room for the renewal of strength already well-nigh exhausted by the regular work of the school-room. Days and nights wear away in the same unvarying routine.

What boots it? Are the schools the better by reason of such sacrifices of the teachers' life and strength? Is it necessary? Is there no alternative without loss to teacher or pupil?

We believe that the hours of school should be sufficient for all purposes of recitations, reviews and examinations. Let there be more time given to study on the part of pupils and less to teaching and recitation. The best part of right instruction is the telling how to study. Much time is wasted in recitations. Cut short the recitations and take the time for reports, examinations and written reviews.

Let all the hours after school not needed for rest be given to pleasure, society, reading and self-instruction. We are convinced by a long experience and observation that not only the teacher, but the pupil will gain as a consequence. The spiritual vitality of the teacher is daily drawn upon, and must as often be renewed. Upon its renewal depends the success of the teacher. The art of teaching is, "A Life for a Life."—*Iowa Journal of Education.*

Scene—Education Department in the Moon.

(Reported by Our Private Lunar Telegraph.)

MR. ODDFISH.—(an official of the department)—CLERK, you have written out new programme.

CLERK.—Yes, sir.

MR. ODDFISH.—How many subjects?

CLERK.—Thirty, sir. Teachers say they can't teach half of them, sir.

MR. ODDFISH.—Nonsense, nonsense, nonsense. Must teach 'em. Shall educate this people, sir. What does my programme say? "All subjects in the course must be taught; proper time to each." What else do they say? Idiots! What else, sir?

CLERK.—Say that they have to keep pupils working half the night, sir. Makes 'em sick, parents say. Don't know anything when through school, sir, all confused together. Half a dozen members of Parliament complained in last debate that the people are in a disgraceful state of ignorance of common branches, while we're cramming them with hydrostatics, pneumatics, drawing, music, vascular systems and grass families.

MR. ODDFISH.—Nonsense, nonsense, nonsense. Bring in a pupil here (*clerk telegraphs, and boy is sent in*). Now, boy. What are you learning?

Boy.—Lesson to day, sir?

MR. ODDFISH.—Yes, what is it on?

Boy (*reads from paper*).—Chemistry—Carbonic Acid, Carbonic Oxide, Oxides and Acids of Nitrogen, Ammonia, Olefiant Gas, Marsh Gas, Sulphurous and Sulphuric Acid, Sulphuretted Hydrogen, Hydrochloric Acid, Phosphoretted Hydrogen, Silica.

MR. ODDFISH.—Very good, indeed; most useful study. Now, see. This boy, at home, will be most useful to his parents. He can instruct them in the thousand cases in which such knowledge is required. Can you put them to practical use, my child?

Boy.—Them things, sir?

MR. ODDFISH.—Those things, say. How is your grammar so deficient?

Boy.—Please, sir, we has too little time to learn it. Has to go at chemistry, globes, navigation, triangles, spheres, circles, eclipses, piles of things. I does things with chemistry, though. I giv some hydrochloric acid to our cat; and I had a bottle of ammonia. My! didn't it smell!

MR. ODDFISH.—There (*to clerk*). There, sir. See that. Boy of that age. Can already prescribe for animal disease, and is able to fumigate the premises. Splendid results! Now, to examine further. Boy, what is the cause of eclipses?

Boy.—The Gulf Stream.

MR. ODDFISH.—Eh, what! ah! Most curious fact. How did you find it out?

Boy.—Last lesson, sir. It was either that or the warm climate at the North Pole it caused, sir. But perhaps it was because two right lines con-

tinued to infinity never meet, sir. No, that's geometry.

MR. ODDFISH.—You are talking nonsense, sir. What is your next lesson?

Boy.—Algebra—(reads)—Factoring, Greatest Common Measure, Least Common Multiple, Square Root, Fractions, Surds, Simple Equations, Easy Quadratics, Proportion, Progression, Permutations and Combinations, Binomial Theorem, Properties of Numbers.

MR. ODDFISH.—Excellent, excellent. This is true instruction. And how will you use them when you grow up?

Boy.—Use 'em? Guess not. I'm goin' on a farm. Them blamed things is no good nohow.

MR. ODDFISH.—Nonsense—Come now. You study history. Who was Nero?

Boy.—He invented printing, and died 3000 B.C.

MR. ODDFISH.—No, can't be, surely. What was the cause of the second Punic War?

Boy.—Abraham Lincoln and the Abolitionists (sees *Oddfish frown*). Well, if it wasn't that, it was because Napoleon Bonaparte conquered St. Helena.

MR. ODDFISH.—Boy, do you not study history?

Boy.—Guess we do (reads). Canadian and English History, Elements of Modern and Ancient History, Tudor and Stuart Periods, Roman History to End of Second Punic War, Grecian to Death of Alexander.

MR. ODDFISH.—Well, why don't you remember it?

Boy.—Too much to remember, I guess. You try lessons all day and all night, and see how much you'll remember. I say, I wants to learn to read and write, and speak proper, and know somethin' of somethin'. I does, if you'd let me. Now, you cut all them things down to half-a-dozen, give us no night work, and we'll learn.

MR. ODDFISH.—Nonsense, nonsense! Go, go! (boy goes.) (To Clerk.) Add six more subjects to new programme, immediately. (Scene closes.)—Grip.

In the Mexican department of the Main Exhibition Building at Philadelphia is a beautiful mantel-piece of so-called Mexican onyx, for which the Emperor of Germany has paid \$3,000. If the stone were a true onyx, it could not be made for such a price, but it is really a veined alabaster which takes a fine polish. Its composition is carbonic acid 43.52, lime 50.10, magnesia 1.40, ferrous oxide 4.10, manganese oxide 0.22, water 0.60, silica traces. If onyx, it would be composed mainly of silica.—“Scientific Miscellany,” in the *Galaxy*.

Schlossing reasons that as with a given tension of ammonia vapor in the air, hot or warm water dissolves less than cold water, the tropical waters must leave a larger proportion of atmospheric ammonia undissolved than waters of arctic seas. This partially accounts for the greater luxuriance of tropical vegetation, the atmosphere being richer in this gaseous manure, which is precipitated by cold rains or dew.

We hope to introduce in our next number a “Grammatical Department,” under the charge of a special editor, who will, no doubt, make it as interesting as our “Mathematical Department,” so ably conducted by Mr. Brown.

Fireside Department.

Justly Recompensed.

“Have you heard the news about Miss Temple, Ned?” said Charley Ashton, as he sauntered leisurely up to the desk which Edward Farnum occupied in Messrs. Smith & Jones' office on Wall Street.

The warm blood colored Ned's cheek in spite of all his struggles to prevent it, and he replied:

“No; I hope no harm.”

“Well, I guess it wasn't. Come, put up your book, and as we go to town I'll tell you.”

“No; I cannot leave yet. I have not finished my balance.”

“Oh, pshaw! you can finish that to-morrow before ten o'clock. I wouldn't work as hard as you do for any man living, much less these bankers, who think all a fellow is made for is to work and make money for them. Come along.”

“No, I cannot go.”

“Well, then, the tale in short is, she's had a big fortune left her, some say five hundred thousand dollars.”

An involuntary sigh escaped Ned, and he rather muttered than spoke:

“I am sorry to hear it.”

“Why, what's got into you, you ninny? Sorry! Why, I haven't heard anything to please me so much in many a day. I always liked the girl, but I'm not philosopher enough to marry her for love alone. My doctrine is, when poverty comes in at the window love goes out at the door.”

“I'm afraid I don't agree with you in all things, but I have no time to discuss it now. Miss Temple, in my opinion, would be a fortune for any man, did she not possess a cent of money.”

“Pshaw, Ned, that's old foggy. Love in a cottage! ha! ha! Well, I liked her pretty well before, but I cannot help thinking her attractions considerably enlarged since I heard the news. Never should I have thought of anything but a pleasant acquaintance—guess I'll go in for her now. Good bye, old fellow, and don't hurt yourself over those books.”

Ned made no reply, but he felt as if he would like to grind his heel on one who could speak so irreverently of her who, to his idea, combined every grace of heart and mind, and perfection of form and feature which should make up a perfect woman. His thoughts turned to action, and he caught himself stamping his heel on the desk-stool with such force as almost to dent a hole in it, and looking up, he saw Mr. Smith's steady gaze fixed upon him.

Back to his work he tried to bring his thoughts, but they were not subject to his will, and he found himself in great danger of writing the thoughts passing through his mind. “She is lost to me now. Oh, how I wish it had never happened!” He shut the book, put away his papers, and with that dreary, lost, far-away kind of a look, passed unheeding among the throng on the money mart of the new world.

Charley Ashton lost no time in improving his opportunities, for that night found him seated *tele-a-tele* with Miss Temple in a cozy little room in Twenty-first street.

Miss Temple was an orphan, and had for years lived with an aunt—her father's sister. An in-

come of four hundred dollars a year had been left her, which at least supplied all necessary wants. She was not ashamed to assist her aunt about many things some would call menial; and in form and feature, heart and mind, all her acquaintances said, fully sustained the high opinion we have seen Ned Farnum had of her.

Ere the evening was over Charley Ashton had succeeded in appearing deeply in love, and not many days had passed ere he had proposed and was accepted. Of all her male acquaintances, Miss Temple had always preferred the two young men mentioned. It was true she had rather leaned to the quiet, steady Mr. Farnum, but of late he had ceased to visit her, while Mr. Ashton's presence had been almost constant. Hence she had persuaded herself that she loved him, and had accepted him.

Charley urged a speedy marriage; why bring in a conversation too long for me to detail, wherein it appeared that some of the "boys" on the "street" were fixing up a pool to buy a certain stock, and our friend Ashton wanted some of the five hundred thousand dollars to put in it. Anna Temple preferred a longer time; urged that time would make them know each other better, especially in the intimate relation they now stood. Charley vowed that he would never change, and he knew that time could never develop any faults in her.

"But," said Miss Temple, "there is another reason, and I think I can be free with you now; I have spent so much of my little income—and aunt has no spare money—that I have no means of defraying the necessary expenses."

"But you have the fortune left you by an Australian uncle, and even if you have not received it, your agent will certainly make an advance."

"I have no fortune, dear Charley. Some thought it was mine, but the fortune you allude to was left to my cousin, Miss Anna Thompson Temple, to whom I introduced you at the Philharmonic."

"Ah, it was indeed! She is a favoured young lady; and how much does she receive?"

"Report said five hundred thousand dollars, but cousin Nan has been informed by the agents that there is but ten thousand dollars in money, the rest is in houses and lots in Melbourne, valued at ninety thousand dollars."

"Ah! well, really how these things do spread. But to our matter; I guess, Miss Anna, you had better have your own way."

The hours of that evening dragged heavily along, and as they lengthened, Charles Ashton's manner became more and more formal. He left, and Anna's warm heart was sad as she thought over the cool manner and the cooler parting. No sleep came to her eyes that night.

"Can it be?" she said to herself a thousand times: "and yet it must; for his manner changed almost from my telling him of Nannie's fortune."

The next night Charley was not in his usual place, and the next and still more. About a week afterwards, a short note informed Miss Temple that, having lost all his savings in a bad speculation, he could not think of holding her to her engagement, which would be out of his power to consummate in years.

To say this did not grieve her, would be false, but it did not require many days to teach her that she had not loved Charley, as she should the man she wished to marry.

Again our two young men met. This time on

Broadway. Charley, gaily sauntering along, hailed Ned in his old familiar way:

"Well, old boy, off early to day?"

"I've been promoted, and am not obliged to work so late, though I do often; then I think of taking a ride in the park; my head has ached much of late, and I am more nervous than formerly."

"Shouldn't work so hard; don't get any thanks for it. By-the-by, that fortune of Miss Temple's turns out to be all in my eye."

"How—what's that?" was the eager reply.

"Well, a Miss Somebody Temple had about a hundred thousand dollars left her, but it wasn't our pretty little friend."

"But I heard you were very attentive, some say engaged."

"There's no telling what might have been for that of an uncle making a mistake in names. However, it's all over now. You know that I at least can't afford to marry a poor woman, no matter if she is a Peri. I know that you entertain some sort of foolish notion what love, etc., will do, but it's all bosh. Give me the dimes, my boy. When poverty comes in at the window, etc., you know. Take my advice and drop all such foolish ideas."

Ashton might just as well have talked to the lamp post for the hearing Farnum paid. What he was thinking of we cannot say, but he did not go to the park that afternoon, but the evening found him in a little parlor which had so often been graced by Charley's presence, told of his better prospects, and offered his heart and hand. She asked three weeks to consider, and he to visit her as often as he wished. At the end of that time he was accepted, and Anna learned what true love was.

Here my story might end, but there is a sequel. Some months after the engagement, Mr. Smith tapped Ned on the shoulder, and motioned him to the private office.

"Going to marry my niece?" said the gentleman.

"I am engaged to Miss Anna Temple, sir, and we expect, in a quiet way, to be married one month from to-day. But I was not aware that she was your niece."

"Neither was I until a few days since. As for your quiet way, understand me, sir, the child of my only sister, can be married nowhere else but in my house. Come now, no flinching. I've heard all about it. But she's poor—poor as Job's turkey; and I have too many children to give her more than a decent wedding."

Ned did not understand the expression on Mr. Smith's face, but he felt a little angered, and replied—

"I never should have addressed her, and I would release her this moment if I knew she was an heiress."

"No you don't, no you don't. I know you and I know the whole story. You can go."

Ned pondered long over this singular conversation, but got no satisfaction from his own thoughts or Anna. She replied only by a smile and a kiss.

Notwithstanding all the urging of her new found uncle, Anna refused to leave her aunt until the time for her wedding. That event came, and the ceremony over, Mr. Smith called the young people into his library, and drawing from his safe an iron box, said:—

"Now, young man, you're tied hard and fast, and I'll tell you that you've got an heiress, and a

rich one, too. A foolish brother of her father's who would go to Australia, took it into his head to die, not long since, and left such a blotched up will that it has taken over six months to get the straight of it. We were his agents, and kept the matter to ourselves, because it was a large sum and might create imposters. We soon disposed of the one hundred thousand dollars to Miss Anna Thompson Temple, but the contents of this box, one hundred thousand pounds in consols, we used more scrutiny in assigning, and in the course of our investigations, I not only found the rightful owner of our trust, but the child of my only sister. Sir, you are worthy of her, and what is of less value, her fortune. The mornings papers will announce you as a partner of our house."

Learning Her Value.

Just what I have been expecting for about seven years," said Miss Pauline Worthington, looking from an open letter in her hand with a frowning brow.

"Is not your letter from Herbert, Lina?" questioned Mrs. Worthington, a tiny, silver-haired old lady with a gentle expression.

"Yes, mother. Essie is very ill with low, nervous fever, and they want me to come and stay until she is better. The carriage will be sent at three o'clock, mother," and Miss Pauline's eyes snapped. "I think it is about time Bert's tyranny over that little martyr was ended. He's killing her."

"Lina! He is your brother."

"I can see his faults if he is."

"I never heard Essie complain."

"She never would. But look at her. Nine years ago when she was married she was a lively sunbeam, so bright and pretty. Now, pale, quiet and reserved, her voice is seldom heard, her smile seldom seen. A wintry shadow of her former summer brightness! Now she has broken down. You have seen her at home, but surely when she is here you see the change."

"Yes, dear, she has changed; but family cares—"

"Has Louie changed so? She has been twelve years married."

Mrs. Worthington was silent. Louie was her oldest child, and presided over the home in which her mother had been a crippled prisoner for fifteen years. She took all the household care and had five children, and yet Louie had gained in beauty, and certainly in cheerful happiness, since her marriage, even if the sport of girlhood was gone.

"Henry appreciates Louie!" said Lina; there lies the difference between her happiness and Essie's dejection. If there is any domestic trouble Henry and Louie share it, while Herbert shifts it all upon Essie. He is an habitual fault-finder."

"Perhaps, dear, Essie is not as good a housekeeper as Ellie. Herbert may have cause to find fault."

"Once in ten times he may. I never saw a faultless house or housekeeper; but Essie and her house are the nearest approach to perfection I ever did see."

"You never spoke so before, Lina,"

"Because Louie and I thought it better not to worry you with a trouble beyond your help. But firmly believing, as I do now, that Herbert is actually worrying his wife into her grave, I intend to give him a lesson, that is if you can spare me to go?"

"You must go, dear. I shall get along nicely."

So when Herbert Worthington sent his carriage, Lina was quite ready for the fourteen miles drive to her brother's house. It was a house wherein no evil spirit of repining and fault-finding should have found an abode. Spacious, handsomely furnished, with well trained servants, and all the comforts wealth could furnish, it seemed a perfect paradise to visitors. But a very demon lurked there to poison all, and this demon Lina had come to exorcise.

For the first fortnight Essie took all her time and care, the gentle spirit hovering very near the portal of the eternal home. There was a babe, too, six months old, and its wants filled all the spare moments. Herbert snarled and fretted over domestic shortcomings, but Lina peremptorily forbade all mention of these in the sick room, having the doctor's authority for saying that the patient's very life depended upon quiet.

But when convalescence commenced, Lina sent Essie and the baby to visit old Mrs. Worthington, and took control of Herbet, the older children and the household, fully determined to show her brother how far he carried his absurd habit of fault-finding.

The first dinner saw the beginning of the lesson Lina meant to teach, by practically illustrating some of Herbert's absurdities. Herbet entered the dining-room, his handsome face disfigured by a frown.

"Soup," said Herbet, lifting the tureen cover; "perfect dish-water!"

"Susan," said Lina, sharply, before Herbet could lift the ladle, "take that tureen to the kitchen and tell Jane the soup is not fit to eat."

Susan promptly obeyed. Herbet looked rather ruefully at the vanishing dish. He was especially fond of soup, and the savory fumes of the delicious dish were tantalizing. Essie would have some gentle excuse—never whipped of his dinner in that way. All dinner time Lina kept up a ding-dong at Susan about that abominable soup, till Herbet heartily wished he had said nothing about it. But his imagination had detected a burnt flavor in the pudding, and before he could remonstrate, that dish had followed the soup.

"I'll get this house in some sort of order before I leave it," said Lina, emphatically.

"Before you leave it," said Herbet, sharply. "Do you suppose you are a better housekeeper than Essie? Why, I have not a friend who does not envy me the exquisite order of my house and my dainty table."

"Herbet, you surprise me. Only yesterday I heard you say you did wish there was ever anything fit to eat on the table."

"One don't expect every word to be taken literally," said Herbet, rather sulkily. But an hour later, finding a streak of dust in the sitting-room, he declared emphatically "it was not fit for a pig to live in."

Coming into it the next morning he found the curtains torn down, the carpets taken up, the floor littered with pails, soap, and brushes, and Lina in a dismal dress, her hair tied up in a towel, directing two women, scrubbing vigorously.

"Good gracious, what are you doing?"

"Cleaning this room."

"Why, Essie had the whole house cleaned until it shone, in the fall, and didn't make half the muss," he added, contemptuously.

"Well," said Lina, slowly, "I thought this room a marvel of neatness myself, but when you said it

was not fit for the pigs I suppose you wanted it cleaned."

"The room was well enough," was the curt reply. "For mercy's sake don't turn any more of the louse upside down."

At breakfast, a tiny tear in Louie's apron caught her father's eye, and by his own angry statement she never had a decent stitch of clothes, and he did wish somebody would see to her."

Two days later a formidable dry goods bill was presented at the store, and Lina explained it to him in this wise:—

"You said, Herbert, that Louie hadn't a decent stitch, and you wished somebody would see to her, so I bought her a complete outfit. I could not see any fault myself, but of course I got more expensive articles, as you did not like those already provided. I am glad you called my attention to the poor, neglected child."

"Poor, neglected child!" echoed astonished Herbert. "Why, Lina, Essie fairly slaves herself out over those children. I am sure I never see any better dressed or neater."

Lina merely shrugged her shoulders. A month passed. Essie gained strength in the genial atmosphere surrounding Louie and her mother, while Lina ruled Herbert's home with a rod of iron. Herbert began to experience a sick longing for Essie's gentle presence. Lina took him so very literally in all he said, and yet he could not rebuke her for doing exactly what he openly wished.

A chair with a tiny spot of dirt being declared absolutely filthy, was upholstered and varnished at a cost of eight dollars. A dozen new shirts, Essie's last labor of love, being said to "sit like meal bags," were bestowed upon the gardener, and a new set sent from a furnishing store. Harry's blocks were burned at the kitchen fire when Herbert, stepping upon one, said he "would not have such rubbish in the house." Every window was opened after a pettish declaration that the "room was as hot as an oven," and an hour later the stove was fired up to smothering heat because he declared it "cold enough to freeze a polar bear."

In short, with apparently an energetic attempt to correct all shortcomings and put the housekeeping upon a perfect basis, Lina in one month nearly doubled her brother's expenses, and drove him to the verge of distraction, keeping actual account of every complaint.

But Essie, well and strong again, was coming home. On the day of her expected arrival, Lina, with a solemn face, invited her brother into the sitting-room for a few moments of private conversation.

"Herbert," she said, very gravely, "I have a proposition to make to you. You are my only brother, and I need not tell you I love you very dearly. It has really grieved me to the heart to see how much there is to find fault with in your beautiful home."

Herbert twisted himself uneasily in his chair, but Lina continued:

"You know that mother is very dependent on me, Louie having the house and children to care for, but I think she would sacrifice her own comfort for yours. So, if you wish, Herbert, I will come here permanently, to keep things in order for you."

Here Lina was obliged to pause and strangle a laugh at Herbert's expression of utter horror and dismay.

"You are very kind," he faltered, the instincts of a gentleman battling with the strong desire to tell Lina she would certainly drive him to a lunatic asylum by six months more of her model house-keeping.

"Not at all. A man who has made an unfortunate marriage certainly needs all the aid and sympathy his family can give him."

The last straw was laid upon the camel's back. Herbert spoke hotly:

"You are entirely mistaken, Lina! I have not made an unfortunate marriage. If ever a man was blessed in a wife, I am that man."

"You amaze me, Herbert," Lina cried in well-veiled astonishment.

"I do not see why you should be surprised. Essie is gentle, loving, orderly, a model housekeeper, and a perfect home angel—God bless her."

"Herbet, is that true?"

"Certainly it is true."

"I cannot believe it," was the slow response.

"Cannot believe it! Why?"

"Because"—and Lina dwelt impressively upon every word—"during the nine years of your married life, though visiting here frequently, I never heard you speak one word of encouragement or praise to Essie. I never saw one look of approbation or appreciation of any effort she made for your comfort, upon your face. Continual fault-finding, constant blame, have changed her from a happy, winsome girl to a pale, care-worn woman. Even her last illness was but the unbroken despair of a heart crushed under a load of daily censure and constant striving for the approbation never given. And you tell me now she has never failed in her duty to you. There is a grave error somewhere."

The sadly earnest tone, the face of thoughtful gravity sent every word home to Herbert Worthington's heart. He spoke no word of self-defence as Lina slowly left the room. In the profound silence that followed, conscience reviewed the past, and he knew that his sister had only spoken the truth. The habit of fault-finding, meeting no resistance in Essie's gentleness, had gained in force, till all its monstrosity stood revealed in the experience of the past month.

In the days when Essie lay dangerously ill, there had been no self-reproach like this in her husband's sorrow. He had given his wife a fair home, an ample income, frequent social pleasure, many costly gifts, and loved her faithfully, while poisoning her whole life.

"God help me," he whispered, "to conquer this fault. Essie shall hear no more fault-finding, and if I see her drooping, I will send her to mother and have Lina back again."

Never had wife and mother warmer welcome than greeted Essie. The children were unchecked in their loudest demonstration of delight. But Lina had to rush into the hall to hide her merry eyes when Herbert, kissing Essie, said:

"We must let mother have Lina now, dear, she has been very kind and worked hard for my comfort; but there is no home-fairy like my Essie."

The quick, glad look in his wife's soft eyes told Herbert that one step had been taken in the right direction. As the days glided by, and Essie found appreciation meeting every effort to add to home comfort, a word of praise for every little triumph of cookery or needlework, her pale face grew bright with untold happiness. Gradually the care-

worn expression was obliterated by one of sweet content, and Herbert found his own heart lightened by the cheerful voice, the sunny smile, the bright eyes of the Essie he had wooed years before.

And Lina, making a visit six months later, told her mother on her return :

"Herbert has learned his lesson by heart, mother. He appreciates Essie now at her value, and he lets her know it."

Miscellaneous.

TEMPERANCE ANECDOTE.—Judge Ray, the temperance lecturer, in one of his efforts, got off the following — :

"All of those who in youth acquire a habit of drinking whiskey, at forty years of age will be total abstainers or drunkards. No one can use whiskey for years in moderation. If there is a person in the audience before me whose own experience disputes this, let him make it known; I will account for it, or acknowledge that I am mistaken."

A tall, large man arose, and folding his arms in a dignified manner across his breast, said :—

"I offer myself as one whose own experience contradicts your statement."

"Are you a moderate drinker?" said the Judge.

"I am."

"How long have you drank in moderation?"

"Forty years."

"And were never intoxicated?"

"Never."

"Well," remarked the judge, scanning his subject closely from head to foot, "yours is a singular case; yet I think it is easily accounted for. I am reminded by it of a little story.—A colored man, with a loaf of bread and a flask of whiskey, sat down to dine by the bank of a clear stream. In breaking the bread some of the crumbs dropped into the water. These were easily seized and eaten by the fish. That circumstance suggested to the darkey the idea of dipping the bread in the whiskey and feeding it to them. He tried it. It worked well. Some of the fish ate of it, became drunk, and floated helplessly on the water. In this way he easily caught a great number. But in the stream was a large fish very unlike the rest. It partook freely of the bread and whiskey, but with no perceptible effect. It was shy of every effort of the darkey to take it. He resolved to have it at all hazards, that he might learn its name and nature. He procured a net, and, after much effort, caught it and carried it to a colored neighbor, and asked his opinion of the matter. The other surveyed the wonder a moment, and then said—'Sambo, I understand dis case. Dat fish is a mullet head; it haint got any brams!' "In other words," added the Judge, "alcohol effects only the brain, and, of course, those having none may drink without injury!" The storm of laughter that followed drove the moderate drinker suddenly from the house.

AN INCIDENT.—One of Tchernayeff's soldiers was charged with cutting off two fingers in order to render himself unfit for service. The soldier when taken to headquarters, admitted that he had coaxed a comrade to do him the favor. "And wero you not ashamed," asked the general, "to abandon

the field when the Turks are on the soil of your fatherland?" I am quite willing to fight the Turks was the reply, "but I wanted to see my home again." "Well," remarked the general, "you shall have a long leave of absence. Say your prayers. You shall be shot this moment." The platoon advanced, and the soldier, after making the sign of the cross, stepped in front of his executioners. Suddenly he turned to the general, and, placing in his hand a few pieces of money, said, "To be given to my wife after death." "Go," said Tchernayeff; "take them to her yourself." The man who loved his wife was pardoned by his country.

An Anecdote of Alexis.

The president has written to the Grand Duke Alexis asking, in ceremonious fashion, when he wants to come to dinner. The Russian Minister is credited with the following story:—When the young Alexis was first assigned to duty as midshipman, his vessel was wrecked off the coast of Denmark. The Admiral commanding resolved to save the young man, and ordered him to take charge of the first boat which put off from the doomed ship.

The Grand Duke disdained safety thus bought, and declined. "My duty is here," he said to the Admiral, "and I must be the last to leave the ship."

"Do you not understand, sir,?" exclaiming the Admiral, that you are under my command? And do you dare to refuse obedience to my orders?"

"I know my duty," answered the midshipman, "and I will obey any orders you may see fit to give me, except an order to leave the ship, where my duty now commands me to remain."

The Admiral gave up his point and Alexis was, as he had said he would be, the last man to leave the ship, and after landing was promptly ordered under arrest for disobedience of orders. The Grand Duke submitted without a murmur.

The Admiral sent despatches to the Emperor, detailing the affairs, and the Emperor wrote: "I approve your having placed the midshipman, Alexis, under arrest for disobedience, and I bless my boy for having disobeyed."

Children's Department.

We did not expect to have received many letters from our young friends this month as Feb. 15th is the date we named to receive the answers to the puzzles in January number. A good many have written to us, however, and we will print two or three of the letters. Some have forgotten to do as we asked about naming their age in every letter. They cannot expect to get a prize if they are so careless, for we will not know in which class to put them. We hope all will be honest with us about giving age, and say what class they are to go in. If a boy or girl will be 16 before April 1st, he cannot compete for a prize; if 13 before April 1st, he will be in the 1st or highest class; or if 10, in the 2nd or middle class; all below 10, being in the 3rd or lowest class. We can speak for the honesty of one of our little friends, who says he is "just a little over ten" and thinks we "might let him go in the lowest class." Johnnie meant no harm when he asked that, but it would not be

honest on our part to do it. So he must do the best he can, and we hope he may get one of the prizes. In our first puzzle in the January number our printer made a mistake in leaving out part of the explanation of the second diamond, which should read, "4, What we breathe. 5, A beverage." Some have supplied the deficiency all right, but to give all a chance we extend our time for receiving answers to January puzzles from February 15th to February 23th. Now send them in correct. We hope all our young friends will be particular, and write their letters to us just as well as they can. If you get into a careless way of writing you will always stick to it. If we find you are not very careful about this we will discontinue this department, for we cannot benefit you unless you try to do as well as you can. Some of the letters we receive are very neat and pretty, but others are very poorly written; and when we say *poorly*, we mean just this, that the writer could have done better if he had tried. Some of our letters are not very nicely done, it is true, but when we take into consideration the age of the writers, some of whom are only 8, they are very handsomely done, we consider. Please remember the above when you write again. We have received letters from three girls who evidently attend the same school, or are neighbors, as their answers are precisely the same. We know they compared notes in some way before they sent us their answers, from the fact that they name the same counties in reply to No. 4, and each one names only *three*. We want every boy or girl who competes to rely upon himself and not copy or ask assistance from others. A common feeling among children is to wish that others can do no better than themselves if they cannot solve all the problems that are given when prizes are to be competed for. One of our young friends is an exception to this rule. She is anxious to get a prize, but adds, "I cannot solve No. —, but I hope some one else may have it." That is what we call *healthy rivalry*, which should always exist among school children. Freddie Bell, Oxley, sends a solution of one of the High School examination questions, and signs himself "a faithful supporter of the COMPANION." John Kimmesley, (10) Napanee, says, "I cannot write very well, but I have a good head and can find the answers to puzzles as well as anybody." And so he does. Bella Hammond, (8) Askin, writes, "I have been trying to find out some of your puzzles, and I think I have found out two, but I don't know whether they are right or wrong. I could not make out the others I am going to school, and am in the Second book. I like my teacher, and have to write down my words and meanings every night." This letter is very nicely written.

Malvina Lamb (13), Avonton, writes:—"The old year has passed away with all its joys and sorrows and is gone forever. With mingled feelings we look back upon the changes which have been wrought. Prizes have been won and difficult tasks have been overcome at school, and happy days have been spent at home in the company of those we love. But the year has not been all joy, for while in some homes the circle is complete, in others the chain is broken, and many are mourning the loss of loved ones who will never return. These thoughts should lead us to improve the time while it is ours." We like this letter because it is the only one we have received that has not something nice to say about our magazine, and we have

had so much of that lately that we are anxious to receive something original. The following is from Hannah Facey (15), New Hamburg:—"My teacher often gives us questions to work out of your magazine, and although they are difficult, still we like them. He also lets me read the stories you print, and this is how I saw your puzzles. I will try them every month now and write to you." B. F. Beam, Stevensville, talks so flatteringly of his teacher that we refrain from publishing his letter. His teacher, like all good teachers, is a subscriber of the COMPANION AND TEACHER, and we desire to save his blushes. B. F. thinks "review day, Monday, is the best and jolliest day of the week," and we have no doubt it is from the interest he seems to take in his lessons. The last letter we can give this month is from W. A. Cameron (10), Williamstown, and is, in part, as follows:—"I notice that you have adopted a good plan to secure the interest and the improvement of your young readers, by giving puzzles and offering prizes for correct solutions and well composed letters. My writing is not first-class, but I am only ten years old, and spend much time in getting up my other studies. I am fit to enter the High School in almost all the subjects, but Papa will not allow me to enter yet, so I have begun Latin, and like it very well, as I do also Arithmetic, Algebra and Geometry. I am in Stocks—will soon be in Equations, and am half way through the first book of Euclid. I like solving puzzles, and if I succeed without assistance from others, I will often send you my answers, and will be pleased if my solutions will be found correct."

Our Nut Corner.

GEOGRAPHICAL PUZZLE.

(7) There are three European countries which express —

- 1st, How Robert felt after he had been out playing;
- 2nd, What he took to allay that feeling, and
- 3rd, What he spilt upon his jacket in so doing.

(8) NUMERICAL PUZZLE.

- My whole is the name of a bird.
 Without my 2, 5, 6, 7, I am a part of the face.
 " " 1, 4, 5, 7, I am a liquor.
 " " 2, 3, 4, 7, I am a covering for the head.
 " " 2, 3, 4, 5, I am a short sleep.
 " " 2, 3, 5, 6, I am an article for the toilet.
 " " 1, 5, 6, 7, I am a falsehood.
 " " 3, 4, 5, 6, I am an enclosure.
 " " 2, 3, 4, 5, I am a shallow vessel.
 " " 3, 4, 5, 7, I am an animal.
 " " 1, 3, 6, 7, I am frozen water.

(9) A PROBLEM.

A gentleman had three daughters, and in order to raise marriage portions for them, he laid aside at the birth of each child the sum of £5, and the same amount on every subsequent birthday as long as they remained under his roof. The portion of the eldest daughter, Mary, who married when 18, amounted to £95; the second, Elizabeth, who married at 21, to £105; while the youngest, Eliza, who remained a maiden until she had nearly reached her 25th year, only brought her husband £35, and yet had received all she was entitled to, and not spent one penny of it. How is this to be accounted for?

(10) A FLOCK OF BIRDS.

1. An old-fashioned cooking utensil.
2. To shrink with dread.
3. To steal and a preposition.
- 4: The noise of scissors and a vowel.
5. A country of Europe.
6. Nominal value and to decay.
7. A contest and a blot.
8. A consonant.
9. A silly person.
10. A wild fruit and a consonant.

(11) CHARADE.

My first is to study intently
 Any subject which occurs to the mind ;
 My second is the pride of his parents
 If to honor them he is inclined ;
 My third is a model of patience,
 Though only an insect weak ;
 My whole is a single letter
 Heard in every word you speak.

Answers to the above must be received by us not later than March 25, and everyone competing for a prize must write us on some subject which they may choose themselves. If they do not we will not place their letters in competition. If the prizes we offer are not sufficient to induce every competitor to try hard to obtain one of them, we do not care to waste our time over answers which cost them little or no exertion. Remember, children, and make your replies as perfect as it is possible for you to make them, and do everything in life in the same way.

Poetry.

In School-Days.

BY J. G. WHITTIER.

Still sits the school-house by the road, a ragged
 beggar sunning ;
 Around it still the sumachs grow, the blackberry
 vines are running.
 Within, the master's desk is seen, deep-scarred by
 raps official ;
 The warping floor, the battered seats, the jack-
 knife's carved initial.
 The charcoal frescoes on its wall ; the door's worn
 sill, betraying
 The feet that, creeping slow to school, went storm-
 ing out to playing !
 Long years ago a winter sun shone over it at set-
 ting,
 Lit up its western window-panes and low eaves'
 icy fretting.
 It touched the golden, tangled curls, and brown
 eyes full of grieving,
 Of one who still her steps delayed when all the
 school were leaving.
 For near her stood the little boy her childish favor
 singled ;
 His cap pulled low upon a face where pride and
 shame were mingled.
 Pushing with restless feet the snow co right and
 left, he lingered ;
 As restlessly her tiny hands the blue-checked apron
 fingered.

He saw her lift her eyes ; he felt the soft hand's
 light caressing,
 And heard the trembling of her voice, as if a fault
 confessing.

"I'm sorry that I spelt the word ; I hate to go
 above you,
 Because"—the brown eyes lower fell—"Because,
 you see, I love you !"

Still memory to a grey-haired man that sweet child-
 face is showing—

Dear girl ! the grasses on her grave have forty
 years been growing.

He lives to learn, in life's hard school, how few
 who pass above him

Lament their triumph and his loss, like her, be-
 cause they love him.

The Smack in School.

A district school, not far away,
 'Mid Berkshire hills, one winter's day,
 Was humming with its wonted noise
 Of threescore mingled girls and boys—
 Some few upon their tasks intent,
 But more on furtive mischief bent ;
 The while the master's downward look
 Was fastened on a copy-book,
 When suddenly behind his back,
 Rose, loud and clear, a rousing smack,
 As 't were a battery of bliss
 Let off in one tremendous kiss !
 "What's that ?" the startled master cries.
 "That, thir," a little imp replies,
 "Wath William Willith, if you pleashe,
 I thaw him kith Thuthannah Peathe !"
 With frown to make a statue thrill,
 The master thundered "Hither, Will !"
 Like wretch o'ertaken in his track,
 With stolen chattels on his back,
 Will hung his head in fear and shame,
 And to the awful presence came—
 A great, green, bashful simpleton,
 The butt of all good-natured fun
 With smile suppressed, and birch uprais'd,
 The threat'ner faltered—"I'm amazed
 That you, my biggest pupil, should
 Be guilty of an act so rude !
 Before the whole set school to boot—
 What evil genius put you to't ?"
 "'Twas she, herself, sir," sobbed the lad,
 "I didn't mean to be so bad—
 But when Susannah shook her curls,
 And whispered I was feared of girls,
 And dussn't kiss a baby doll,
 I couldn't stand it, sir, at all !
 But up and kissed her on the spot.
 I know—*hoo-hoo*—I ought to not,
 But, somehow, from her looks—*hoo-hoo*—
 I thought she kind o' wished me to !"

Publishers' Department.

THAT DISHONEST AGENT.—Although we have
 done all in our power to ascertain the whereabouts
 of Mr. Wicks, whose irregularities were noticed in
 our last number, we have been unable to reach him.
 We believe he has discontinued to canvass for this
 paper, and has gone to look for some new sphere of
 operation in pastures green.

In our last we stated our position quite plainly.

We authorized Mr. Wicks to receive orders for our paper, but not to collect until he delivered the premium and our certificate to our subscribers. Some, who were unfortunately made victims by his misrepresentations, feel rather sore, *professedly* because we allowed ourselves to say that under the circumstance they deserved to lose the amounts they paid, but, *in reality*, because they allowed themselves to be duped. Half-a-dozen hot-headed teachers have written us severe letters, declaring that as Wicks was our agent we are bound to fill all orders taken by him. We do not intend to argue the question, but will simply say that if we are bound to do this we are also bound to pay such hotel bills as were left unpaid in his travels. If a manufacturer employed an agent, giving him printed or written instructions to sell his implements at a certain price, to be paid in six months, would he be responsible if the agent chose to sell at half the price and gave double the time? There are always two sides to a question, and if our correspondents could have considered *our* position in this matter, and could experience one-half the amount of trouble and anxiety we have felt, and which have been brought upon us by their want of thought, they would not have been so ready to blame us, and their hastily written letters would never have come into our hands.

In this connection we may say that nearly all from whom we have heard acknowledge their error and release us from any obligation to them.

We must apologise to our readers for using even a small portion of our space to make the above remarks, which should have been entirely unnecessary, as in our last issue we said, "It is our intention to see that all subscribers lose nothing." We feel now as we did last month, that we would rather see Wicks before making any promises, but as that cannot be we have no further reason to delay our announcement, which is as follows:—

We will receive as cash from subscribers the certificates received by them from Wicks on or before Wednesday, Jan. 31st, and fill their orders for the COMPANION AND TEACHER for one year with premium crayon or chromo "Maggiore." We do this not because we are compelled to do so, but freely and voluntarily to all who exonerate us from all blame. Those who do not do this may retain their certificates if they please, and take whatever action as they may see fit to do, as we hereby positively refuse to receive as cash any certificates from such parties. We shall lose a considerable sum by filling these orders, but while we do it of our own free will, we do not propose to lose on the account of any one who cannot thank us for what we do.

And now we trust that this will end this matter, which has been so unpleasant to us, as well as, no doubt, to all concerned. The idea expressed by one of our correspondents that we have adopted this "original method to obtain popularity for our periodical" is not a bad one, and we are willing to let it drop at that, feeling assured that our action will be approved by our respectable army of readers.

We make a few liberal offers to our subscribers this month to enable them to provide some good periodicals for their families at a very low rate.

(1st.) We will send the *American Rural Home*, a splendid farmer's paper, regular price \$1.15, to any address with the COMPANION AND TEACHER, with crayon, for only \$1.75; or with chromo for only \$2.25.

(2nd.) Leslie's "Chimney Corner," "Illustrated Newspaper," and "Ladies' Journal," are standard publications, regular price of each, \$4 per annum, and will be sent to any address, post paid, with the COMPANION AND TEACHER, with crayon, for only \$4.25, or with chromo, for only \$4.75.

(3rd.) The "Matrimonial News," a highly commendable journal, "interesting to those it interests," regular price, \$2, will be mailed, post-paid, with the COMPANION AND TEACHER, with crayon, for \$2.25, or with chromo \$2.75.

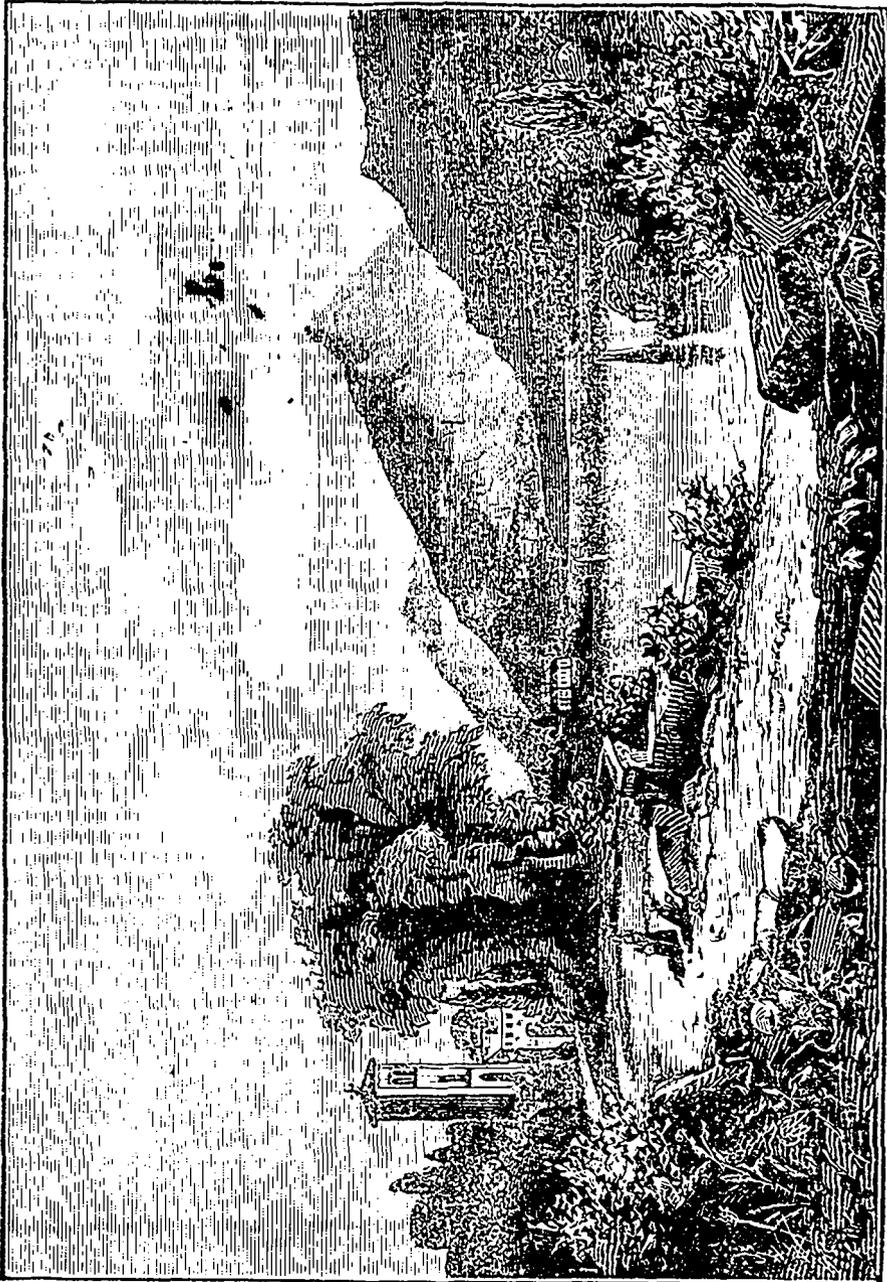
Our readers will please make the above offers known to their friends, and thereby aid us to extend our circulation, and give them a still better magazine than we do now.

In this number we think our readers will find some improvements which we need not specify. We must again apologize, however, on account of delay in issuing, and an explanation may not be out of place as some changes are being made in our business. Previous to January 1st last, our *Company* published two monthlies beside the COMPANION AND TEACHER, and also carried on a Stationary Store. At present we are closing up the latter, and of the two monthlies one has been discontinued and the other transferred into other hands. Our business in the past has been so extensive that the work has been too much of a strain upon the two persons who performed it; hence the above changes. Our readers may, therefore, expect that after March 1st, when our entire attention will be given to the COMPANION AND TEACHER, a magazine, equally as good as the specimens already furnished will be provided; and our endeavor will be to introduce from time to time such further improvements as the patronage of our readers and the assistance of our friends will enable us to make or warrant us to undertake.

We wish we could speak of all Inspectors as we can of a few, who, during the past month, have sent us, not *one* list of subscribers, but *several*, thereby adding considerably to our list. We trust that there is not an Inspector in Ontario who would not be glad to recommend the COMPANION AND TEACHER to those whom he visits. That many do not do it, we know, is because their time is largely occupied with other matters; but if they would make it a point to give our magazine one word of commendation we are sure they would receive benefit in the end themselves, besides having benefited others. Let this be a part of your business when visiting the schools, and many teachers who are anxious to learn, but who might never otherwise hear of our publication, will bless you for your trouble.

In our next number we will commence the publication of a series of short biographical sketches of the authors from whose writings the selections of our Readers are taken. These will, no doubt, prove very interesting to our readers, as they will be contributed by a gentleman who is eminently qualified to perform the work satisfactorily.

For advertising and subscription rates, and particulars concerning our premiums, *see cover*. Send in your subscription at once if you have not already done so. And if you accompany your own subscription with those of your trustees, we will consider that you have practised a good joke upon us. Try it.



ISOLA BELLA. Size, 17 x 25.

ISOLA BELLA is a rare scene in northern Italy, giving a distant view of the residence of the celebrated Barmineo family, with its beautiful environs of lake and mountain. It forms an excellent companion to our handsome premium chromo "Lake Maggiore," as all having the latter can readily see by comparing the cut above with it. So many have written to us for a mate to "Maggiore" that we have prepared a stock of the above, and will supply them at the same rate as "Maggiore," though they cost us considerably more. Send 90 CENTS at once and secure a copy of ISOLA BELLA, by mail, post-paid.

OUR CHEERFUL SONG.

WILLIAM AUGUSTINE.

1. Sing we now our cheer - ful song, Bright with youth - ful feel - ing; Soon the years will
 2. Youth and beau - ty haste a - way, Fleet - ing, daz - zling treas - ure; Sick - ness, pain, and

speed a - long, Health and vig - or steal - ing. Days and months re - fuse to wait; He who plucks his
 sor - row stay; Wings a - lone hath pleas - ure. Who can prom - ise we shall sing, Once a - gain in

flow'rs too late, Soon, a - las! will meet his fate; There's no balm for heal - ing.
 fes - tive ring, And our voic - es sweet - ly bring, Songs of joy - ous meas - ure.