

ed to do duty until marriage, at which period custom allows you to dispense with surface accomplishments, and devote yourself to the realities of life, mitigated as they are for the well-to-do. On the other hand, the moral atmosphere of the English home education is superior to that of American education in general. Girls are less forward and more respectful; they grow into women more slowly and ripen better; they are physically stronger, and therefore have simpler tastes; and as to society, they do not know what it means before at least the age of seventeen or eighteen. American girls have certain advantages, however, which custom denies young Englishwomen of good position; they are not forced by an unwritten law to go into society and play their part in it, while the English girls have no choice. The "upper ten thousand" must marry or become "blue-stockings" before the world agrees to let them alone. A young married woman may, if she choose, plead home duties as an excuse for a quiet, useful, pleasant, and studious life, uninterrupted by any but the necessary "county" civilities, which are not burdensome, but young girls are not supposed to have such duties. Parents, even when sick themselves, are loath to let the chances of the London season pass by their daughters, and depute any safe chaperon, the nearest female relation if possible, to take their girls to all the balls and parties. The rudimentary education furnished to women of the higher classes has perhaps something to do with the prevalence of "fastness" among a part of them, while to others it becomes the base of a real, later self-education, the growth of reading, observation, and thought.

—The puzzle of the period has its educational uses. It has been subjected to the scrutiny of several able mathematicians, and Professor Tait of Edinburgh has given his attention to the subject. At a recent meeting of the Edinburgh Royal Society, he read a paper on "The Theory of the Fifteen Puzzle," which is at present perplexing so many heads and fingers. The Professor began by stating that since he had given notice of his paper to the Council two papers had appeared in the *American Journal of Mathematics*, in which (as was only to be expected) most of what he had to say was anticipated. He showed that all the essential features of the puzzle were to be found in a board of four squares only with three pieces, say A, B, C. It would be seen that no possible motions could disturb the cyclic order of these—i.e., they could only be a, b, c, or c, a, b, or b, c, a, and not anyone of a, c, b—b, a, c—c, b, a. Of the first three, anyone could be changed to another by two interchanges. Hence, all that was necessary in order to find whether a particular case of the puzzle could be solved or not was to find how many interchanges would bring it to the normal form. If that number be even, the problem was possible; if odd, impossible. Dr. Crum Brown had called those cases which were solvable Aryan arrangements. These involved an even number of interchanges; the others, or Semetic, an odd number. Any odd number of interchanges made an Aryan arrangement into a Semetic one, and vice versa. Hence, when they could not solve a particular case, they had simply to turn the 6 and the 9 upside down, and all was right. We hope that our readers after this will plunge among the figures with the certainty of immediate success, and that they will not have the smallest difficulty in disentangling either a Semetic or an Aryan arrangement.—*The Schoolmaster*.

Notes and News.

NOVA SCOTIA.

The Teachers' Association for the County of Cape Breton held its first meeting at Sydney, on June 30th and July 1st. A. McKinnon, Esq., Inspector of Schools, presided, with J. A. Armstrong, Esq., as Vice-President, and B. McKittrick, Esq., B.A., as Secretary-Treasurer. Seventy-one teachers enrolled their names as members of this Association. The President, after making a few introductory remarks, introduced Dr. Allison, Superintendent of Education, who expressed his pleasure at meeting such a large body of intelligent teachers, pointed out the advantages arising from such meetings, and encouraged those present to take an exalted view of their profession. He was followed by Mr. C. P. Moore, who read a carefully prepared paper on "School Management." The paper was discussed at some length by the members of the Association. Mr. M. McKinnon, M.A., then read an elaborate essay on "Teaching of Language." He advocated some sweeping reforms, some of which were endorsed by the Superin-

tendent and others. Mr. J. A. H. Rindress opened the afternoon session with a valuable paper on "Discipline." He showed the importance of good order, and regarded the eye as the great controller of power. A very instructive illustrative lesson in "Algebra" was given by Mr. D. R. McLennan. During the day, the Rev. Messrs. Smith, Murray and McMillan visited the Association. On Wednesday evening the Temperance Hall was crowded to listen to an educational address by Dr. Allison. He traced the progress of education in Nova Scotia till the present time, and strongly urged every one to secure the best possible culture. The address was frequently applauded. Thursday morning's session opened with an "Oral Lesson in Arithmetic" by Mr. B. McKittrick, B.A., Principal of Sydney Academy. A very clear explanation of how to teach Notation and Numeration was given, and some general observations made upon the importance of this branch thoroughly taught in our public schools. This paper produced a very spirited discussion, in which a large number participated. Mr. J. N. Armstrong followed with an interesting paper on "Incentives to Study." To secure diligent preparation from pupils, he believed the teacher must study himself. Mr. C. W. Blackett read a well-written paper on "The Teacher's Rewards." While he believed that teachers should be well and promptly paid, he was convinced that one who regarded merely the "almighty dollar" was unworthy of the position. Rev. Messrs. Rendall, Coffin, Farquharson and Johnson responded to the invitation of the President, and gave excellent addresses. The programme being completed, general remarks were made by Inspector McKinnon, Principal McKittrick, Messrs. Rindress, Moore, Armstrong, Kennedy, Blackett and Morrison. The first meeting proved a most gratifying success, and the teachers expressed themselves greatly benefited by its discussions. The Association adjourned to meet at North Sydney, June, 1881.

The Encenia of King's College for 1880 took place on June 24th, and passed off in a most successful manner. None of the more prominent personages who have in past years attended these exercises—to wit, the Lieut. Governor, General, Admiral, or Chief Justice—were present, but a goodly number of visitors of a lesser degree repaired to a certain extent, at least, any deficiency in that particular. The exercises were commenced as usual with divine service in the old Parish Church. The talented President of the College, Canon Dart, preached a most excellent sermon from Proverbs, chap. 4, 7th verse. At noon the convocation services commenced in the new Hall of the College. The room was well filled with the *élite* of Windsor and surrounding districts, while the platform was graced with a goodly array of "wealth, learning and respectability."

The President commenced his opening address with appropriate reference to the deaths that had occurred in the ranks of the College during the year. He spoke in feeling terms of the deaths of Professor Howe, John Hind, Rev Dr. Cochran and Judge Bowman, and referred briefly to the services and talents of each of them. He alluded to the progress made since the last Encenia, and stated that during the year the old library room had been converted into a laboratory and chemical lecture room.

The following students passed the required examinations for the Degree of Bachelor of Arts:

Rev. George Butler (Honors in Theology). F. W. Vroom (Honors in Classics). A. E. Silver, L. E. Brackin, W. C. Hind, and W. B. King.

The following prizes were then announced and distributed:

Cogswell Scholarship, Rev. G. Butler. Binny Exhibition, Mr. G. R. Martell. McCawley Hebrew Prize, Rev. George Butler. The President's prize for English rhymed heroic verse, Mr. G. J. Peters. Hon. Senator Almon's Welsford Testimonial, Mr. F. W. Frith. General Williams' prize for Mineralogy and Geology applied to mining, Mr. M. A. Curry. General Williams' prize for Modern Languages, Mr. W. B. King. Stevenson Scholarship, Mr. H. Hensley. McCawley Classical Scholarship, Mr. F. W. Vroom. First Year Divinity Prize, Mr. F. W. Frith. Prize for Latin Verse, Mr. F. W. Vroom.

The following degrees were then conferred, with appropriate ceremonies:

MASTER OF ARTS.

James Liechti (*honoris causa*), W. J. Spencer (*honoris causa*), Rev. R. Smith, and Percy C. Scott.

BACHELOR OF ARTS.

J. O. Crisp, Halifax; W. H. Morris, Guysboro; F. W. Vroom, St. Stephens; T. R. Rutherford, Halifax; E. Jennings, Halifax.