

ciated literary and scientific societies on the work of the year previous to May, 1894. The report of the council, which appeared for the most part in *THE WEEK* some months ago, is a very interesting and valuable contribution to our historical and literary repertoire. Historical societies would do well to consider the suggestion that Canada should have a celebration in 1897 in honor of the famous voyages of John Cabot, to whom must be ascribed the first discovery, under English auspices, of British North America. Englishmen and Canadians owe much to the famous navigator and should do something to perpetuate his memory. The reports of the associated societies from all over the Dominion give a very complete survey of the literary and scientific development of Canada for twelve months. Dr. G. M. Dawson's presidential address is distinguished by his usual clearness and accuracy, and will be read with deep attention by all who wish to make themselves acquainted with the progress and trend of scientific investigation in Canada. Among other things we have a valuable summary of the most important scientific work done on our Experimental Farms, by the Geological Survey, and by the Fishery Department of the Dominion Government, with respect to the Meteorological Service and Magnetic Observatory, the Georgian Bay Survey, Tidal Observation, and other matters connected with scientific research. The report by Dr. A. H. Mackay, the able Superintendent of Education in Nova Scotia, on the work of the Botanical Club of Canada, is very full and valuable to botanists everywhere. The Royal Society, it is clear, is doing important work for Canada.

Publications Received.

- George Frederick Scott: *My Lattice*, and *Other Poems*. Toronto: Wm. Briggs; Montreal: C. W. Coates; Halifax: S. F. Huestis.
- Stanley Weyman: *My Lady Rotha*. London: Longmans Green & Co.
- John Trowbridge: *Three Boys on an Electrical Boat*. Boston: Houghton, Mifflin & Co. \$1.00.
- Laura E. Richards: *Marie*. Boston: Estes & Lauriat. 50c.
- James H. West: *In Love with Love*. Boston: Jas. H. West, 174 High St. 50c.
- Chas. E. Ames: *As Natural as Life*. Boston: Jas. H. West.
- Mrs. Burton Harrison: *A Bachelor Maid*. New York: The Century Co. \$1.25.
- L. B. Walford: *The Matchmaker*. London: Longmans, Green & Co.
- John Mackie: *The Devil's Playground*. London: F. Fisher Unwin.
- Christine Terhune Herrick: *The Chafing Dish Supper*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. 75c.
- Alice Morse Earl: *Costumes of Colonial Times*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$1.25.
- Henry Kingsley: *Ravenshoe*. 2 vols. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$2.00.
- Samuel Adams Drake: *Making of the Ohio Valley States*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$1.50.
- Archibald Forbes: *Czar and Sultan*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$2.00.
- Barrett Wendell: *William Shakspeare*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$1.75.
- H. H. Boyeson: *Norseland Tales*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$1.25.
- Rachel Sherman Thorndyke: *The Sherman Letters*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$3.00.
- J. A. Froude: *Life and Letters of Erasmus*. New York: Chas. Scribner's Sons; Toronto: Wm. Briggs. \$2.00.

Readings from Current Literature.

PROFESSOR HERMANN VON HELMHOLTZ.

The chief achievements in science, and especially in optics, acoustics, physiology and therapeutics of Professor Helmholtz, date from his accession to the chair of physiology at Koenigsberg. His first great discovery, for the benefit of innumerable sufferers from diseases of the eye, says a writer in the *New York Tribune*, was made in 1851. Reflecting one day upon the circumstance that, while it is impossible in daylight to see clearly into a room on the opposite side of the street, it is easy to do so at night when the room is artificially illuminated, and also in daytime, by reflecting into the room strong rays of light from a mirror, he was led to the invention of an eye-mirror, or ophthalmoscope, by which the interior of the eye is readily examined. He describes this invaluable device in a volume published in the same year. The results of his further investigations of the eye appeared in a work entitled "*Manual of Physiological Optics*," which was published in 1856 and has ever since ranked as one of the most important works extant on that subject. In this treatise Helmholtz gives not only the results of his own investigations, important as they are, but also one of the most complete histories of optics ever written. He also discusses the doctrine of sight perception and the analysis and appreciation of colors. This was followed by him with a second volume on the transmission of nervous impressions, a highly valuable addition to the literature of physiological science.

The university of Bonn was the scene of Helmholtz's chief investigations in acoustic physiology, in which he laid the foundation of the work which has made his name most famous in the scientific annals of the world. He here invented a method of analyzing sound by the use of hollow bodies, called resonators, in which the air vibrates in the presence of previously determined sounds. He thus discovered that the difference of quality in the tones of different musical instruments resides in the different compositions of the tones. He also discovered the acoustic origin of the vowel sounds of human speech, and not only analyzed them but also produced them artificially with tuning-forks. He demonstrated that there are but few primary sounds, as there are few primary colors, and that as the colors of most objects in nature and art are formed by combinations and modifications of the primary hues, so most sounds are complex in character. He showed that the painful effect upon the eye, caused by a faint or unsteady light, is identical in nature with the unpleasant impression produced upon the ear by a succession of shocks of sound. Indeed, it was he who first established a relationship and correspondence between sound and light by demonstrating the existence of a series of "sound colors," arranged in accordance with the laws of the solar spectrum. To him, also, are to be attributed the invention of the ophthalmometer, which measures accurately the images on the retina of the eye; the table of compound colors, produced by mixing other colors, and much of our knowledge of atmospheric vibration, of the movement of electricity in various conductors and of the motion of light and its refraction in different mediums.

It is by no means the least of Helmholtz's glory that he succeeded in popularizing the branches of sciences in which he labored, so that the masses of humanity should reap the fruit of his labors, both in knowledge and in applied results. To this end he frequently appeared before the public as a lecturer in many cities, and he was for many years in intimate co-operation with that other illustrious popular scientist, the late John Tyndall. Many of his lectures were published in English and other languages, as well as German. Among the subjects of which they treat are the conservation of force, the nature of human perception, natural philosophy, animal electricity, physiological effects of musical harmony, progress in the theories of sight, optical vision and painting, and ice and glaciers. — *Springfield Republican*.

We all laugh at pursuing a shadow, though the lives of the multitude are devoted to the chase. — *Walsworth*.

HIP-JOINT DISEASE.

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At the age of eight years I became afflicted with "Hip-joint Disease." For a year I suffered as much as it was possible for a human being to suffer. My physicians told me I would have to wait patiently, but my father procured me some of Dr. Pierce's Golden Medical Discovery, and I found my failing health restored. I can cheerfully say that I believe I owe my life to the use of that valuable medicine.

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Public Opinion.

Hamilton Herald: An Englishman named C. J. Johnstone has written a book called "*Winter and Summer Excursions in Canada*," in which he makes the remarkable statement, that of the five millions of people in Canada, about three are of pure or mixed Indian blood. Oddly enough, the London *Spectator* accepts this as a statement of fact, and gravely comments on it. Mr. Johnstone neglected to add that the other two millions of us are Chinese and Hottentots.

Quebec Chronicle: According to the New York *Tribune*, the Republicans will have a majority of over a hundred in the House of Representatives, and in the Senate their majority will be one. Nothing will be done with tariff tinkering, however, until after the Presidential and other elections of 1896. It is not at all probable that the country will restore McKinleyism. It had enough of that policy to last it many years. Changes, of course, there will be, should the Republicans get back to power, but nothing so extreme as the McKinley Bill will be accepted.

Ottawa Free Press: The act bearing upon the wild animals and birds of the province has been wisely framed for the purpose of preventing the extinction of the game. During the last session of Legislature the law was amended so as to provide that no partridge shall be sold before September, 1897. It is now shown that the law is being violated in a very open manner, and it is to be hoped the people responsible for its enforcement will see to it. It would be well if an interprovincial conference on the game laws was called together for the discussion of this very important subject, harmonizing, as far as possible, the laws, and the establishment of mutual co-operation in the direction of preservation.

Montreal Witness: Lord Rosebery's effort to end the war between China and Japan, by the mediation of all the powers, though jeered at and condemned simply because it was not immediately effectual, has at last apparently borne fruit. . . . England particularly desires peace, inasmuch as the foreign trade of China, which is suffering greatly, and is threatened with temporary destruction is for the most part with the British Empire. Why, in view of this fact, Lord Rosebery should have been hooted by Englishmen for even an unsuccessful attempt to end the war is inconceivable. But peace in the East is desirable for its own sake, even were there no danger of western nations being drawn into the quarrel.