

to lose symmetry by disturbing causes which may extend over many square degrees of surface, as distinct from local irregularities. Lamont's observations in continental Europe point to this. A first essay on a large scale has been lately made by the able and diligent magnetician, C. A. Schott, to chart the distribution of the magnetic declination of the United States for the epoch January 1885. In this work distinct notice is taken of all local disturbances in the direction of the magnetic needle, the number of observing stations being 2359. This valuable essay is published as an Appendix to the Report for 1882 of the United States Coast and Geodetic Survey.

It should be observed that in Sir Henry Lefroy's maps the lines of magnetic declination are reproduced as given by Sabine; in Mr. Schott's paper this is the only element discussed, doubtless from the more ample material at his command, and possibly from its practical value for topographical, geological, or mining purposes.

Whenever the time arrives for undertaking a magnetic survey of the British possessions in North America, Sir Henry Lefroy's Diary will be invaluable as a pioneer work. At the present time his early published magnetical and meteorological observations at Lake Athabasca and Fort Simpson are of great interest in connection with those recently made in a neighbouring region by Capt. Dawson, R.A., at the International Circumpolar Station, Fort Rae.

F. J. EVANS

EXCURSIONS OF AN EVOLUTIONIST

Excursions of an Evolutionist. By John Fiske. (London: Macmillan and Co., 1884.)

MR. FISKE is certainly one of the most successful of the writers who have undertaken the task of popularising the many new ideas which have been originated by the theory of evolution. He has not himself added anything of any importance to these ideas; but, having accepted them with enthusiasm, he represents them to the public with so much force and clearness, as well as grace of literary style, that while reading his pages we feel how the function of a really good expositor is scarcely of less value in the world than that of an originator. The applicability of these remarks to his earlier works will, we think, be generally recognised by the readers of this journal; and, if so, they are certainly no less applicable to the series of essays which we have now to consider.

The first essay is on "Europe before the Arrival of Man," and it gives an exceedingly clear and well-condensed *résumé* of the present standing of the question as to the probable date of man's appearance in geological time. Next in logical order we have three essays on "The Arrival of Man in Europe," "Our Aryan Forefathers," and "What we learn from Old Aryan Words." Within the compass of the pages allotted to them we do not think that it would be possible to give a more instructive and entertaining history than is presented by these chapters. The fifth essay is on the question, "Was there a Primitive Mother-Tongue?" which is very conclusively answered in the negative. "Sociology and Hero-Worship" is devoted to arguing the relations that subsist between a genius and the age or society in which he lives; this is appropriately followed by the essay on "Heroes of Industry," which is a kind of

historical sketch of the philosophical principles that govern the possibilities of invention. A new point of departure is taken in the next three essays on "The Causes of Persecution," "The Origins of Protestantism," and "The True Lesson of Protestantism." Here the main argument is that the rise of Protestantism and the decline of the persecuting spirit are due to an increasing recognition of the right of private judgment, coupled with an increasing refinement of moral feeling. The theory of corporate responsibility, which is more or less essential to the integrity of the social state in the earlier stages of its development, becomes gradually superseded by the theory that the individual is alone responsible for his beliefs and actions; hence the growing recognition of the right of private judgment. "The Meaning of Infancy" is a brief restatement of the author's views already published in his "Cosmic Philosophy." These are the views which deserve to be regarded as perhaps the most original that Mr. Fiske has enunciated. The general fact that the protracted period of infancy among the anthropoid apes (and therefore presumably among the brutal ancestry of man) must have had a large share in determining the evolution of man is a fact which could scarcely escape the observation of any attentive evolutionist; but Mr. Fiske is the only writer, so far as we are aware, who has treated this fact with the consideration that it deserves. Of the remaining essays, "Evolution and Religion" is an after-dinner eulogium on Mr. Herbert Spencer, "A Universe of Mind-Stuff" is an exposition of Clifford's essay upon this subject, and "In Memoriam: Charles Darwin," is a well-written obituary review of Mr. Darwin's life and work.

As we have not detected any errors on matters of fact, the only criticisms we have to make pertain to matters of opinion. In particular, it appears to us that, in his anxiety to raise the cosmic theory of evolution into a religion of cosmism (or, as he terms it, in his earlier work, "Cosmic Theism"), Mr. Fiske entirely loses the clearness of view and precision of statement which elsewhere characterise his work. Although no friend or admirer of Comte, with a strange inconsistency he follows implicitly the method of the French philosopher in blindfolding judgment with metaphor, and then, without rein or bridle, running away upon a wild enthusiasm. We have here no space to justify this general statement, but we feel sure that no sober-minded man can read the after-dinner speech or eulogy on Mr. Spencer without feeling that its extravagance runs into absurdity. We have no wish to deprive Mr. Fiske of any happiness that he may derive either from his "religion" or from his "hero-worship"; but we cannot review his essays without observing that in neither of these respects is he likely to meet with much sympathy among "men of science," to whose opinion he habitually professes so much deference.

GEORGE J. ROMANES

OUR BOOK SHELF

The Zoological Record for 1882. Being Vol. XIX. of the Record of Zoological Literature. Edited by Edward Caldwell Rye, F.Z.S., &c. (London: Van Voorst, 1883.)

ALMOST before the shadow of 1883 had passed away, the "Record of the Zoological Literature of the Year 1882"