training, are usually excellent, and to the ordinary student, for whose guidance they were evidently more especially intended, they must always prove valuable. The drawings of the violets, for example, are excellent and helpful representations of the different species of that group. In the case of the genus *Myriophyllum* in which the drawings have less of sharpness and more of the character of sketches, the species, which everyone has had difficulty in understanding from mere descriptions, can be readily recognized from the drawings.

Probably the principal fault in the general make-up of the work lies in the separation of the Latin and English indexes, a system which if carried through the third volume would sometimes make it necessary for one unfamiliar with botanical names to look in six different indexes in order to find a particular plant. It is to be hoped that the third volume will contain a single combined Latin and English index to all three volumes.

The impression is strengthened by this second volume that this work marks an epoch in the development of systematic botany in America, combining, as it does, the best of the new ideas which have been current in this country for twenty years and which had their source in the new method of systematic research in which the younger generation had been educated, based on the Darwinian ideas of genetic development.

F. V. Coville.

SCIENTIFIC JOURNALS.

TERRESTRIAL MAGNETISM FOR JUNE.

The first article, by Dr. J. A. Fleming, on 'The Earth a Great Magnet,' gives a popular exposition of the principal phenomena of the earth's magnetism. For many years it has been the custom to have a popular experimental or illustrated lecture delivered during the meeting of the British Association for the Advancement of Science, addressed especially to the artisans of the town in which the meeting takes place. This article gives the text of the discourse delivered by the author before the workingmen of Liverpool at the last meeting of the British Association. Dr. Fleming's most admirable lecture was profusely illustrated by experiments, and was presented before a very large audience in the Picton Hall. It appears in *Terrestrial Magnetism* in full for the first time.

Professor McAdie reviews and summarizes the present state of our knowledge with regard to 'The Electrification of the Atmosphere,' as set forth in the recent publications of Chree, Elster, Geitel and Schuster. The author thinks that there are good grounds for believing that the twentieth century will number among its triumphs a complete electrical survey of the atmosphere. He regards the question as to the relation between the magnetic elements and the atmospheric electric currents as the coming one.

Mr. Littlehales gives an abstract of his recent researches with respect to the establishment of 'Secular Variation Expressions of the Magnetic Inclination.' This investigation is preparatory to a future article which will give the secular change in the direction of a freely suspended magnetic needle at each of twenty-two stations distributed over the globe.

Dr. Bauer, in the next article, 'A Remarkable Law,' presents formulæ giving the diurnal range of the magnetic declination and inclination as simple functions of the magnetic inclination. The formulæ were first found empirically and then deduced theoretically by assuming that the component of the deflecting force producing the angular deflection of the needle from its mean position is inversely proportional to the force exerted on the needle by the earth's permanent magnetism. The formulæ would imply that the lines of equal magnetic inclination represent closely the lines of equal diurnal range. The author finds that the same functions hold with regard to some of the secular and distribution phenomena of the earth's magnetism.

In 'Letters to Editor' is a communication from Professor Hellman regarding Stevins's 'ΑΙΜΕΝΥΡΕΤΙΚΗ;' another from Dr. van Bemmelen discussing the non-cylic phenomena of the diurnal variations, and a third from Drs. von Rijckevorsel and van Bemmelen giving the results of their magnetic observations on the Rigi, made in 1895 and 1896.

Abstracts, Reviews, List of Publications and Notes close the number.