America. The species are divided into six sections, and the synonymy, variation, distribution, &c., of each species are given in great detail, at least in the case of well-known species. The probable evolution and phylogeny of the genus are also discussed, and to the latter subject the elaborate " Stammbaum " is devoted. The three maps show the distribution of various species of the genus. Scientific botanists should find much to interest them in Dr. Sterneck's work.

A Text-book of Insanity. By Charles Mercier. Pp. xiv + 222. (London : Swan Sonnenschein and Co., Ltd., 1902.) Price 6s. net.

MR. MERCIER addresses his little work directly to the ordinary medical student, for whom, it appears from the preface, there has hitherto been no text-book of insanity of moderate compass. For the practical student so clear and brief a description of the leading types of mental disorder from the pen of a recognised authority will be of high value. The work has also its merits from the standpoint of the theoretical psychologist, though he will probably prefer to study the author's views in his larger work, " Psychology Normal and Morbid." The account of normal mental activities by which the description of insane deviations from the normal is preceded is eminently clear and judicious. The psychologist should also be thankful to the author for discarding the bewildering nomenclature of *manias* and *phobias*, and offering a simple and intelligible classification of mental diseases, based on the distinction between forms of insanity (*i.e.* the aggregate symptoms presented simultaneously at any stage by a patient) and varieties of insanity (*i.e.* specific types of the course run by a case from first to last). Besides purely medical and psychological information, the book contains some useful remarks on the legal responsibilities of the practitioner in connection with insane patients.   A. E. T.

Leçons sur les Séries à termes positifs. Par Émile Borel. Recueillies et rédigées par Robert d'Adhémar. Pp. viii + 94. (Paris : Gauthier-Villars, 1902.) Price fr. 3·50.

THIS appears as the third instalment of Prof. Borel's lectures on the theory of functions. It is somewhat more fragmentary than its predecessors, and has, in fact, the typical qualities and defects of a set of lecture-notes. As an introduction to the memoirs of Hadamard, Mittag-Leffler and Poincaré, as well as to those of Prof. Borel himself, these chapters will be very serviceable. Perhaps the most noteworthy articles are those which deal with the theory of increment (*croissance*) ; it is there shown that there is no natural scale of orders of magnitude. In fact, an aggregate of orders of increasing functions can be constructed which is not numerable. Moreover, functions have been invented which have no regular order of increase ; thus an example is given of a function which is comparable with $exp\ x$ for an infinite number of values of the variable, and with $exp\ (exp\ x)$ for another infinite number of values. This will cause searchings of heart in certain quarters, no doubt ; even Prof. Borel remarks that " fort heureusement, les fonctions qui se présentent *naturellement* aux géomètres sont, en général, de nature plus simple."

Practical Exercises in Magnetism and Electricity. By H. E. Hadley, B.Sc. Pp. xii + 232. (London : Macmillan and Co., Ltd., 1901.) Price 2s. 6d.

THIS is an excellent collection of laboratory experiments, suitable for the higher classes in secondary and public schools. Magnetism is taken first, then electrostatics and current electricity. An appendix gives some instruction for making the necessary apparatus. The author wisely confines the experiments to those which can be performed with quite simple apparatus.

LETTERS TO THE EDITOR.

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A Remarkable Lunar Halo.

ON the night of January 19 of this year a singular lunar phenomenon was visible here. The sky had clouded over and was covered with a nearly uniform whitish sheeting of cloud, through which the brighter stars could be seen. There was no wind. The barometer stood at 29·20 inches and the temperature was 28° F. The moon, which was near the meridian, was ten and a quarter days old and had a north declination of 19°.

Surrounding the moon was the ordinary lunar halo of 45° or 50° in diameter, which is so often seen at the approach of bad weather. This ring was clearly defined on its inner edge, which was of a reddish or brownish colour ; it rapidly diffused on its outer edge and was perhaps a couple of degrees in thickness. The whole interior of the ring was darker than the sky outside of it anywhere, which is its customary appearance.

Cutting exactly through the moon, with its centre near the
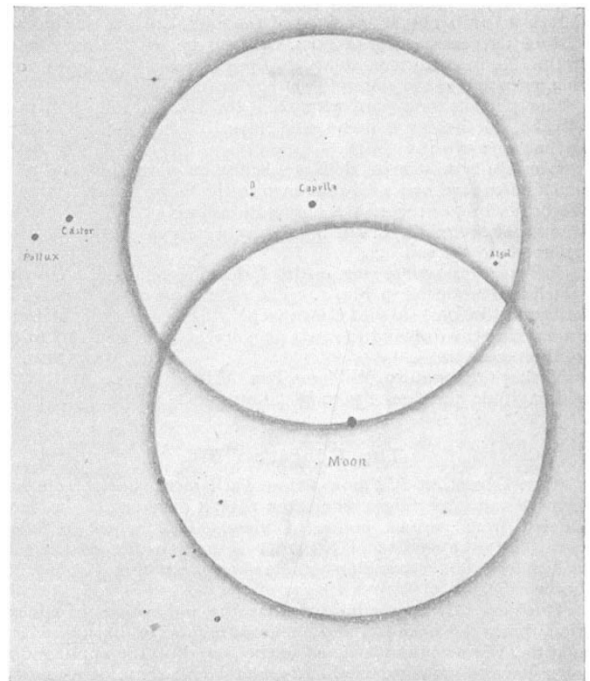

FIG. 1.—Lunar Phenomenon 1902, January 19, 9 p.m.

zenith—in the region of Capella—was another ring of apparently the same dimension and brightness, and similar to the other in every respect. It too was sharply defined on its inner edge, where it was fringed with a reddish or brownish colour. The general colour of the two rings was whitish, with a suggestion of yellow. The interior of this ring was also darker than the sky outside. There was no noticeable increase of light where the two rings intersected. They seemed to merge into one another without any evidence of the crossing.

This phenomenon was first seen at 8h. 50m. (6h. 0m. slow of Greenwich Mean Time). It was perhaps visible for some time before this. I had been observing with the large telescope when the increasing cloudiness had stopped work. It was noticed (a few minutes before seeing the phenomenon) that the seeing had suddenly got excessively bad.

The extra ring remained visible until 9h. 20m., at which time it disappeared—not all at once, but gradually and unequally.

During the time it was under observation, from 8h. 50m. to 9h. 20m., this ring revolved eastward in position angle, about