

SHORTER NOTICES.

Leçons de Cosmographie. By F. TISSERAND and H. ANDOYER.
Paris, Colin & Cie. 8vo, 369 pp., with 12 plates.

THIS is an excellent text book of its kind on elementary astronomy. It is written on the plan usually adopted in such books, as, for example, Young's General Astronomy, but it contains much less detail and information. It seems to be intended for the class of student who wishes to get some knowledge of the subject but who does not wish to go much further. The explanations are easy to follow and clearly set forth, and the reading of it will be found to furnish pleasure and interest to the student. A very slight knowledge of plane and spherical geometry and of algebra and trigonometry is all that is required to follow the demonstrations.

The main part of the volume consists of six books, occupying 237 pages, respectively devoted to general spherical astronomy, the earth, sun, moon, planets and stars. Most of the important phenomena are touched upon, though necessarily in many cases very slightly; so much space being taken up with the older astronomy, the information concerning modern physical researches has to be considerably curtailed. Next follow 30 pages of history and 100 pages containing five "Notices" reprinted from the later volumes of the *Annuaire du Bureau des Longitudes*. The latter seem somewhat out of place as they contain detailed discussions of special points which would hardly be appreciated by the class of student for whom the earlier part of the book appears to be intended.

Definite statements are of course necessary in an elementary text book to give the beginner confidence, but occasionally the authors have gone rather too far in this direction: for example, on p. 61 where the density of the earth at its center is given, without a qualifying remark, as 10.6, and on p. 82 where an inaccurate definition of the seasons is hardly made clear by the remarks on p. 93. On the other hand the historical and descriptive parts are well written and we are glad to find a chapter devoted to the explanation of map construction. There are twelve illustrative plates most of which are taken from the best recent photographs.

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