something of an innovation in works of this kind. Professor Payne's analyses of the various chapters are concise and clear, though his criticisms of Herbert Spencer's essay on education seem to leave out of sight the great influence for good that it has worked. The excellent index adds much to the practical value of the book.

Taken altogether, it is a valuable manual, and may safely be recommended to teachers and reading-circles. And for the use of the general public who are not teachers, we know no book at once so complete, and so free from technicalities.

THE STAR-GUIDE.

THIS is described in the preface as an introduction to Webb's 'Celestial objects for common telescopes,' though we should be more inclined to call it a conveniently arranged abstract of that well-known work. The compilers have tabulated in some twenty-four pages, six hundred celestial objects arranged in order of right ascension, comprising nearly every thing that can profitably be examined in our latitude with an instrument of two or three inches aperture (planets are not included). The right ascension and declination of each object is given for Jan. 1, 1886, and the mean time of passing the Greenwich meridian for every tenth day throughout the year. The introduction explains how to make allowance for a different longitude and for the change of the stars' positions by precession. Distances, position angles, magnitudes, and colors are given for double stars, and many interesting notes on the various other objects catalogued. Following this list for very small telescopes are about two hundred objects which can be seen with refractors of from four to seven inches aperture.

Perhaps the most useful part of the book is the list of two hundred and fifty test objects, divided into eight groups suitable for testing the performance of refractors varying from two to seven inches in aperture. Each of these groups contains three classes; viz., 'dividing tests, defining tests, and space penetrating tests,' — all most conveniently arranged. Several pages serve as a guide for lunar excursions, and a small table gives the positions of a dozen meteor radiants: an appendix contains information on variable stars and on the comets of 1886.

We think the book will be found useful by amateurs, and it is not to be entirely despised by the professional astronomer who is often called upon to act as celestial showman. If a chart of the moon and a small star-map (even no larger than that in Engelmann's translation of Newcomb's astronomy) had been added, it would save the trouble of frequent reference to other volumes. The price of the 'Star-guide,' we understand, is five shillings.

The star-guide: a list of the most remarkable celestial objects visible with small telescopes, with their positions for every tenth day in the year and other astronomical information. By LATIMER CLARK and HERBERT SADLER. London, *Macmillan*, 1886. 8°.

THE opening of the Euphrates valley between the Mediterranean and the Persian Gulf is one of the questions of the day, and may be regarded as complementary to the Suez Canal. If, as M. Dumont has recently pointed out to the French academy of sciences, the 1,400 kilometres which separate the Gulf of Alexandria and the Bay of Antioch from the Persian Gulf were traversed by a railway, six days would be gained in the voyage from Marseilles, Brindisi, or Salonica, to Bombay, and the hot passage of the Red Sea would be avoided. Many travellers, and also some of the more precious freight, would go by the railway. The tonnage of the Suez Canal will soon attain to 8,000,000 or 9,000,000 tons per annum; and 200,000 passengers may be expected to traverse it in the same time. Allowing that only a quarter of the passengers and one-twentieth of the tonnage goes by the new railway, M. Dumont remarks that this proportion would justifiy the making of the new line. The local traffic would also be considerable between Bagdad and the Gulf and other places. The nature of the ground presents no great engineering difficulties. The line would rise from the mouth of the Orontes near the ancient port of Salcuces, ascend the Alep to a height of four hundred and eighty metres, and descend towards the Gulf by way of Bagdad. M. Dumont estimates the total expense of construction at 250,000,000 francs. The scheme of M. Dumont is very interesting, especially after the report of Colonel Chesney to the English government; and the railway would doubtless be attended by the opening-up of the plains of Mesopotamia, which, by irrigation and cultivation, might be made to recover their ancient fertility. Some 2,000,000 acres of land would thus be recovered to civilization.

— *The housekeeper*, Minneapolis, Minn., was burned out for the second time in six years, April 12, and a part of its large subscription list destroyed, several of the ladies employed barely escaping with their lives. Such of our readers as do not receive the May number promptly, should write to the publishers, giving full address, time when subscription was made, and length of time paid for. The May number will then be fowarded, and the name restored to the list.