

of Cambridge, United States (March, 1848), and testifies to the admirable illuminating power of the refractor of that Observatory, which has an object-glass fifteen inches in diameter; since even a reflector with a speculum of eighteen inches in diameter did not reveal "a trace of the presence of a star."* Although it is probable that the cluster in Adromeda was, at the close of the tenth century, already recorded as a nebula of oval form, it is more certain that Simon Marius (Mayer of Guntzenhausen), the same who first observed the change of color in scintillation,† perceived it on the 15th of December, 1612; and that he was the first who described it circumstantially as a new starless and wonderful cosmical body unknown to Tycho Brahe. Half a century later, Bouillaud, the author of *Astronomia Philolaica*, occupied himself with the same subject. This cluster of stars, which is $2\frac{1}{2}^{\circ}$ in length and more than 1° in breath, is specially distinguished by two remarkable very narrow black streaks, parallel to each other, and to the longer axis of the cluster, which, according to Bond's investigations, traverse the whole length like fissures. This configuration vividly reminds us of the singular longitudinal fissure in an unresolved nebula of the southern hemisphere, No. 3501, which has been described and figured by Sir John Herschel. (*Observations at the Cape*, p. 20, 105, pl. iv., fig. 2.)

Notwithstanding the important discoveries for which we are indebted to Lord Rosse and his colossal telescope, I have not included the great nebula in Orion's belt in this selection of remarkable clusters of stars, as it appeared to me more appropriate to consider those portions of it which have been resolved in the section on Nebulæ.

The greatest accumulation of clusters of stars, although by no means of nebulæ, occurs in the Milky Way‡ (*Galaxias*,

* *Outlines*, § 874, p. 601.

† Delambre, *Hist. de l'Astr. Moderne*, t. i., p. 697.

‡ We are indebted for the first and only complete description of the Milky Way, in both hemispheres, to Sir John Herschel, in his *Results of Astronomical Observations, made during the Years 1834-1838, at the Cape of Good Hope*, § 316-335, and still more recently in the *Outlines of Astronomy*, § 787-799. Throughout the whole of that section of the *Cosmos* which treats of the directions, ramifications, and various contents of the Milky Way, I have exclusively followed the above-named astronomer and physicist. (Compare also Struve, *Etudes d'Astr. Stellaire*, p. 35-79; Mädler, *Ast.*, 1849, § 213; *Cosmos*, vol. i., p. 103, 150.) I need scarcely here remark that in my description of the Milky Way, in order not to confuse certainties with uncertainties, I have not referred to what I had myself observed with instruments of a very inferior