

tail of *Scorpio*, and the Altar (R. A. 16h. 45m.—19h.). All clusters in and near the Milky Way are not, however, round and globular; there are many of irregular outline, with but few stars and not a very dense center. In many globular clusters the stars are uniform in magnitude, in others they vary. In some few cases they exhibit a fine reddish central star* (R. A. 2h. 10m.; N. Decl. $56^{\circ} 21'$). It is a difficult problem in dynamics to understand how such island-worlds, with their multitude of suns, can rotate free and undisturbed. Nebulous spots and clusters of stars appear subject to different laws in their local distribution, although the former are now very generally assumed to consist of very small and still more remote stars. The recognition of these laws must specially modify the conjectures entertained of what has been boldly termed the "structure of the heavens." It is, moreover, worthy of notice, that, with an instrument of equal aperture and magnifying power, round nebulous spots are more easily resolved into clusters of stars than oval ones.†

I will content myself with naming the following among the isolated systems of clusters and swarms of stars.

The Pleiades: doubtless known to the rudest nations from the earliest times; the *mariner's stars*—Pleias, ἀπὸ τοῦ πλεῖν (from πλεῖν, to sail), according to the etymology of the old scholiast of Aratus, who is probably more correct than those modern writers who would derive the name from πλέος, plenty. The navigation of the Mediterranean lasted from May to the beginning of November, from the early rising to the early setting of the Pleiades.

Præsepe in Cancer: according to Pliny, *nubecula quam Præsepia vocant inter Asellos*, a νεφέλιον of the Pseudo-Eratosthenes.

The cluster of stars on the sword-hilt of Perseus, frequently mentioned by Greek astronomers.

Coma Berenices, like the three former, visible to the naked eye.

A cluster of stars near Arcturus (No. 1663), telescopic: R. A. 13h. 34m. 12s., N. Decl. $29^{\circ} 14'$; more than a thousand stars from the tenth to the twelfth magnitude.

Cluster of stars between η and ζ Herculis, visible to the naked eye in clear nights. A magnificent object in the telescope (No. 1968), with a singular radiating margin; R. A.

* *Outlines*, § 864–869, p. 591–596; Mädler's *Astr.*, s. 764.

† *Observations at the Cape*, § 29, p. 19.