

ponderance* on the side of the more beautiful southern heavens.

When in 1843 I requested Captain Schwinck (of the Engineers) to communicate to me the distribution according to right ascension of the 12,148 stars (from the first to the seventh inclusive), which, at Bessel's suggestion, he had noted in his *Mappa Cælestis*, he found in four groups—

| | | |
|------------------|-------------|-------------|
| Right Ascension, | 50° to 140° | 3147 stars. |
| “ | 140° 230° | 2627 “ |
| “ | 230° 320° | 3523 “ |
| “ | 320° 50° | 2851 “ |

These groups correspond with the more exact results of the *Etudes Stellaires*, according to which the maxima of stars of the first to the ninth magnitude occur in the right ascension 6h. 40m. and 18h. 40m., and the minima in the right ascension of 1h. 30m. and 13h. 30m.†

It is essential that, in reference to the conjectural structure of the universe and to the position or depth of these strata of conglomerate matter, we should distinguish among the countless number of stars with which the heavens are studded, those which are scattered sporadically, and those which occur in separate, independent, and crowded groups. The latter are the so-called stellar *clusters* or *swarms*, which frequently contain thousands of telescopic stars in recognizable relations to each other, and which appear to the unaided eye as round *nebulæ*, shining like comets. These are, the nebulous stars of Eratosthenes‡ and Ptolemy, the *nebulosæ* of the Alphonsine Tables in 1483, and the same of which Galileo said in the *Nuncius Sidereus*, “Sicut areolæ spar-sim per æthera subfulgent.”

These clusters of stars are either scattered separately throughout the heavens, or closely and irregularly crowded together, in strata, as it were, in the Milky Way, and in the Magellanic clouds. The greatest accumulation of globular clusters, and the most important in reference to the configuration of the galactic circle, occurs in a region of the southern heavens§ between *Corona Australis*, *Sagittarius*, the

* *Op. cit.*, § 795, 796; Struve, *Etudes d'Astr. Stell.*, p. 66, 73 (and note 75).

† Struve, p. 59. Schwinck finds in his maps, R. A. 0°–90°, 2858 stars; R. A. 90°–180°, 3011 stars; R. A. 180°–270°, 2688 stars; R. A. 270°–360°, 3591 stars; sum total, 12,148 stars to the seventh magnitude

‡ On the nebula in the right hand of Perseus (near the hilt of his sword), see Eratosth., *Catast.*, c. 22, p. 51, Schaubach.

§ John Herschel's *Observations at the Cape*, § 105, p. 136.