to the ecliptic.* On comparing the number of fixed stars in the Hipparcho-Ptolemaic Catalogue, *Almagest*, ed. Halma, t. ii., p. 83 (namely, for the first mag., 15 stars; second, 45; third, 208; fourth, 474; fifth, 217; sixth, 49), with the numbers of Argelander as already given, we find, as might be expected, a great paucity of stars of the fifth and sixth magnitudes, and also an extraordinarily large number of those belonging to the third and fourth. The vagueness in the determinations of the intensity of light in ancient and modern times renders direct comparisons of magnitude extremely uncertain.

Although the so-called Ptolemaic catalogue of the fixed stars enumerated only one fourth of those visible to the naked eye at Rhodes and Alexandria, and, owing to erroneous reductions of the precession of the equinoxes, determined their positions as if they had been observed in the year 63 of our era, yet, throughout the sixteen hundred years immediately following this period, we have only three original catalogues of stars, perfect for their time; that of Ulugh Beg (1437),

* Compare Delambre, *Hist. de l'Astr. Anc.*, tom. i., p. 184; tom. ii., p. 260. The assertion that Hipparchus, in addition to the right ascension and declination of the stars, also indicated their positions in his catalogue, according to longitude and latitude, as was done by Ptolemy, is wholly devoid of probability and in direct variance with the *Almagest*, book vii., cap. 4, where this reference to the ecliptic is noticed as something new, by which the knowledge of the motions of the fixed stars round the pole of the ecliptic may be facilitated. The table of stars with the longitudes attached, which Petrus Victorius found in a Medicean Codex, and published with the life of Aratus at Florence in 1567, is indeed ascribed by him to Hipparchus, but without any proof. It appears to be a mere rescript of Ptolemy's catalogue from an old manuscript of the Almagest, and does not give the latitudes. As Ptolemy was imperfectly acquainted with the amount of the retrogression of the equinoctial and solstitial points (*Almag.*, vii., c. 2, p. 13, Halma), and assumed it about $\frac{28}{100}$ too slow, the catalogue which he determined for the beginning of the reign of Antoninus (Ideler, *op. cit.*, s. xxxiv.) indicates the positions of the stars at a much earlier epoch (for the year 63 A.D.). (Regarding the improvements for reducing stars to the time of Hipparchus, see the observations and tables as given by Encke in Schumacher's *Astron. Nachr.*, No. 608, s. 113–126.) The earlier epoch to which Ptolemy unconsciously reduced the stars in his catalogue corresponds tolerably well with the period to which we may refer the Pseudo-Eratosthenian Catasterisms, which, as I have already elsewhere observed, are more recent than the time of Hyginus, who lived in the Augustine age, but appear to be taken from him, and have no connection with the poem of Hermes by the true Eratosthenes. (*Eratosthenica*, ed. Bernhardy, 1822, p. 114, 116, 129.) These Pseudo-Eratosthenian Catasterisms contain, moreover, scarcely 700 individual stars distributed among the mythical constellations.