

The spectrum of nebula and central "star" is purely gaseous. Although appearing oval to us, it is supposed to be nearly circular, but seen obliquely. It is the only annular nebula visible through small telescopes, although there are six others now known.

ϵ^1 , or Fl. 4, Binary, 4.6 and 6.3, yellow and ruddy;

ϵ^2 , or Fl. 5, Binary, 4.9 and 5.2, both white.

These are the celebrated **Double Double**, each pair probably separately revolving in a period of over two hundred years, and both pairs perhaps revolving around their common centre of gravity; but if so, the period is to be reckoned only by millenniums, for the measures of the last fifty years show no sensible orbital motion. This is by far the finest object of the kind in all the heavens.

They are 207'' apart, and, to the ordinary eye, form an elongated star; but exceptionally sharp sight will resolve them without aid. The pairs are 3''.2 and 2''.45 apart respectively, and a good $2\frac{1}{4}$ -inch glass with a power of 140 will separate each pair. The position angle of the components of ϵ^1 is 12° ; and of those of ϵ^2 , 132° ; while that of ϵ^1 and ϵ^2 is 173° . Their "double-double" character was first published by the Jesuit father Christian Mayer in 1779, although its discovery has generally been attributed to Sir William Herschel.

The distance between ϵ^1 and ϵ^2 , small as it is, is nearly twice that noticed by astronomers, in 1846,—128''—between the actual and the computed positions of the planet Uranus, a discrepancy which convinced them of the existence of a still more remote planet and led to the discovery of Neptune. Such is the marvelous nicety of modern astronomical measurements!

Between these stars lie three very much fainter, two of which, of the 13th magnitude, are the **Debilissima**, Excessively Minute, of Sir John Herschel, discovered by him in 1823.

ϵ and ζ form an equilateral triangle with Wega, the sides about 2° long; ϵ being at the northern angle. These three stars were one of the **Athāfyy** of the early Arabs.

η , a 4.4-magnitude, is **Aladfar** in the *Century Atlas*, by some confusion with the star μ ; and with θ , of the same brilliancy, was, in China, **Lēm Taou**, Paths within the Palace Grounds.

μ , of the 5th magnitude, was Kazwini's **Al Athfār**, the Talons (of the Falling Eagle), which he described as a fainter star in front of the bright one, *i. e.* west of Wega.