

the stars in a constellation, beginning usually at the head, and proceeding, in regular order, down to the feet. The order of letters in Bayer's *Uranometria* has long led to a belief that a change of light has taken place in α Aquilæ, in Castor Geminorum, and in Alphard of Hydra.

Struve, in 1838, and Sir John Herschel, observed Capella increase in light. The latter now finds Capella much brighter than Vega, though he had always before considered it fainter.* Galle and Heis come to the same conclusion, from their present comparison of Capella and Vega. The latter finds Vega between five and six gradations, consequently more than half a magnitude, the fainter of the two.

The variations in the light of some stars in the constellations of the Greater and of the Lesser Bear are deserving of especial notice. "The star η Ursæ majoris," says Sir John Herschel, "is at present certainly the most brilliant of the seven bright stars in the Great Bear, although, in 1837, ϵ unquestionably held the first place among them." This remark induced me to consult Heis, who so zealously and carefully occupies himself with the variability of stellar light. "The following," he writes, "is the order of magnitude which results from my observations, carried on at Aix-la-Chapelle between 1842 and 1850: 1. ϵ Ursæ majoris, or Alioth; 2. α , or Dubhe; 3. η , or Benetnasch; 4. δ , or Mizar; 5. β ; 6. γ ; 7. δ . The three stars, ϵ , α , and η , of this group, are nearly equal in brightness, so that the slightest want of clearness in the atmosphere might render their order doubtful; ζ is decidedly fainter than the three before mentioned. The two stars β and γ (both of which are decidedly duller than ζ) are nearly equal to each other; lastly, δ , which in ancient maps is usually set down as of the same magnitude with β and γ , is by more than a magnitude fainter than these; ϵ is decidedly variable. Although in general this star is brighter, I have nevertheless, in three years, observed it on five occasions to be undoubtedly fainter than α . I also consider β Ursæ majoris to be variable, though I am unable to give any fixed periods. In the years 1840 and 1841, Sir John Herschel found β Ursæ minoris much brighter than the Polar star; whereas still earlier, in May, 1846, the contrary was ob-

* Sir John Herschel (*Observations at the Cape*, p. 334, 350, note 1, and 440). For older observations of Capella and Vega, see William Herschel, in the *Philos. Transact.*, 1797, p. 307, 1799, p. 121; and Bode's *Jahrbuch für 1810*, s. 148. Argelauder, on the other hand, advances many doubts as to the variation of Capella and of the stars of the Bear.