

Fixed Star.	Parallax.	Probable Error.	Name of Observer.
$\alpha$ Centauri .....	0''·913	0''·070	Henderson and Maclear.
61 Cygni .....	0''·3744	0''·020	Bessel.
Sirius .....	0''·230	—	Henderson
1830, Groombridge.	0''·226	0''·141	Peters.
$\iota$ Ursæ Maj. ....	0''·133	0''·106	Peters.
Arcturus .....	0''·127	0''·073	Peters.
$\alpha$ Lyræ .....	0''·207	0''·038	Peters.
Polaris .....	0''·106	0''·012	Peters.
Capella .....	0''·046	0''·200	Peters.

It does not in general follow from the results hitherto obtained that the brightest stars are likewise the nearest to us. Although the parallax of  $\alpha$  Centauri is the greatest of all at present known, on the other hand, Vega Lyræ, Arcturus, and especially Capella, have parallaxes from three to eight times less than a star of the sixth magnitude in Cygnus. Moreover, the two stars which after 2151 Puppis and  $\epsilon$  Indi show the most rapid proper motion, viz., the star just mentioned in the Swan (with an annual motion of 5''·123), and No. 1830 of Groombridge, which in France is called Argelander's star (with an annual motion of 6''·974), are three and four times more distant from the sun than  $\alpha$  Centauri, which has a proper motion of 3''·58. Their volume, mass, intensity of light,\* proper motion, and distance from our solar system, stand in various complicated relations to each other. Although, therefore, generally speaking, it may be probable that the brightest stars are nearest to us, still there may be certain special very remote stars, whose photospheres and surfaces, from the nature of their physical constitution, maintain a very intense luminous process. Stars which from their brilliancy we reckon to be of the first magnitude, may be further distant from us than others of the fourth, or even of the sixth magnitude. When we pass by degrees from the consideration of the great starry stratum of which our solar system is a part, to the particular subordinate systems of our planetary world, or to the still lower systems of Jupiter's and Saturn's moons, we perceive central bodies surrounded by masses in which the successive order of magnitude and of intensity of the reflected light does not seem to depend on distance. The immediate connection subsisting between our still imperfect knowledge of parallaxes, and our knowledge of

\* On the proportion of the amount of proper motion to the proximity of the brighter stars, see Struve, *Stell. compos. Mensuræ Microm.*, p. clxi.