

to the observations of Mackay at Calcutta, and Maclear at the Cape, η Argûs became more brilliant than Canopus, and almost equal to Sirius.* This intensity of light was continued almost up to the beginning of the present year (1850). A distinguished observer, Lieutenant Gilliss, who commands the astronomical expedition sent by the government of the United States to the coast of Chili, writes from Santiago, in February, 1850: " η Argûs, with its yellowish-red light, which is darker than that of Mars, is at present next in brilliancy to Canopus, and is brighter than the united light of α Centauri."† Since the appearance of the new stars in Ophiuchus in 1604, no fixed star has attained to such an intensity of light, and for so long a period—now nearly seven years. In the 173 years (from 1677 to 1850) during which we have reports of the magnitude of this beautiful star in Argo, it has undergone from eight to nine oscillations in the augmentation and diminution of its light. As an incitement to astronomers to continue their observations on the phenomenon of a great but unperiodical variability in η Argûs, it was fortunate that its appearance was coincident with the famous five years' expedition of Sir John Herschel to the Cape.

In the case of several other stars, both isolated and double, observed by Struve (*Stellarum compos. Mensuræ Microm.*, p. lxxi.—lxxiii.), similar variations of light have been noticed, which have not as yet been ascertained to be periodical. The instances which we shall content ourselves with adducing are founded on actual photometrical *estimations* and *calculations* made by the same astronomer at different times, and not on the alphabetical series of Bayer's Uranometry. In his treatise *De fide Uranometriæ Bayerianæ*, 1842 (p. 15), Argelander has satisfactorily shown that Bayer did not by any means follow the plan of designating the brightest stars by the first letters of the alphabet; but that, on the contrary, he arranged the letters by which he designated stars of equal magnitude according to the positions of

* Compare Sir John Herschel's *Observations at the Cape*, § 71–78; and *Outlines of Astron.*, § 830 (*Cosmos*, vol. i., p. 153).

† Letter of Lieutenant Gilliss, astronomer of the Observatory at Washington, to Dr. Flügel, consul of the United States of North America at Leipsic (in manuscript). The cloudless purity and transparency of the atmosphere, which last for eight months, at Santiago, in Chili, are so great, that Lieutenant Gilliss (with the *first great telescope ever constructed in America*, having a diameter of seven inches, constructed by Henry Fitz, of New York, and William Young, of Philadelphia) was able clearly to recognize the sixth star in the trapezium of Orion.