

open to the air]—“be finally reduced before reaching the eye-glass to little more than  $\frac{1}{100}$ th part of the original intensity, &c.”

Acting upon this suggestion soon after Sir John's work appeared, viz. in 1848, I constructed an eye-piece on this plan, and used it for some years with my  $6\frac{1}{3}$ -inch Munich refractor. I afterwards got one made by Dollond upon the same plan, except that *both* surfaces of the glass reflector were *plane*, and the second surface was made rough in order to destroy any distinct reflection from it.

After the Meeting of the Royal Astronomical Society in December 1854, while examining the eye-piece which Mr. Hodgson had placed upon the table, and which was constructed upon the same principle, I adverted to Sir John's proposal, and expressed my opinion, that if any one's name were given to this form of diagonal solar eye-piece, it ought to be *Sir John Herschel's*.

*Hopefield, Haddenham, March 1860.*

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*Note respecting the Parallax of  $\alpha$  Herculis.* By Capt. Jacob.

I have lately been informed that objections have been made on the Continent to my discussions of the Parallax of  $\alpha$  *Herculis* ;\* first, on the ground that it is absurd to expect a difference of parallax between two stars having a large and nearly identical proper motion ; second, because there is a certain bias or personal equation to which the eye is liable in measuring double stars, depending partly on the distance from the meridian, which bias must be determined and corrected for, before any trustworthy results can be derived from the measures, as to parallax, or change of angle in any way.

Now, with regard to the first objection, it is simply inapplicable ;  $\alpha$  *Herculis* not having a large proper motion, the amount assigned in the British Association Catalogue being  $0''.05$  ; while, to assume the identity of proper motion between the pair, is simply begging the question, a factor for difference of proper motion having been introduced by me in both of my discussions.

As to the second objection, without pretending to deny the fact of such a bias generally existing, I may state that, in my own case, its influence has been found to be very small ; in fact, nearly insensible, excepting when the object has been near the zenith, or otherwise so situated that it could not be observed comfortably, and such positions I have, therefore, habitually avoided when practicable.

\* In volume of *Madras Results* for 1848-52 (Appendix), and in vol. xxviii. of the *Mem. R. Ast. Society*.

But to obviate any possible objection on this score, in the case of  $\alpha$  *Herculis*, I was careful to take all the measures as nearly as possible under similar conditions; viz., nearly all by daylight, and all those which would tell strongly on the parallax, on the same side and about the same distance from the meridian; considering that prevention was (in such a case emphatically) better than cure. This has been already stated in the first discussion in the Appendix to the Madras volume for 1848-52, at p. 21, but as the statement seems to have been overlooked, I have taken the liberty of calling the attention of astronomers to it.

The parallax being but small, had its amount depended on the application of any such uncertain corrections, I should, for my own part, have considered the determination as of very small value.

*Malvern, April 5, 1860.*

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*Note on one of the Minute Companions of  $\sigma$  Orionis.*

By the Rev. T. W. Webb.

My attention was some time ago directed to the smallest star of the principal group connected with  $\sigma$  *Orionis*, designated as  $a$  in the Bedford Catalogue, by a communication received from Thomas Warner, Esq., of Brighton, in which he states that, while pointing his telescope, of  $3\frac{1}{4}$  inches aperture and 4 feet 4 inches focal length, for a friend, on November 22, 1859, he was surprised to see, at the first glance, what he had not seen before; something which a moment's attention showed him to be a star, on the left of the chief star in the group. He was not thinking at the time that there was a small star to be looked for, and he certainly had not any knowledge where to look for it. He has since seen it several times, but never so clearly as on that day; however, in the beginning of the present year, a boy, who was staying with him, said he saw three stars in a row with the bright one, and that the smallest was to the left of the others. When Mr. Warner saw it, it was about as easy an object as the companion of  $\zeta$  *Persei*, and certainly at that time easier than that of  $\kappa$  *Geminorum*. At the date of his communication (January 12) the latter was much less difficult than  $a$  in  $\sigma$  *Orionis*: hence, though atmospherical circumstances may have been the cause, he is rather disposed to infer variable light; and supposes that it may have been near its minimum when the elder Herschel, and subsequently Herschel junior and South, observed the others; that it may have been brighter when Struve said of it, "quanquam non est valde debilis," and classed it 10.3, like the companion of  $\lambda$  *Geminorum*; that it may have been brighter still when Smyth classed it 11, and the