



PHILOSOPHICAL
TRANSACTIONS.

I. *An Observation of the Variation of Light in the Star Algol.*
In a Letter from Sir Henry C. Englefield, Bart. F. R. S.
and S. A. to Joseph Planta, Esq. Sec. R. S.

Read November 6, 1783.

SIR,

July 3, 1783.

HAVING been fortunate enough, from the fineness of the last night, to make a satisfactory observation of the variation of Algol, I lose no time in communicating it to the Society.

The last visible period was June the 10th, when Mr. AUBERT, as well as myself, observed it, though imperfectly,
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and thought the time of its greatest diminution was about $2\frac{1}{2}$ h. in the morning; calculating from thence by Mr. GOODRICKE's period of 2 d. 20 h. 48', the time of least brightness was to be about one o'clock this morning.

All the following observations were made with an excellent night-glass, magnifying about eight times, with a field of 5° , in which therefore Algol and the ρ were distinctly visible at once.

I first looked out at midnight, and readily found the star, though hardly visible to the naked eye from the vapours near the horizon. It appeared much bigger than the ρ , and full as big again as the π , also in the field at the same time.

At $12\frac{1}{2}$ h. I looked again, and saw but little difference, as Algol was then also evidently much brighter than ρ . I at that time faintly perceived it with the naked eye.

At 1 h. 10' the star was but very little bigger than ρ , the diminution having gone on most rapidly in the interval between the two last observations. Though higher above the horizon it was much less (if at all) visible to the naked eye.

At 1 h. 35' it was, I think, diminished (though but little) since the former observation. It was still, however, a very little larger than ρ , but not at all visible to the naked eye.

At 2 h. it was scarce at all altered from the last observation; but, if any thing, seemed recovering its light.

I had meant to observe its progress still further; but returning to the glass at half an hour after two, clouds had suddenly covered the whole sky.

The fact of the diminution of Algol is, however, fully confirmed (if confirmation was wanting) by this observation, and the accuracy of the period fixed by Mr. GOODRICKE ascertained,

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tained, as the phænomenon was certainly within half an hour of the time fixed by Mr. GOODRICKE, which, divided on eight periods, gives only an error of four minutes on the length of it; and a nearer coincidence is not to be expected in a matter of this nature, where estimation is the only means of determining the brightness, and two persons can hardly agree within a few minutes, from the difference of sight.

I am, &c.

