

"It has occurred to me, however, that it may not be uninteresting to the Members to learn that all four components of that group are very readily (I had almost said easily) visible in my $7\frac{1}{3}$ -inch Alvan Clark refractor, and that I should be inclined to attribute (as has been remarked by Mr. Dawes) any difficulty in catching up the small star 'B' less to its faintness than to its proximity to the brighter star 'A.' We have an illustration of this same principle in the case of the celebrated 'sixth star' in the nebula of *Orion*, for securing which sharp definition is far more necessary than great light in a telescope.

"From observations on Dec. 10, 12, 15, 20, I estimate the magnitudes of the members of the group (222 P. I.),

$$A \ 9.4 : B \ 11.3 : C \ 10.1 : D \ 6;$$

or reducing to Prof. Struve's scale (which is also that of Mr. Dawes),

$$A \ 8.5 : B \ 9.9 : C \ 9.1 : D \ 6$$

"A comparison of these with Mr. Dawes' values seems to indicate that I have rated them rather too high. A and C, however, accord well with Σ 's estimates in the *Mens. Microm.*

"A rough set of wire-micrometer measures, on Dec. 12, yielded the following results, which are, of course, approximate merely:—

| A B | Angle of Position | $50^\circ \pm$ | Distance | $2\frac{1}{2}'' \pm$ | Estimated. |
|-----|-------------------|----------------|----------|----------------------|------------|
| A C | — | 166.4 | — | 37.3 | |
| A D | — | 360.8 | — | 133.6 | |

"By differentiating D with β *Arietis*, I at once recognised it as the star observed by Piazzi (*Hora* i. No. 222), and was not long in coming to the conclusion that, somehow or other, the magnitudes of A and D in the *Bedford Catalogue* had been interchanged. This little oversight being rectified, the magnitude values of the various meridian and extra-meridian observers are found to be in admirable accordance, and the invariability of the group settled apparently beyond a doubt."

Observations of Comet II. 1862, taken at the Observatory of J. Gurney Barclay, Esq., at Leyton, Essex, and communicated by him. By Hermann Romberg.

The following observations of Comet II. 1862 were taken with the ring-micrometer on the large Refractor, and are corrected for refraction and parallax:—

| 1862. | G.M.T. | | | Comet's R.A. | | | Comet's Decl. | | | |
|---------|--------|----|------|--------------|----|-------|---------------|----|------|------------|
| | h | m | s | h | m | s | ° | ' | " | |
| July 31 | 10 | 53 | 28.8 | 5 | 54 | 13.92 | +73 | 2 | 36.4 | <i>a</i> |
| Aug. 1 | 13 | 1 | 31.2 | 5 | 58 | 56.46 | 73 | 39 | 19.1 | <i>b</i> |
| 3 | 12 | 44 | 8.5 | 6 | 9 | 25.21 | 74 | 52 | 0.3 | <i>c</i> |
| 5 | 9 | 25 | 37.0 | 6 | 22 | 17.11 | 76 | 4 | 58.8 | Meridian. |
| 7 | 9 | 38 | 38.5 | 6 | 41 | 30.61 | 77 | 31 | 38.7 | <i>d</i> |
| 14 | 11 | 15 | 55.6 | 9 | 46 | 35.95 | 82 | 0 | 29.3 | <i>e</i> |
| 15 | 12 | 3 | 3.9 | 10 | 38 | 50.71 | 81 | 55 | 3.0 | <i>f g</i> |
| 18 | 8 | 55 | 32.3 | 12 | 54 | 24.60 | 79 | 8 | 42.1 | <i>h</i> |
| " | 9 | 4 | 17.9 | 12 | 54 | 37.06 | 79 | 8 | 7.7 | <i>i</i> |
| 22 | 9 | 29 | 10.3 | 14 | 35 | 48.21 | 68 | 58 | 10.7 | <i>k</i> |
| " | 12 | 28 | 53.4 | 14 | 37 | 43.63 | 68 | 32 | 13.3 | <i>l</i> |
| 23 | 10 | 56 | 23.3 | 14 | 50 | 38.49 | 65 | 7 | 29.6 | <i>m</i> |
| 24 | 12 | 30 | 54.0 | 15 | 2 | 44.51 | 60 | 46 | 22.6 | <i>n</i> |
| " | 13 | 21 | 2.8 | 15 | 3 | 6.47 | 60 | 37 | 19.0 | <i>o</i> |
| " | 14 | 4 | 2.4 | 15 | 3 | 23.50 | 60 | 29 | 35.3 | <i>o</i> |
| 25 | 10 | 57 | 50.8 | 15 | 11 | 32.73 | 56 | 32 | 40.7 | <i>p</i> |
| " | 11 | 30 | 52.4 | 15 | 11 | 44.36 | 56 | 26 | 4.9 | <i>q</i> |
| 27 | 12 | 16 | 19.9 | 15 | 26 | 37.13 | 46 | 0 | 31.0 | <i>r</i> |
| 28 | 11 | 55 | 26.4 | 15 | 32 | 33.15 | +40 | 13 | 14.4 | <i>s</i> |

Mean Places of the Stars of Comparison for 1862.0.

| | R.A. | | | Decl. | | | |
|----------|------|----|-------|-------|----|------|---------------------------|
| | h | m | s | ° | ' | " | |
| <i>a</i> | 6 | 1 | 15.42 | +72 | 59 | 17.0 | Arg. Zon. and Radcl. Cat. |
| <i>b</i> | 6 | 0 | 11.71 | 73 | 45 | 11.0 | A. Z. |
| <i>c</i> | 6 | 4 | 39.03 | 74 | 53 | 38.3 | " |
| <i>d</i> | 6 | 41 | 33.51 | 77 | 24 | 22.7 | " |
| <i>e</i> | 9 | 17 | 8.06 | 81 | 55 | 53.5 | Radcl. Cat. |
| <i>f</i> | 10 | 26 | 29.11 | 81 | 51 | 16.1 | Redhill Cat. |
| <i>g</i> | 10 | 28 | 8.04 | 81 | 57 | 11.1 | " |
| <i>h</i> | 12 | 51 | 46.93 | 79 | 14 | 51.3 | A. Z. |
| <i>i</i> | 12 | 56 | 29.83 | 79 | 10 | 56.9 | " |
| <i>k</i> | 14 | 35 | 27.52 | 69 | 2 | 45.5 | " |
| <i>l</i> | 14 | 36 | 25.48 | 68 | 37 | 1.8 | " |
| <i>m</i> | 14 | 51 | 50.93 | 65 | 12 | 24.4 | " |
| <i>n</i> | 14 | 58 | 13.51 | 60 | 44 | 51.1 | Radcl. Cat. |
| <i>o</i> | 15 | 0 | 13.46 | 60 | 33 | 51.7 | " |
| <i>p</i> | 15 | 10 | 2.56 | 56 | 38 | 2.6 | " |
| <i>q</i> | 15 | 12 | 20.76 | 56 | 31 | 10.2 | A. Z. |
| <i>r</i> | 15 | 27 | 18.48 | 46 | 6 | 6.2 | " |
| <i>s</i> | 15 | 31 | 2.81 | +40 | 17 | 15.3 | Radcl. Cat. |

I watched with great interest the very remarkable pheno-

mena presented by the nucleus, but was unable to take measures of the luminous streamer on account of the wire-micrometer being unfortunately under repair.

Mr. G. Barclay's observatory is situated at Leyton, in Essex, in longitude $0^h 0^m 0^s.8$ W., and latitude $51^\circ 34' 34''$ N. This determination was obtained by Mr. John Worden, by connecting it with a point in the Trigonometrical Survey close at hand. The instruments are a fine Refractor, by Cooke and Sons, of York, of 10 inches aperture and 12 feet focal length. The mounting is upon the well-known German principle, and unites beauty of workmanship with great firmness and solidity. To the Refractor is attached a spider-line and double-image micrometer, the former being chiefly intended for measures of double stars. In order to facilitate these measures, an excellent driving-clock by the same maker was added in the past summer, which has given perfect satisfaction. It is proposed to measure, as far as practicable, the stars in W. Struve's last Pulkova Catalogue, Bessel's selected list, the known revolving double stars, and a number observed by Admiral Smyth in the Bedford Cycle. Observations of the fainter Small Planets it is hoped to procure, with a new wire-micrometer provided with illuminated wires in a dark field.

The Observatory contains also a Meridian-Circle by Troughton and Sims, the telescope having an aperture of 4 inches and focal length of 4 feet; the circles are 3 feet in diameter, divided to every five minutes, and read by four microscopes. The inclination of the instrument is determined by a level, and the errors of azimuth and collimation by observing northern stars and reversing. I hope to make a good use of this instrument, not only for the common determinations of time, longitude, and latitude, but for observations of Planets, and later for ascertaining the positions of Comparison-Stars.

The Sidereal Clock is by Simmons, and has a very satisfactory rate. In September and October I obtained some observations of *Mars* in opposition, using also the method recommended by the Astronomer Royal. The weather, however, was generally unfavourable. Since that time I have carefully examined the screw of the wire-micrometer, and have now measures of about 80 double stars, in part of which the double-image micrometer was employed. It is right to state that the mounting of the instruments was superintended by Mr. John Worden.

*J. Gurney Barclay's Observatory,
Leyton, January 4, 1863.*