

The quantities in Table III., arranged in series of ten years, show as follows :—

$$\begin{array}{cccccccccc} 1836. & 1837. & 1838. & 1839. & 1840. & 1841. & 1842. & 1843. & 1844. & 1845. \\ -^s.005 & -^s.030 & -^s.012^* & -^s.005 & -^s.035 & +^s.007 & -^s.008 & +^s.030 & +^s.008 & +^s.003 \end{array}$$

* Excluding the result for 1848, which is somewhat anomalous, the result would be $-^s.030$.

This apparent period may be purely accidental, but a correction may be fairly represented by the expression

$$+ 0^s.02 \cos (T - 1844) 36^\circ.$$

As the accidental errors existing in the correction to the right ascensions of the clock-stars derived from the discussions of the position of the ecliptic appear to be large, it would seem inexpedient to refer catalogues extending over a short period of time directly to the corresponding observations of the Sun in preference to basing the right ascensions on a well-determined system of clock-stars.

As an instance of the uncertainty of the actual value of this correction, the 1840 and 1845 Greenwich Catalogues afford instructive examples, for in the Introduction it is shown that after the clock-stars have been all reduced to the same system, the correction for epoch for the years 1836-41 is $-0^s.110$, and for the years 1842-48 is $-0^s.043$.

On the Proper Motion of B.D. +25°, No. 2874.

By Walter W. Bryant.

This star is a wide companion of *c Boötis*, which appears in most catalogues with a well-determined P.M. of $+0^s.0116$ in R.A. and $+0''.191$ in N.P.D.

Baron d'Engelhardt measured this among his Bradley's wide pairs, and from his observations, made in 1887 and 1889, suspected that the faint star had also a P.M. Finding a meridian observation of the star in B.D. (vol. vi.), which confirmed this view, he wrote to Professor Schönfeld, who assured him that he had no reason to suspect the accuracy of the Bonn observation.

Combining this with his own observations, the Baron obtained for this star a P.M. of $-0^s.0642$ in R.A. and $-0''.408$ in N.P.D. He notes the magnitude as 9.5 (fainter than 9.2 given in B.D. But being apparently desirous to risk nothing on the accuracy of a single meridian observation, he continued his measures in 1893 and 1895, and from his own sets (11 measures in all) he obtained a revised value of P.M. in R.A. $-0^s.0666$, and in N.P.D. $-0''.631$.

It will be noted that the agreement in R.A. is fair, but in N.P.D. very poor.

After a fruitless search through many catalogues and volumes of observations I discovered a single observation of the star made at Vienna in 1836, over two wires only in R.A. and without any N.P.D., which, by differentiating from the observation of *c Boötis* taken just before it, gave a difference of R.A. of $18^s.8 \pm 0^s.2$, from which the R.A. of the star in question is half a second too great compared with the later observations.

On account of the suspected large P.M. the star was entered in the Greenwich Working Catalogue, and three observations have been secured this year, giving the place of the star.

	R.A. 1896'o.	N.P.D. 1896'o.
Apr. 22	15 2 57.56	64 40 41.13
May 11	15 2 57.53	64 40 42.93
14	15 2 57.43	64 40 43.43

(reduced without P.M. to 1896'o.).

Combined with the Bonn observation these give—

P.M. $-0^s.0632$ in R.A. and $-0''.479$ in N.P.D.,

thus confirming the smaller values obtained before from the Bonn observation, and perhaps casting doubts on its accuracy.

But though the accuracy of single meridian observations may be very well despised there will be noted a peculiar run in the three Greenwich observations. Now a star with a P.M. amounting to over $1''$ of arc may be very readily suspected of having an appreciable parallax.

The above star is in opposition on May 8, so that if it have any parallax there would be a great difference between observations a month before and a month after this date, amounting in R.A. to the whole of the semi-annual parallax.

Also being some 42° north of the ecliptic, its parallax in N.P.D. will make that element a minimum about opposition.

So the Greenwich R.A.'s as they diminish through opposition give some evidence of parallax in R.A., while the N.P.D.'s, though they do not indicate any minimum, yet are increasing after opposition, as would be expected on the above hypothesis.

Again, Baron d'Engelhardt's observations, which indicate a smaller R.A. than the Greenwich ones, are none of them earlier than the end of June, when the parallax in R.A. would tend to make it smaller, while the progressive change due to it is then so small that it would easily escape notice. In N.P.D. it would be noticeable at that time (though of course never so much so as in the R.A. before and after opposition), and, curiously enough, Baron d'Engelhardt's N.P.D. observations do not give so near an agreement as his R.A.'s, the observations of 1889, which were

made in July, standing out in both elements from those of the other three years, made towards the end of June.

It seems quite possible, therefore, that this star will repay observations made east of the meridian in the winter, and a very few measures would suffice to show whether the investigation were really worth pursuing.

The distance of the star from *c Boötis* is roughly $13\frac{1}{2}$ seconds following and nearly $3'$ north.

*Occultations of certain Stars in Præsepe by the Moon on 1896
October 1, visible at Greenwich.*

(Communicated by the Superintendent of the "Nautical Almanac.")

The following table gives the particulars of the Occultations of the brighter stars in Præsepe on October 1 next, as visible at Greenwich. The places of the stars have been taken from Schur's *Die Oerter der hellern Sterne der Præsepe*.

If it should be found possible to observe any fainter stars in Schur's list than those included in the following table, the circumstances of their occultation can easily be deduced graphically, with sufficient accuracy for the purpose of identification, from the data of the table.

The time of Sun rise at Greenwich is $18^h 4^m$.

Occultations visible at Greenwich, 1896 October 1.

The Angles are reckoned from the North Point and Vertex of the Moon's limb towards the East.

Star's Name	Schur's No.	Mag. (B.D.)	Disappearance.			Reappearance.		
			G.M.T.	North	Vertex.	G.M.T.	North	Vertex.
			^h ^m	^o	^o	^h ^m	^o	^o
38 Cancri	No. 15	7.0	16 13	79	118	17 14	321	355
BD + 20° 2150	No. 17	7.2	16 24	125	165	17 32	273	305
BD + 20° 2166	No. 27	7.3	16 34	91	129	17 41	310	341
ε Cancri	No. 31	7.2	16 40	115	153	17 52	286	315
42 Cancri	No. 34	7.1	16 46	73	110	17 44	329	359
BD + 20° 2175	No. 37	7.7	16 53	99	136	18 4	303	330
BD + 19° 2069	No. 26	7.0	17 0	163	199	17 43	237	268
BD + 20° 2185	No. 43	7.5	17 46*	22	53			

*Nautical Almanac Office,
1896 June 6.*

* A near approach.