construction of particular tables for each satellite. The Valz Prize has been awarded to Dr. Spörer for his researches on sun-spots,-his discovery of the striking relationship between the distribution of the spots in latitude and the epochs of their maxima and minima receiving especial notice.

Fabry's Comet.-The following ephemeris from elements he has recently computed is given by Dr. S. Oppenheim in the Astr. Nach., No. 2702 :-

## Ephemeris for Berlin Midnight



Barnard's Comet.-Dr. J. von Hepperger has computed the following parabolic and elliptic elements for this comet:-

|  | ${ }_{\text {Prarabola }}^{\text {Pa }}$ |  | Ellipse |
| :---: | :---: | :---: | :---: |
| $T$ | 1886 May 6.2586 | ... | 1886 May 4'5165 |
| $\omega$ | 118 57 <br> 179  | ... | 121 4 <br> 1 21.9 |
| $\Omega$ | 674252.2 | ... | 6837197 |
| $i$ | $872430 \%$ | ... | 82516.2 |
| $\log q$ | 9.695574 | $\ldots$ | 9.665966 |
| $\log a$ |  | $\ldots$ | I 336444 |
| $\log e$ |  | $\ldots$ | 9.990625 |

Error of the middle place ( $\mathrm{O}-\mathrm{C}$ ).

$$
\begin{array}{ll}
d \lambda=-2^{\prime \prime} \cdot 4 & d \lambda=+4^{\prime \prime} \cdot \beta \\
d \beta=-3 \cdot 9 & d \beta=+1 \cdot 9
\end{array}
$$

The following ephemeris is by Dr. A. Krueger :-

## Ephemeris for Berlin Midnight



## ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 7ANUARY 10-16

(FOR the reckoning of time the civil day, commencing at -Greenwich mean midnight, counting the hours on to 24, is here employed.)

## At Greenwich on $\mathcal{F}$ anuary 10

Sun rises, 8 h .5 m. ; souths, $12 \mathrm{~h} .7 \mathrm{~m} .51 \cdot 1 \mathrm{~s}$. ; sets, 16 h .11 m. ; decl. on meridian, $21^{\circ} 55^{\prime} \mathrm{S}$. : Sidereal Time at Sunset, 23 h .3 Im .
Moon (at First Quarter on Jan. 13) rises, roh. 17 mm ; souths, 15h. 56 m . ; sets, 2 Ih .45 m . ; decl. on meridian, $4^{\circ} 4 \mathrm{I}^{\prime} \mathrm{S}$.

| Planet |  | Rises | Souths |  | Sets | Decl. on meridia |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| Mercury |  | 625 | 1027 |  | 1429 |  |  |  |
| Venus | $\ldots$ | 941 | 1455 | $\cdots$ | 20 | $\ldots$ |  | 43 S . |
| Mars |  | $2153 *$ | 424 | ... | 10 55 | ... | 5 | 21 N . |
| Jupiter |  | $23{ }^{\text {7 }}$ |  | ... |  |  | 1 | 5 S . |
| Saturn |  | 1444 |  |  |  |  |  |  |

* Indicates that the rising is that of the preceding evening and the setting that of the following morning.

Occullations of Star's by the Moon


|  | Phenomena of Fupiter's Satellites |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jan. |  | h. m. |  | Jan. | h. m. |  |
| II | ..* |  | II. ecl. disap. | 14 | ... 2353 | I. ecl. disap. |
| 13 | ... | 129 | II. tr. ing. | 15 | ... 316 | I. occ. reap. |
| 13 | $\ldots$ | 415 | II. tr. egr. | 16 | ... 025 | I. tr. egr. |
| 13 | $\ldots$ | 524 | I. ecl. disap. | 16 | ... 459 | II. tr. ing. |
| 14 | ... | 342 | I. tr. ing. | 16 | . 745 | II. tr. egr. |
| 14 | ... | 557 | I. tr. egr. |  |  |  |

The Occultations of Stars and Phenomena of Jupiter's Satellites are such as are visible at Greenwich. Attention may be drawn to the Occultations occurring on the evening of January 16 , and especially to that of Aldebaran.

| Jan. |  | h. |  | Saturn in conjunction with $\mu$ Geminorum and |
| :--- | ---: | ---: | ---: | ---: |
| IO | $\ldots$ | I2 | $\ldots$ | less than $I^{\prime}$ north of that star. |

I3 $\ldots$ - $\ldots$ Venus at her point of greatest evening brilliancy.


## Meteor Showers

The cloudy weather generally prevailing at this season of the year greatly interferes with meteor-observation, but a number of fairly active radiants have been observed, the following amongst others :-From the constellation of the Lynx, R.A. $104^{\circ}$, Decl. $53^{\circ} \mathrm{N}$. ; from Coma Beren, R.A. $181^{\circ}$, Decl. $35^{\circ}$ N.; from near $\chi$ Cygni, R.A. $295^{\circ}$, Decl. $53^{\circ}$ N. Large meteors should be looked for on January 15, 16, and 17 .

## STANDARDS OF WHITE LIGHT

THE experimental work of the Committee during the past year has not been extensive, as they had no funds at their disposal for experimental research, and they have been chiefly occupied with reviewing what has been done in the past and laying plans for future operations.

Lord Rayleigh has constructed an instrument which he calls a monochromatic telescope, by means of which the illuminated screens of a photometer may be examined, allowing light only of one definite colour to pass. It was hoped by Lord Rayleigh that experiment might show that, with some suitably-chosen colour, this instrument, used with any ordinary photometer, would, in comparing lights of different intensities and temperatures, give to each a candle-power which would be sufficiently accurate to represent for commercial purposes the intensity of the light. The Secretary has made some experiments at the Society of Arts, where he was kindly permitted to use the secondary batteries and glow-lamps; but the results so far are not definite enough to justify their publication.
Mr. Vernon Harcourt has been engaged on an investigation on the barometrical correction to his pentane standard, and on another concerning the possibility of using lamp-shades as a protection from air-currents. His researches are communicated independently to the meeting.

Capt. Abney and Col. Festing have continued their observations on the intensity of radiations of different wave-lengths from incandescent carbon and platinum filaments at different
${ }^{1}$ Report of the Committee, consisting of Prof. G. Forbes, Capt. Abney, Dr. J. Hopkinson, Prof. W. G. Adams, Prof. G. C. Foster, Lord Rayleigh, Mr. Preece, Prof. Schuster, Prof. Dewar, Mr. A. Vernon Harcourt, and Prof. Ayrton, appointed $f$ or the purpose of reporting on Standards of White Light. Drawn up by Pr f. G. Forbes (Secretary).

