construction of particular tables for each satellite. The Valz Prize has been awarded to Dr. Spörer for his researches on sunspots,—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

1886			Ap	p. R	.A.		App. Decl.				Log. A	Log. r		Bright-	
Jan.	9		h. 23	m. 36	s. 33		°21	12	51		0.2478		0.2523		ness. 1'40
•	II	•••		35	0			20	38						
	13			33	35	•••		29	19		0'2514		0.5385	•••	1'47
	15	•••		32	16	• • •		38	54				-		
	17			31	4			49	23		0.5243		0.5530		1.22

BARNARD'S COMET.—Dr. J. von Hepperger has computed the following parabolic and elliptic elements for this comet :--

	Parabola		Ellipse					
T	1886 May 6.2586	• • •	1886 May 4'5165					
ω	118 57 9.9		121 41 24'9					
R	67 42 52.2		68 37 19.7					
i	87 24 30.0		82 51 6.2					
log q	9.695574		9.665966					
log a	z		1.336444					
log e		•••	9.990625					

Error of the middle place (o - C).

$$d\lambda = -2^{''}4 \qquad d\lambda = +4^{''}8 \\ d\beta = -3^{''}9 \qquad d\beta = +1^{''}9$$

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

### Ephemeris for Berlin Midnight

1886		App. R.A.					App.	Decl.		$Log \Delta$	Log r		
-		h.	m.	s.			•						
Jan. 9		2	53	7	•••	+	9	41.1		0'3497		0'2112	
II			49	7			10	2.7					
13			45	16			IO	24.8		0.3383		0'2131	
15	• • •		41	34			10	47'3					
17	•••		38	2			II	10'2	•••	0.3562		0.5122	

# ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 JANUARY 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 January 10

Sun rises, 8h. 5m.; souths, 12h. 7m. 51<sup>-</sup>1s.; sets, 16h. 11m.; decl. on meridian, 21° 55' S.: Sidereal Time at Sunset, 23h. 31m.

Moon (at First Quarter on Jan. 13) rises, 10h. 17m.; souths, 15h. 56m.; sets, 21h. 45m.; decl. on meridian, 4° 41' S.

Planet	R	ises	So	uths	Se	ets	Decl. on meridian					
	h.	m.	h.	m.	h.	m.		0	1			
Mercury	 6	25	 10	27	 14	29		22	0	S.		
Venus	 9	41	 14	55	 20	9		9	43	S.		
Mars	 21	53*	 4	24	 IO	55		5	21	N.		
Jupiter	 23	7*	 5	5	 II	3		I	5	S.		
Saturn	 14	44	 22	54	 7	4*		22	35	N.		
			-					-	-	-		

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

# Occultations of Stars by the Moon

an.	Star	Maş	Dis	sap.		Re	eap.	an te in	angles from v tex to right inverted ima			
				h.	m.		h.	m.		0	0	
14	B.A.C. 830	6		19	9		20	II		75	343	
16	$\theta^1$ Tauri	$ 4\frac{1}{2}$		15	56		16	58		66	244	
.16	$\theta^2$ Tauri	41/2		15	58		16	56		45	264	
Jó	. 75 Tauri	6		16	33	nea	ir aj	ppro	bach	155		
16	. B.A.C. 1391	5		16	58		17	57		93	224	
16	80 Tauri	6		17	5	nea	r aj	opro	bach	337		
16	81 Tauri	51		17	20	nea	ur aj	ppre	bach	338		
16	85 Tauri	6		17	55	nea	r aj	ppro	bach	340		
.16	. Aldebaran	I		19	48		20	49		122	248	

# Phenomena of Jupiter's Satellites

Jan.	h.	m.		Jan.	h.	m.	
II	 4	4	II. ecl. disap.	14	 23	53	I. ecl. disap.
13	 I	29	II. tr. ing.	15	 3	16	I. occ. reap.
13	 4	15	II. tr. egr.	16	 0	25	I. tr. egr.
13	 5	24	I. ecl. disap.	16	 4	59	III. tr. ing.
14	 3	42	I. tr. ing.	16	 7	45	III. tr. egr.
14	 5	57	I. tr. egr.	l			

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.

			-
IO	 12	 Saturn in conjunction with $\mu$ Geminorum an	d
		less than I' north of that star.	
		** 1 ** 6 ** 1 ** 1 *	

13 ... — ... Venus at her point of greatest evening brilliancy.

## Variable-Stars

Star	I	R.A.		Ι	Decl.								
100 000 000 C		h.	m.		.0						h.	m.	
U Cephei		 0	52.2	•••	81	16	N.		Jan.	13,	0	24	111
Algol		 3	0.8		40	31	N.		,,	14,	2	22	m
									22	16,	23	II	m
T Monocei	rotis	 6	19.1		7	9	N.		.,	15,	17	0	112
( Geminor	um	 6	57.4		20	44	N.		,,	13,	2	30	M
U Monoce	rotis	 7	25.4		9	32	S.		,,	10,			112
δ Libræ		 14	54.9		8	4	S.		.,	12,	17	47	112
										15,	I	38	m
U Coronæ		 15	13.0		32	4	N.		.,	13,	I	24	m
U Ophiuch	ni	 17	10.8		Ĩ	20	N.		,,	II,	I	39	112
										II,	21	47	112
						an	d at	in	terval	s of	20	8	
R Lyræ		 18	51.0		43	48	N.		Jan.	10,			M
n Aquilæ		 19	46.7		0	43	N.			12,	5	0	M
δ Cephei		 22	24.9		57	50	N.			12,	2	30	112
					5.	5			11	13,	17	0	M

M signifies maximum; m minimum.

#### Meleor 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°, Decl. 53° N.; from Coma Beren, R.A. 181°, Decl. 35° N.; from near  $\chi$  Cygni, R.A. 295°, Decl. 53° N. Large meteors should be looked for on January 15, 16, and 17.

# STANDARDS OF WHITE LIGHT

 $T_{year}$  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

<sup>1</sup> 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 for the purpose of reporting on Standards of White Light. Drawn up by Pr f. G. Forbes (Secretary).