

It was intended to make observations of both 1st and 2nd contact with the finders of both the 15 inch Grubb visual and 8 inch Cooke photo-visual telescopes. The first contact, however (always a difficult observation), was not observed and the 2nd contact was only observed with the finder of the 8 inch Cooke photo-visual, aperture $2\frac{1}{2}$ inches. The observation was made by Mr. T. P. Bhaskaran Shastri, Assistant, with a pocket chronometer belonging to the Director which was compared immediately after with the standard (Cooke) sidereal clock of the Observatory.

	hour.	minute.	second.
The observed Indian Standard time was—	15	29	36.81
The computed time	15	29	35.21
Difference	...	...	1.60

In computing the time of second contact the geographical co-ords of the Observatory (which have never been accurately determined and may well be slightly in error) were taken to be Geocentric Latitude $+17^{\circ} 19' 20''$

East longitude 5h. 13m. 37.66s.

HYDERABAD, 10th November, 1914.

Memoranda for Observers.

for the month of December 1914.

(Standard Time of India is adopted in these Memoranda.)

Sidereal Time at 8 p.m.

	H.	M.	S.
December 1st	0	38	25
" 8th	0	6	1
" 15th	1	33	36
" 22nd	2	1	12
" 29th	2	28	48

From this table the constellations visible in India during the evenings in December can be ascertained by a reference to a star chart, as the above hours of sidereal time represent the hours of Right Ascension on the meridian.

The Moon.

PHASES—

December 2	at 11-51 P.M.	Full Moon.
„ 10	„ 5-2 „	Last Quarter.
„ 17	„ 8-5 A.M.	New Moon
„ 24	„ 1-55 P.M.	First Quarter.

OCCULTATIONS—

December 9	at 7-22 A.M.	Regulus	between 20° N. & 66° S.
„ 20	„ 10-55 „	Uranus	„ 30° S. „ 90° S.
„ 21	„ 7-2 „	Jupiter	„ 49° N. „ 32° S.
„ 31	„ 5-40 „	Nath	„ 2° S. „ 62° S.

CONJUNCTIONS—

December 4	at 4-14 P.M.	with Saturn	(Planet 5° 29' S.)
„ 15	„ 3-30 „	„ Venus	(„ 7° 36' N.)
„ 16	„ 1-52 „	„ Mercury	(„ 4° 56' N.)
„ 17	„ 11-28 A.M.	„ Mars	(„ 3° 47' N.)
„ 21	„ 7- 3 „	„ Jupiter	(„ 0° 12' S.)
„ 31	„ 6-51 P.M.	„ Saturn	(„ 5° 31' S.)

The Planets.

Mercury is a morning star, rising in Libra about an hour before the sun at the beginning of the month, but diminishing his distance as the month advances, as he approaches superior conjunction which will occur on the 5th of January.

Venus also is a morning star, rising in Scorpio about half an hour before the sun on the 1st, and nearly three hours before on the 31st having by that time retrograded into Libra.

Mars is an evening star until the 24th when he will be in conjunction with the sun. He will be too near to the sun to be visible at any time during the month. Position on the 15th, R. A. 17° 38' Dec. 24° 1' South.

Jupiter also is an evening star in Capricornus, setting about four hours after the sun on the 1st and about three hours after on the 31st. Position on the 15th, R. A. 21° 27' Dec. 15° 56' South.

Saturn will be in opposition to the sun on the 21st, and therefore on the meridian at midnight on that date. Position

on the 15th, R.A. 5·57 Dec. 22° 17' North, on the line between Taurus and Gemini.

Uranus is in Capricornus. Position on the 15th, R. A. 20·46 Dec. 18° 36' South.

Neptune is in Cancer. Position on the 15th, R. A. 8·8. Dec. 19° 47' North.

Memoranda for Observers

for the month of January 1915.

Standard Time of India is adopted in these Memoranda.

Sidereal Time at 8 p.m.

				H.	M.	S.
<i>January</i>	1st	...	...	2	40	38
,,	8th	...	...	3	8	14
,,	15th	...	...	3	35	50
,,	22nd	...	...	4	3	26
,,	29th	...	...	4	31	2

From this table the constellations visible in India during the evenings in January can be ascertained by a reference to a Star chart, as the above hours of sidereal time represent the hours of Right Ascension on the meridian.

The Moon.

PHASES—

January	1st	at	5-10 P.M.	Full Moon.
,,	9	,,	2-30 A.M.	Last Quarter.
,,	15	,,	8-11 P.M.	New Moon.
[,,	22	,,	11-2 A.M.	First Quarter.
,,	31	,,	10-11	,, Full Moon.

OCCULTATIONS—

Jan.	5th	at	12-57 P.M.	Regulus	between 8°N. & 78° S.
,,	12th	,,	4-11 P.M.	Antares	,, 4°S. & 79° S.
,,	27th	,,	1-45 P.M.	Nath	,, 5°N. & 58° S.

CONJUNCTIONS.—

Jan. 12	at 4-51 P.M.	with Venus	(Planet $9^{\circ} 42' N.$)
„ 15	„ 9-22 A.M.	„ Mars	(„ $2^{\circ} 23' N.$)
„ 16	„ 8-27 A.M.	„ Mercury	(„ $0^{\circ} 8' N.$)
„ 18	„ 4-8 A.M.	„ Jupiter	(„ $0^{\circ} 54' S.$)
„ 27	„ 11-29 P.M.	„ Saturn	(„ $5^{\circ} 37' S.$)

There will be no lunar eclipses this year. The Moon will enter the Penumbra of the Earth, but not the Umbra on the 31st at 10-30 A.M.

The Planets.

Mercury will be in superior conjunction with the sun on the 5th and will then become an evening star. He may be visible towards the end of the month if the western skies are clear; setting about an hour after the sun. He will be in conjunction with Mars at half an hour after midnight on the 1st.

Venus is a morning star rising a little more than three hours before the sun throughout the month. She will be at her greatest brilliancy on the 2nd when she will be found in the constellation of Ophiuchus; R.A. $17^{\circ} 42'$ Dec. $19^{\circ} 35' S.$

Mars also is a morning star and will so remain throughout the year. He will be too near to the sun to be visible this month. Position on the 15th, R.A. $19^{\circ} 30'$ Dec. $23^{\circ} 3' S.$ in Sagittarius.

Jupiter is an evening star until the 24th when he will be in conjunction with the sun in Capricornus. Position on the 15th, R.A. $21^{\circ} 52'$ Dec. $13^{\circ} 51' S.$ setting about two hours after the sun.

Saturn is an evening star, retrograding in Taurus. Position on the 15th, R.A. $5^{\circ} 46'$ Dec. $22^{\circ} 19' N.$ The rings of this planet are now attaining their apparent maximum width.

Uranus in Capricornus. Position on the 15th, R.A. $20^{\circ} 53'$ Dec. $18^{\circ} 10' S.$

Neptune in Cancer. Position on the 15th, R.A. $8^{\circ} 5'$ Dec. $19^{\circ} 57' N.$

The Sun is at perigee on the 2nd at 11-30 P.M.

Memoranda for Observers

for the Month of February 1915.

Standard Time of India is adopted in these memoranda.

Sidereal Time at 8 p.m.

			H.	M.	S.
February 1st	...	...	4	42	51
„ 8th	...	...	5	10	27
„ 15th	...	...	5	38	3
„ 22nd	...	...	6	5	39
„ 28th	...	...	6	29	18

From this table the constellations visible in India during the evenings in February can be ascertained by a reference to a Star chart, as the above hours of sidereal time represent the hours of Right Ascension on the meridian.

The Moon.

PHASES—

February 1 at 10-41 A.M. Last Quarter.
 „ 14 „ 10-1 „ New Moon.
 „ 22 „ 8-28 „ First Quarter.

OCCULTATIONS—

February 1 at 7-44 P.M. Regulus between 4°N. & 78°S.
 „ 8 „ 10-43 „ Antares „ 9°S. 90° S.
 „ 23 „ 10-24 „ Nath „ 7°N. & 55°S.

CONJUNCTIONS—

February 10 at 5-13 P.M. with Venus, (Planet 7°30'N.)
 „ 13 „ 9-35 A.M. „ Mars („ 0°24'N.)
 „ 15 „ 1-57 „ „ Jupiter („ 1°37'S.)
 „ 15 „ 8-43 „ „ Mercury („ 2°5'N.)
 „ 24 „ 6-44 „ „ Saturn („ 5°35'S.)

The Planets.

Mercury is an evening star until the 21st when he will be in inferior conjunction with the sun. He will be at greatest

elongation East on the 6th at 12-30 P.M., and may be visible during the first week of the month, setting in Aquarius about an hour later than the sun. He will be in conjunction with Jupiter at 12-18-P.M. on the 2nd.

Venus is a morning star, rising about three hours before the sun throughout the month, and moving from Ophiuchus to Sagittarius during the first week. She will be at greatest elongation west on the 6th at 10-30 P.M.

Mars also a morning star, rises less than an hour before the sun throughout the month. Position on the 15th, R.A. 21, 1 Dec. 18° 1'S.

Jupiter is an evening star until the 24th when he will be in conjunction with the sun. During the first week of the month he will set about an hour later than the sun. Position on the 15th, R.A. 22° 20 Dec. 11° 20'S. in Aquarius.

Saturn an evening star is retrograding in Taurus. Position on the 15th, R.A. 5-41 Dec. 22° 21' N.

Uranus in Capricornus. Position on the 15th, R. A. 21-0 Dec. 17° 40' S.

Neptune in Cancer. Position on the 15th, R. A. 8-1 Dec. 20° 8' N.

The Sun.

There will be an annular eclipse of the Sun on the morning of the 14th, but it will not be visible in India. It will begin on the earth generally at 7-11 A.M. in Longitude 59° 42' East and Latitude 31° 36' South, and will end at 12-54 P.M., in Longitude 159° 12' East and Latitude 17° 12' North.

Memoranda for Observers

for the month of March 1915.

Standard Time of India is adopted in these memoranda.

Sidereal Time at 8 p.m.

					H.	M.	S.
March	1st	...	...	...	6	33	15
	„	8th	...	...	7	0	51
	„	15th	...	...	7	28	27
	„	22nd	...	...	7	56	2
	„	29th	...	...	8	23	38

From this table the constellations visible in India during the evenings in March can be ascertained by a reference to a Star chart, as the above hours of sidereal time represent the hours of Right Ascension on the meridian.

The Moon.

PHASES—

March	2	at	12-2	A.M.	Full Moon.
,,	8	,,	5-57	P.M.	Last Quarter.
,,	16	,,	1-12	A.M.	New Moon.
,,	24	,,	4-18	,,	First Quarter.
,,	31	,,	11-7	,,	Full Moon.

OCCULTATIONS—

March	1	at	4-39	A.M.	Regulus	between	5° N. & 78° S.
,,	8	,,	4-4	,,	Antares	,,	8° S. & 86° S.
,,	21	,,	9-35	,,	The Pleiades	,,	71° N. & 58° N.
,,	28	,,	3-20	P.M.	Regulus		1° N. & 78° S.

CONJUNCTIONS—

March	12	,,	7-2	A.M.	with Venus	(Planet 3°0' N.)
,,	13	,,	6-59	P.M.	,,	Mercury (, , 0°20' , ,)
,,	14	,,	12-2	,,	,,	Mars (, , 1°59' S.)
,,	14	,,	10-43	,,	,,	Jupiter (, , 2°20' S.)
,,	23	,,	4-8	,,	,,	Saturn (, , 5°22' S.)

The moon will enter the Penumbra of the Earth, but not the Umbra, at 12-30 A.M. on the 2nd

The Planets.

Mercury is a morning star, rising in Capricornus about an hour before the sun on the 1st and attaining greatest elongation west 27° 43' on the 20th. He will be visible in clear skies throughout the month. He will be in conjunction, 1° 18', to the south of Jupiter on the morning of the 30th.

Venus a morning star, rises in Sagittarius about three hours before the sun on the 1st. She moves through Capricornus and into Aquarius before the end of the month, when she will rise about two hours before the Sun.

Mars also a morning star, rises about an hour before the sun throughout the month. Position on the 15th, R. A. 22:27 Dec. $10^{\circ} 50'$ South. He will be in conjunction with Jupiter on the morning of the 24th, only one-fifth of a degree separating the two planets.

Jupiter now a morning star, having been so lately in conjunction with the sun, will only be visible by about the middle of the month. Position on the 15th, R. A. 22:45 Dec. $8^{\circ} 52'$ South in Aquarius.

Saturn an evening star in quadrature with the sun on the 17th. Position on the 15th, R. A. 5:41 Dec. $22^{\circ} 18'$ North now travelling eastwards again in Taurus.

Uranus in Capricornus. Position on the 15th, R. A. 21:6 Dec. $17^{\circ} 15'$ South.

The Sun.

The Sun will enter the sign of Aries at 10-21 p.m., on the 21st being the vernal equinox.
