

A Table for use with Star Charts.

BY B. M. RAKSHIT.

In order to find out easily at any hour of the night on any day the constellations that are on the meridian, and hence those that are on the eastern and western sides of it, a simple table has been drawn up, and a part of it is shewn in this lantern slide. The method generally adopted for finding stars on the meridian at any hour is as follows: Suppose it is required to find the stars on the meridian at 8 p.m. to-day—28th March 1911. From the British Nautical Almanac, or the American Ephemeris and Nautical Almanac, or any other such book, take the sidereal time at mean noon. The British Nautical Almanac gives the sidereal time at mean noon at Greenwich for to-day to be 0h. 19m. 8.34s. The correction for reducing it to the sidereal time at mean noon at Calcutta is 58.1s. Hence the sidereal time at mean noon at Calcutta becomes 0h. 18m. 10.24s. The interval from mean noon to 8 p.m. is 8h. of mean time, which is equal to 8h. 1m. 18.85s. of sidereal time. Therefore the sidereal time at 8 p.m. to-day is 8h. 19m. 29.09s. Stars whose right ascensions are equal to this are on the meridian; but the table which has been drawn up, and part of which is shewn in this lantern slide, saves all these computations. First, I shall state generally the method of using it, and then take particular example. The hours of observation are given at the top of the table, and the first vertical column gives the date of observation, and the Roman numerals in the body of the table are the right ascensions in hours of time of stars on the meridian. Find the Roman numeral corresponding to the hour of observation as shewn in the top line, and the nearest day preceding that of observation as shewn in the first vertical column, and add 4 minutes for each day from that tabulated day to the day of observation. The hours and minutes thus found are the right ascensions of stars on the meridian. With this result refer to the star maps. The stars which are in the vertical line marked with that R. A. are on the meridian; those marked with greater R.A. are on the eastern side of the meridian, and those with less R. A. are on the western side of it. Let us take the same example as before: *i.e.*, what stars are on the meridian at 8 p.m. to-day—28th March 1911?

The hour of observation being 8 p.m., and the nearest tabulated day preceding the day of observation being 23rd March, we get from the table under 8 p.m. and against 23rd March the Roman numeral VIII hours. From 23rd to 28th there are 5 days; taking 4m. per day we get 20m. This

added to VIII hours, we have found from the table we get VIII hours 20m. This result agrees very closely with what we obtained before by the previous method. With VIII hours 20m. now obtained we refer to our star maps. From Plate I of the star maps of this Society, we find the following to be on the meridian. The Great Bear is just coming on the meridian, the star σ which is represented to be on the snout of the Great Bear is on the meridian.

Next below the Great Bear we find the middle of Lyun, though α and Fl. 38 Lyucis, the only stars of the constellation which deserve any notice, are on the east side of the meridian about an hour distant.

Then from plate IV of the star maps we see on the meridian the western part of Cancer, β Caneri, is only a few minutes on the west, and it will take about 12 minutes for Præsepe or the beehive of Cancer to be on the meridian. Further down we find the western parts of Monoceros and Argo to be on the meridian. On the eastern side of the meridian and within 3h. 20s. we find a very large number of conspicuous stars. These are Capella of Auriga, Castor and Pollux of Gemini, Procyon of Canis Minor, all the bright stars of Orion, Sirius of Canis Major, and Canopus of Argo.

Table for finding the constellations on the Meridian at any hour of the night on any day.

		7 P.M.	8 P.M.	9 P.M.	10 P.M.	11 P.M.	Mid-night.	1 A.M.	2 A.M.	3 A.M.	4 A.M.	5 A.M.
January	6th	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	21st	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
February	6th	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
	21st	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
March	8th	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI
	23rd	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
April	8th	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII
	23rd	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX
May	8th	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
	23rd	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI
June	7th	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII
	23rd	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII
July	8th	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
	23rd	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	I
August	7th	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	I	II
	23rd	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	I	II	III
September	7th	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	I	II	III	IV
	22nd	XIX	XX	XXI	XXII	XXIII	XXIV	I	II	III	IV	V
October	7th	XX	XXI	XXII	XXIII	XXIV	I	II	III	IV	V	VI
	22nd	XXI	XXII	XXIII	XXIV	I	II	III	IV	V	VI	VII
November	7th	XXII	XXIII	XXIV	I	II	III	IV	V	VI	VII	VIII
	22nd	XXIII	XXIV	I	II	III	IV	V	VI	VII	VIII	IX
December	7th	XXIV	I	II	III	IV	V	VI	VII	VIII	IX	X
	22nd	I	II	III	IV	V	VI	VII	VIII	IX	X	XI