

ancient Hindu astronomers had to say about these mysterious visitants, and I have hopes that the curiosity roused by these enquiries in the astronomical works of the ancients will enable some of us to arrive at a solution of certain knotty problems in ancient astronomy which have so long been baffling the attempts of some of our most erudite countrymen. For instance, is it not a curious thing that the Hindu astronomers of old with their crude ideas about the celestial bodies should still have succeeded in not only perceiving that the Earth is a round body but that it is floating in space? Where is the basis of this belief of theirs? Had they any conception of the force of gravity? How could they prove that the Moon shone simply because it reflected back the rays of the Sun? To these and many such other questions we must, I regret to say, remain silent. Our Society, though not formed for such antiquarian researches, would no doubt benefit much if its members could offer us a solution of these problematic issues.

The torch of knowledge which was first lighted in the East went out ages ago, and it has been a long, long night with the East; and now if at the beginning of the 20th century—the dawn of her re-awakening—she looks to the West for a helping hand surely that hand will not be withheld.

“The East is the East and the West is the West,” says the poet, but the claims of humanity are greater than the claims of nationality. And the day is perhaps not far distant when the East and the West will walk hand-in-hand on the glorious path of knowledge towards that ultimate realisation of human destiny—the regeneration of mankind.

Notes on Saturn.

SATURN has been observed here with the 5" Cooke Refractor on every available evening since the telescope was mounted in the middle of November. Throughout the latter part of November and December the planet has been excellently situated in the eastern sky. On about half the nights the definition has been poor even though the sky, with a few exceptions, has been clear. A brilliant night is by no means a sign of a good night for telescopic work. On good nights—and these as a rule are those with a low humidity—the definition is sharp and the planet is remarkably well defined in this telescope. Saturn bears a high magnification, but the highest power—350—can only be used with advantage on exceptional nights.

Cassini's Division is very easy and on good nights I can trace it right round from limit to limit of the planet, though where it passes in front of the ball it is a very fine line.

Encke's Division I have not been able to detect so far, but I am hoping to be able to glimpse it on some favourable evening.

Ring A is somewhat dusky especially near the outer edge.

Ring B is very bright especially near Cassini's Division, but it shades off somewhat nearer the ball. It appears to me that proportionately *B* is much broader in front where it passes the ball than *A*.

Crape Ring.—This ring is practically impossible with the low power of 140, but it is visible with 200 and fairly easy with 300. To my sight it appears a dark brown, or rather dirty brown, and not quite half the breadth of *B*. It is a very difficult object. I cannot trace it in front of the ball, but at this point its place seems to be occupied by a narrow dark band about half its breadth.

Ball.—Apart from the narrow dark band above mentioned the markings on the ball are not clearly defined, but above this there is a broad light band and at times this is quite easy. Then on special nights there is another broad dark band and farther up towards the North pole the ball becomes dusky.

A striking feature at the upper portion of the planet is the shadows cast by the ball on *B*. These are represented by two very narrow bands broader on the one side, *i.e.*, the upper side as seen in the telescope, than the other. A writer in the *English Mechanic* sees in a 3" telescope only the shadow on the upper side. I see shadow distinctly on both sides.

The ball does not appear to be accurately in the centre of the ring system, being a little nearer the lower ring (*W* in figure) than the upper. The ball also appears slightly flattened at the North pole.

Satellites.—Five can be seen on most nights. The two inner ones, Tethys and Dione, though very minute are clearly seen especially with the low power (140). Iapetus and Titan are very easy and Rhea is not difficult. Saturn is a superb object at present in the telescope.

Noble in his "Hours with a 3" Telescope" fails to see Cassini's Division all round, and he admits that the Crape ring is beyond the power of his instrument also. Tethys and Dione are also practically beyond him, but the writer in the *English*

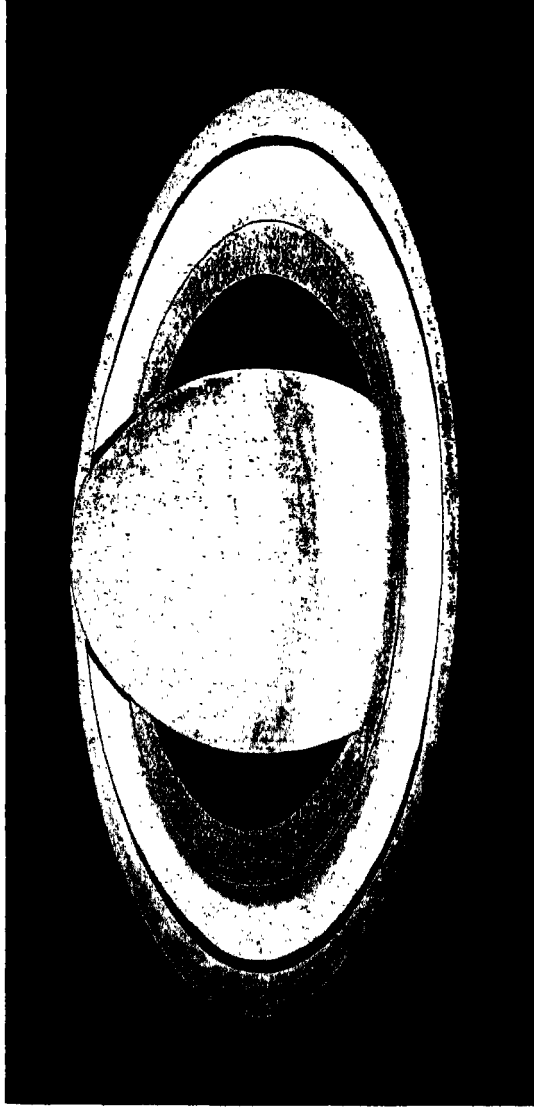


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DRAWING OF SATURN

By Revd. J. Mitchell, F.R.A.S., Bankura.

Mechanic (referred to above) sees practically all I can see in a 3". I fear I am a little sceptical.

I enclose a rough sketch of the planet, but I find it very difficult to put on paper exactly what is seen.

J. MITCHELL.

Bankura,

29-12-12.

Observations with the 5" Cooke Refractor.

ϵ^1 ϵ^2 *Lyræ*.—Colours striking in contrast. On good nights both *debelissimæ* seen though they are very difficult. Occasionally I could hold them steady. They lie one on each side the line joining the two pairs. Occasionally other excessively faint stars are glimpsed.

I notice that very minute stars can often be seen as well before it is quite dark as when absolutely dark.

Vega.—A fairly easy test as a double star. The Companion 11th magnitude requires a good night to see it well. It is some distance from *Vega* (—43"—) to the right ●

Ring Nebula.—This is a striking object and stands magnification well. It lies between β and γ *Lyræ*.

Recently in *Knowledge* (Nov.) a beautiful photograph of this Nebula appeared and several small stars are seen inside the ring. I did not notice any in the telescope. These stars are probably beyond the range of any telescope.

Great Nebula in Orion.—A most striking object with low power. The black gap known as "the fish's mouth" has an intensely inky hue. Words cannot describe this nebula. In the famous Trapezium I see the 5th star fairly easily on good nights and on exceptionally good nights I can glimpse the