The figure, though much exaggerated, shows the hills in a zone near the circumference and a hollow near the centre. The shadow-diagram or appearance of the mirror, when illuminated by an artificial star and viewed from the centre of curvature, would then be as shown in Fig. 8, and the corresponding section of the mirror could be prepared and would be somewhat as shown in Fig. 9.

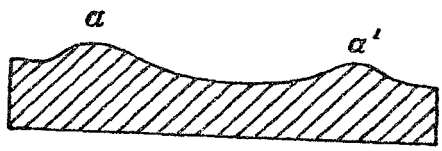

Fig. 9.

To make a hyperbolic mirror spherical, therefore, we should have to grind away the hills $a\ a'$ (Fig. 9).

We are now in a position to perform an actual test on a mirror of unknown figure.

A bright source of light, such as a pin-hole in a metal lamp chimney, to serve as an artificial star, is placed at the mean centre of curvature of the mirror and rather eccentrically (*i.e.*, "off" the principal axis of the mirror). An eye-piece is placed with its focal plane at the same distance from the mirror as the artificial star. An opaque screen, gradually passed across the field of the eye-piece from left to right serves to locate the mean centre of curvature in the way described above.

If after these adjustments have been made the appearance of the mirror is like Fig. 5, an oblate spheroid is indicated, whose figure is flatter than the sphere and less flat than the paraboloid. If the appearance is like Fig. 9, an over-corrected or hyperboloid figure is indicated.

The actual section of the mirror can be deduced from the shadow-diagram in either case, and the mirror treated accordingly. The parabolic figure will be somewhere between the spheroid and hyperbola. It will show all the characteristics of a hyperbolic figure *but very faintly*, and has very suitably been described as a "study in greys."

A Query.

BY R. MADHAVA RAU.

On the 25th of March (night), when I was standing in the verandah of my house talking to my brother, I noticed a very

bright object moving rather slowly from an easterly to a westerly direction. I came to recognise it to be a meteor, and it continued to be visible for seven to eight seconds more. The colour was bright green, and as Canopus was shining in the front, I compared the brightness of the meteor with that of Canopus and found it to be more than double. It left no tail, and in the end two pieces of red-hot matter like glowing pieces of charcoal fell down. The meteor was exceptionally bright and large. Its apparent course when produced just touched the edge of the Milky Way. Usually such meteors leave a hazy tail behind, but this was an exceptional case. Moreover, the meteor was of a very bright green colour, indicating the presence of barium. Can any of the readers of the JOURNAL let me know why it left no tail behind, what meteor shower was in progress, and whether meteors contain such elements of the alkaline earths as barium? The time when the meteor was seen was 8 hours 6 minutes (p m.)

Memoranda for Observers.

Standard Time of India is adopted in these Memoranda.

For the month of May 1911.

Sidereal time at 8 p.m.

	H.	M.	S.
May 1st	10	33	36
,, *8th*	11	1	12
,, *15th*	11	28	48
,, *22nd*	11	55	24
,, *29th*	12	23	59

From this table the constellations visible during the evenings of May can be ascertained by a reference to their position as given in the Star Chart.

Phases of the Moon.

		H.	M.	
May 5th	First Quarter .	6	44	p.m.
,, *13th*	Full Moon . .	11	40	a.m.
,, *21st*	Last Quarter .	2	53	p.m.
,, *28th*	New Moon . .	11	54	a.m.