

three mile belted volcano in a vertical hurricane would flatten out a larger superficies. At the same instant the Cape Cod fishermen would see a star fall in the north-eastern sky into the Atlantic. The English mail opposite Halifax harbor would see it in the western sky falling behind the citadel. Yarmouth would watch it falling across the north pole star; while Fredericton would see it in the south-east, and send out scouts to capture it in their celestial meadows. At any given instant a meteor must be seen by observers at different points in different parts of the heavens. If these different positions are carefully noted, the height and course of the meteor can be accurately determined from two or three of them.

Again, to some people the moon appears as large as a plate, to others as large as a cart-wheel. But everything depends on the imagined distance of the object. However, if the man who took the meteor to be of the size of a pumpkin, thought it also equal to the moon, and the man who took it to be the size of an elephant also saw it to be the size of the moon, then we would know that the object appeared to subtend an angle of about half a degree (31 minutes+) and that for every hundred feet it was distant, it was about one foot in diameter. In other words, we know exactly the angle subtended by the moon, and if a body in the heavens be compared in dimensions with the moon, we know the angle it subtends, and when we find its distance, we can easily determine its size. A very accurate way of estimating short distances in the heavens is by estimating the number of moon spaces, two moon breadths being a degree.

But another tendency to err in estimating celestial distances, is the apparent magnification of objects near the horizon, due to their unconscious comparison with juxtaposed objects, or to the suggestion of great distance from the observer. If a tyro were asked to point out with his finger an altitude of 45° , in the direction of a distant horizon, he would probably point little above 30° actually. Proof: look at the north pole star, which is about 45° high with us, and see if it does really commend itself to your judgment as being exactly midway between your zenith and the horizon. It looks more like an altitude of 60° .

Finally, we congratulate our readers who took the advice of our opening article, as it gave them the day and the hour of the advent of the September meteor. We admit the meteor was not in the programme. But it is always good to have the performance better than the promise. We are fully avenged on those who neglected our advice; with this prestige we come forward with more advice. Set to work at once to post yourselves in the constellations. There is no

better way of describing accurately the course of any meteoric phenomena, than by naming the portions of the constellations through which they passed, or by the stars in their course. There are future opportunities coming, and those who take our advice will be gratified, and those who don't will be mortified, and it will serve them right. Keep your eyes open for the Leonid meteors of November 13th and 14th. The earth then plunges through a known orbit of meteoric bodies. After midnight they may be expected to be seen radiating from a point within the constellation Leo, whence their name.

We expect to illustrate these articles, occasionally, with small star maps or cuts of the constellations.

THE COMET.—Olber's comet, which visited our sky in 1815, has now returned, after seventy-two years' absence. It is telescopic; will be brightest about October 6th, and may be seen near Denebola in the constellation Leo.

THE MOON IN OCTOBER is in conjunction with *Uranus* on the 7th, *Mars* on the 13th, *Mercury* on the 14th, *Jupiter* on the 17th.

AURORA.—A beautiful display of the *aurora borealis* was observed between 8 and 9 P. M., on September 25th, in Nova Scotia. The "merry dancers" waltzed for a short time in most brilliant hues of nearly every color.

ALGOL, the "demon star" of the Arabs in *Perseus*, is now favorably situated for observation. In our next we may help our readers to find it, and give them times of its brightenings and wanings.

NOTES AND COMMENTS.

Newfoundland has a "Society of Arts" which enrolls the names of the leading men of the island in its membership.

The *Evening Mercury*, Newfoundland, has had a valuable series of editorials on the fisheries of the island during the month of September.

The *Marine Industrial News* says that there is on exhibition at Peake's Island, Portland Harbor, a stuffed sea-serpent, captured on the banks of Newfoundland September 11, 1887, by Capt. Barnstead, of the schooner "Hattie F. Walker," Halifax. Its length was 47 ft. 3 in., and its weight 900 lbs. Its mouth contains a fine set of teeth, and on its upper jaw are two feelers, 13 inches long. Five feet back of his head are flukes on each side, and the end of his tail is formed like a sculling oar, being flat and nine inches in width at the end. This is news to us.