

Mars is, perhaps, the next most interesting planet under the telescope, though occasions for viewing him with advantage do not often occur. Mars is the first planet outside the earth. We go round the sun in one year, Mars in 687 of our days. As we both go racing round, it is obvious that sometimes the earth catches up to Mars, and Mars, the earth and the sun are in a straight line, the earth being in the middle.

If the orbits of Mars and the earth were both circular, these two planets would come as near to each other as possible every 26 months. Unfortunately, while our path round the sun is nearly a circle, that of Mars is very distinctly oval, or more correctly, elliptical in form, so that sometimes when we are both in line with the sun, the interval separating our orbits is much greater than at other times. When the two planets happen to pass each other at the point where their orbits make the closest approach, which happens once in 15 years or thereabouts, Mars glows like a great red star in the heavens, but even then he is not particularly interesting in a 3-inch telescope. With a power of 110 one can see white patches at his poles, which are supposed to be snow, and certain of the bolder markings are just visible. The famous canals are quite beyond anything but the largest instruments.

We come now to Venus, the beautiful evening star, which under certain circumstances approaches us more nearly than any other of the heavenly bodies, the moon only excepted. On these occasions she shows as a slender crescent. A moment's reflection will show why. Venus travels round the sun in an orbit interior to that of the earth. As she is a dark body shining only by reflected sunlight, it is manifest that she must undergo to us the phases of the moon. When she comes directly between us and the source of her illumination, that is the sun, she must have her dark side turned toward us, and consequently is invisible. As she moves onward in her course, she gradually turns her bright side towards us, and consequently shows first as a crescent, then as a semi-circle, and lastly with a full face, though we never see her full, for the reason that being then on the far