

appear on the eastern horizon as morning stars; they do not, however, attain the same elongation from the Sun. Mercury goes no further than 29 degrees, whilst Venus extends to 47 degrees, and their continuance above the horizon after sunset becomes daily shorter, till at length they set before the darkness has rendered them invisible. For a time, then, they are invisible, unless on very rare occasions, when they may be observed passing over the Sun's disc, as small, round, well defined black spots, totally different in appearance from the Solar spots. These phenomena are called Transits, and occur when the Earth happens to be passing the line of their Nodes, while they are in that part of their orbits. After being invisible for some time, they begin to appear on the other side of the Sun, at first showing themselves only for a few minutes before sunrise, and gradually longer as they recede from him; at this time their motion is retrograde; they at length become stationary in the Heavens. Mercury and Venus alone perform their Solar revolutions in the above manner; they are called inferior Planets.

Professor Struve, of Dorpat, has given the exact dimensions of Saturn's Rings, concentric with the Planet, and with each other. These results are confirmed in his late work, by Sir John Herschell, also by Schröter:—

Exterior diameter of exterior Ring,	- -	176,418 miles.
Interior diameter of do.	- -	155,272 do.
Exterior diameter of interior Ring,	- -	151,690 do.
Interior diameter of do.	- -	117,339 do.
Equatorial dia. of body of Saturn,	- -	79,160 do.
Interior Ring,	- - -	20,000 miles broad,
Exterior Ring,	- - -	7,200 do.
Thickness of the Rings,		100 miles only.

The Rings of Saturn must serve as Moons to his polar regions.

I am at a loss to know, when the elder Herschell had the credit of observing Saturn with great assiduity for years, why we are indebted to others for his dimensions. His great distance from us could be no apology, as the Fixed Stars and Nebulæ are, beyond comparison, more distant. The most distant of his Satellites, which we have elsewhere stated as probably near the size of Mars, has alone elicited enquiry. This Satellite exhibits, like those of Jupiter, periodic defalcations of light, which prove its revolution on its axis in the time of a sidereal revolution about Saturn; the next in order is tolerably conspicuous; the three next very minute, and requiring powerful telescopes; while the two interior which just skirt the edge of the Ring, and move exactly in its plane, can only be discerned with the very best telescopes ever constructed. At the time of the disappearance of the Rings to ordinary telescopes, they have been