other words the Earth requires twelve months to pass across the faces of the twelve zodiacal constellations as seen from the Sun. If now from our heliocentric position we watch the journey of Jupiter around the same course, we should have to wait 11.86 years to see the course completed,—or while the Earth passes from one constellation to the next in a month, Jupiter takes about a year to travel over the same arc. This is partly due to the fact that his orbital velocity in miles per unit of time is to that of the Earth as 4 to 9, and partly to the much greater length of his orbit, which is a circle having a radius about five times that of the Earth's orbital radius. But, although the rates of motion would be very different, the directions would be the same : from Libra to Scopio ; from Scorpio to Sagittarius, and so on eastward, just as in the case of the Moon. If now, still occupying the Sun's place, we were to watch the progress of both planets, it is evident that we should see the Earth make the complete circuit of the zodiac nearly twelve times while Jupiter made the journey once. And further, we should see the Earth pass Jupiter's place, say in Aries, in a particular year, while in the following year our planet would pass Jupiter in Taurus, and the next year in Gemini, and so on. Now Jupiter, as actually seen from the earth, does not journey regularly eastward, but appears, during a part of each year to retrograde, going from the east towards the west in the zodiac. The olden astronomy figured his path, as well as the paths of the other planets, as circles with loops on the circumference. These loops—or Epicycles—are twelve in the case of Jupiter ; and it is by no means difficult to understand how they explain the planet's peculiar and complicated motion, as seen from the earth. When, however, we adopt the Copernican theory which looks on the Sun as the centre of the planetry system, the explanation becomes still simpler. The best way to do this is to draw on a large sheet of paper two concentric circles of radii 1 and 5 respectively. These circles represent the orbits of our Earth and Jupiter, and their common centre is the Sun's place. Divide each circle into twelve equal arcs. The points of division will represent on the smaller circle the Earth's place at intervals of one month, and on the larger circle, Jupiter's place at intervals of one year. Subdivide any one of the arcs (of 30°) of the larger circle into 12 divis-