is, because she shines with the borrowed light of the sun, and reflects it to the earth: and since only her half next the sun is always illuminated, therefore, in her revolution round the earth, she must necessarily turn a greater or lesser portion of this enlightened hemisphere to us, according to her different positions in respect to the sun, and of consequence assume such different phases.—The eclipses of the sun always happen at the CHANGE; for in that case, the sun and moon being in conjunction, and the dark side of the moon turned to the earth, if she exactly falls between the sun and the earth, there is necessarily an eclipse. The eclipses of the moon happen at the FULL MOON, when the sun being opposite to her, and her enlightened side turned to the earth, if she exactly fall into the earth's shadow, she consequently must suffer an eclipse, that is, lose the sun's light.

24. The inferior planets, Mercury and Venus, shew the same phases nearly to the earth, as the moon: but almost the whole of the enlightened hemisphere of the superior planets is constantly turned to the earth; therefore these planets seem always to shine with a full face.

25. By reason of the moon's vicinity to the earth, she appears as large as the sun; yet the sun is so large as to be more than sufficient to fill her orbit; for his diameter is about an hundred times that of the earth's, but the diameter of her orbit, is only equal to sixty of the earth's diameters.

26. The earth exhibits the same phases to the moon, that she does to us; for the earth and moon are mutually moons to each other; but with this difference, however, that only one half of the moon has the benefit of the earth's light; because her revolution round the earth is performed in the very same time that she turns once round on her axis, and consequently she always turns the same side to us; whereas every part of the earth receives moon light, on account of its turning all its sides to the moon.

27. Of all the satellities or secondary planets, yet known, our moon bears the greatest proportion to her primary, the earth. She is nearly $\frac{1}{4^{1}/_{2}}$ part of the earth's magnitude,—her diameter being about 2200 English miles. Her surface is exceedingly uneven, abounding in high mountains and deep vallies. Dr. Herschell has discovered that some of her mountains are volcanos, and that she is surrounded with an atmosphere, which douptlessly, like ours, is designed for the respiration of animals: Hence we may rationally conclude that she is inhabited.