

elephants, which are said to be of the same species (*γένος*) towards each extreme; as if this circumstance was a consequence of the conjunction of the extremes. The mathematicians, who try to calculate the measure of the circumference, make it amount to 400,000 stadia; whence we collect that the earth is not only spherical, but is not large compared with the magnitude of the other stars."

When this notion was once suggested, it was defended and confirmed by such arguments as we find in later writers: for instance,⁶¹ that the tendency of all things was to fall to the place of heavy bodies, and that this place being the centre of the earth, the whole earth had no such tendency; that the inequalities on the surface were so small as not materially to affect the shape of so vast a mass; that drops of water naturally form themselves into figures with a convex surface; that the end of the ocean would fall if it were not rounded off; that we see ships, when they go out to sea, disappearing downwards, which shows the surface to be convex. These are the arguments still employed in impressing the doctrines of astronomy upon the student of our own days; and thus we find that, even at the early period of which we are now speaking, truths had begun to accumulate which form a part of our present treasures.

Sect. 10.—The Phases of the Moon.

WHEN men had formed a steady notion of the Moon as a solid body, revolving about the earth, they had only further to conceive it spherical, and to suppose the sun to be beyond the region of the moon, and they would find that they had obtained an explanation of the varying forms which the bright part of the moon assumes in the course of a month. For the convex side of the crescent-moon, and her full edge when she is gibbous, are always turned towards the sun. And this explanation, once suggested, would be confirmed, the more it was examined. For instance, if there be near us a spherical stone, on which the sun is shining, and if we place ourselves so that this stone and the moon are seen in the same direction (the moon appearing just over the top of the stone), we shall find that the visible part of the stone, which is then illuminated by the sun, is exactly similar in form to the moon, at whatever period of her changes she may be. The stone and the moon being in the same position with respect to us, and both being enlightened by the sun, the bright parts are the same in figure;

⁶¹ Pliny, *Nat. Hist.* ii. LXV.