the duration of the triumph by the infinite in time. That Sage, that Lawgiver, that High-Priest was Newton."

Newton sought to extend to the universe the law of gravitation by considering the orbit of the moon, and so test the universality of his discovery. He observed the distance through which a body would fall in one second of time on the earth's surface to be 16°1 feet, and as the moon was 60 times as far from the earth as the radius of the earth, it must follow that the distance of the moon a free body would fall towards the earth a distance of 16°1/60° in one second of time, which is '00447 feet. If the moon had not a certain motion of its own in the direction of the tangent to its orbit, the moon would travel straight to the earth travelling a distance of '00447 feet in the first second. But the moon has a tangential motion of its own given to it in some remote age and by some power, which we need not now attempt to consider.

The attraction of the earth, however, operates on the moon, and draws it every second of time into a curve concave to the earth, and the question to be considered is. What is the distance of that earth-pull in one second of time?

The accompanying figure represents the orbit of the moon, M, round the earth, E. MD is the tangent along which the moon would move if the earth did not attract it. The angle



DIAGRAM TO ILLUSTRATE THE MOTION OF THE MOON

166