they cut across it at every possible angle, and, as nearly as can be ascertained (with exception of one small class of comets), quite indifferently as to the degree of their *inclination*, or to the direction of the *longer axes* or longest dimensions of their orbits in space; so that there is no region of space, however situated either in direction or distance from the sun, which a comet may not visit. Neither do they conform to that other universal planetary rule of circulation round the sun in one direction. *Retrograde* comets, or those whose motion is opposite to that of the planets, are as common as *direct* ones, or those which conform to the planetary rule. Here again, however, there is a small class in which a tendency to conformity is exhibited, co-extensive with that above noticed, which affects a certain proximity to the ecliptic. But of this we shall have occasion to speak more at large.

(14.) It is only when all the particulars which determine geometrically the situation and the form of the orbit of a comet, its nearest distance from the sun, and the direction in which it is moving,—or what are called the *elements* of its orbit,—that it can be ascertained whether it has ever been seen before, and whether we are to expect ever to see it again; and that its future course, while it remains invisible, can be predicted with certainty. These elements are technically called—

1. The *perihelion* distance, or nearest approach to the sun.
2. The *eccentricity* of its ellipse, or whether the orbit be sensibly a parabola.