

comet of 1680, which approached the sun to within one-sixth of its diameter, enabled him to test the truth of his conjecture; and he proved that it moved in an elliptical orbit of so great eccentricity that it could not be distinguished from a parabola, having the sun as one of its foci; and that, as in the case of the planets, the areas described about the sun were proportional to the times; a law discovered by the illustrious Kepler. From this calculation it became evident that the comets were governed by the same laws as the planetary bodies, and that the orbits of the former differed from those of the latter in the great elongation of their elliptical paths." And in page 56, he says, "The calculations that have been made to determine the dimensions of comets prove that they are by far the largest bodies in our system. The greatest length of that which appeared in 1759 was sixteen million leagues; that of 1811, thirty-six million; while that of 1680 was not less than forty-one million leagues."

In Arago and Lardner's *Astronomy*, it is said, "These bodies usually are observed to rush into our systems suddenly and unexpectedly from some particular quarter of the universe. They first follow in a straight line, or nearly so, the course by which they entered, and this course is commonly directed to some point not far removed from the sun." In the same work it is also said, "The planets move round the sun all in one direction. Comets, on the other hand, rebel against this law, and move, some in one direction and some in another." Again, it is said, in page 66, same work, "One of Newton's conjectures respecting comets was, that they are 'the aliment by which suns are sustained;' and he therefore concluded, that these bodies were in a state of progressive decline upon the suns, round which they respectively swept; and that into these suns they from time to time fell. This opinion appears to have been cherished by Newton to the latest hours of his life." And in page 67 it is said, "By far the greater number of comets appear to be mere masses of vapour, totally divested of all concrete or solid matter. So prevalent is this character, that some observers hold it to be