

the rein here and a little relaxation there, as they careered round and round, would suffice perhaps to keep them regular, and guide them in their graceful and smooth evolutions. But here we had a stranger from afar—from out beyond the extremest limits of our system—dashing in, scorning all their conventions, cutting across all their orbits, and rushing like some wild infuriated thing close up to the central sun, and steering short round it in a sharp and violent curve with a speed (for such it was) of 1,200,000 miles an hour at the turning point, and then going off as if curbed by the guidance of a firm and steady leading rein, held by a powerful hand, in a path exactly similar to that of its arrival, with perfect regularity and beautiful precision; in conformity to a rule which required not the smallest alteration in its wording to make it applicable to such a case. If anything could carry conviction to men's minds of the truth of a theory, it was this. And it did so. I believe that Newton's explanation of the motions of comets, *so exemplified*, was that which stamped his discoveries in the minds of men with the impress of reality beyond all other things.

(19.) This comet was perhaps the most magnificent ever seen. It appeared from November 1680 to March 1681. In its approach to the sun it was not very bright, but began to throw out a tail when about as far from the sun as the earth. It passed its perihelion on December 8—and when nearest was only *one-sixth* part of the sun's diameter from his surface—one fifty-fourth part of an inch on the conventional scale of our imaginary figure, and at