90 millions of miles, so that it *must* have been *shot out* with immense force in a direction *from* the sun, *a force far greater than that with which the sun acted on and controlled the head of the comet itself, which, as the reader will have observed, took from November* 10 *to December* 8, *or* 28 *days, to fall to the sun from the same distance, and that with all the velocity it had on November* 10 *to start with.*

(20.) All this is very mysterious. We shall never perhaps quite understand it, but the mystery will be at all events a little diminished when we shall have described some of the things which are seen to be going on in the heads of comets under the excitement of the sun's action, and when calming and quieting down afterwards. At present, however, we must get on with another part of our subject.

(21.) Only two years after this appeared another brilliant comet, and our countryman, Edmund Halley, following Newton's example and employing his system of calculation, computed its orbit, assuming (which simplifies the calculation very much) that orbit to be a parabola. He found its path to be very different from that of Newton's comet. Instead of nearly grazing the surface of the sun, its nearest approach to it was about 55 millions of miles, or about half-way between the orbits of Mercury and Venus. The plane of its motion, too, was much less inclined to that of the planets' orbit or the ecliptic—viz., about $17\frac{3}{4}$, and its motion was not direct, as Newton's was, but retrograde.

(22.) Halley was encouraged by the good agreement of

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