

distances of the two planets at different points of their respective revolutions. At present, in our almanacs a due allowance of time for the transmission of light at this rate, assuming a uniform velocity, is made in the calculation of these eclipses; and the discrepancy in question between the observed and predicted times has ceased to exist.

(10.) Taking the diameter of the earth's orbit, as concluded from the sun's observed parallax,\* at 24,000 diameters of the earth itself, and the latter diameter at  $7925\frac{3}{4}$  miles,† this gives a velocity of 192,700 miles per second.

(11.) So vast a speed seemed at first incredible; to some indeed even more so than an instantaneous communication. The one *might* be conceived as the result of some sort of spiritual communication: the other seemed, in those days, to transcend all imaginable limits of mere physical agency. But it soon received a very unexpected confirmation from Dr Bradley's discovery of the ABERRATION of light: to conceive which, let any one imagine a long tube held perpendicularly, at perfect rest, while a falling body (a drop, suppose of a shower of rain), descending also perpendicularly, should pass down its axis. If it entered at the centre of its upper orifice, it would issue at that of the lower; and, judging from this indication alone, and knowing the tube to be exactly vertical, a spectator would truly conclude from it that the descent of the drop was so also. Supposing him and

\* See p. 196. note.

† This is the equatorial diameter.