

nomenon in question. The rain-drop is the light; the tube, a telescope; the screen at its lower end, a micrometer; and the two opposite directions of the observer's motion, the two tangents at opposite sides of the earth's orbit at right angles to the situation of a star as viewed from either. And the angle in question is what astronomers call their "Constant of Aberration"—a very minute one indeed, but perfectly well measurable—amounting to about a third of a minute ($20''\cdot45$), from which it results that the velocity of light is about ten thousand (more exactly 10,089) times that of the earth in its orbit, which we know to be very nearly 19 miles ($18\cdot923$) per second, which gives 190,860 miles per second for the velocity of light.

(13.) Two different experimental processes for measuring this velocity have been devised and executed—the one by M. Fizeau, of the Parisian Academy of Sciences; the other by M. Léon Foucault, recently and most deservedly elected into the same illustrious body; the inventor of that elegant instrument, the Gyroscope. Both depend on the principle that the impression left on the eye by any luminous object persists for a sensible, though very minute, time (about the tenth of a second); so that an object presented to the sight by successive glimpses only, following each other more frequently than ten times in a second, is seen continuously. If only just so frequent, a fluttering is perceived; but this diminishes as the rapidity of presentation is increased: and when much more frequent, distinct and perfectly uninterrupted vision is produced. In M. Fizeau's ex-