

having attractive and repulsive poles, and during their progress through space revolving round their own centres about axes not coincident with the direction of their motion. Under such circumstances it is clear that some might arrive at the reflecting surface with the attractive pole foremost—others with the repulsive. The former would be attracted, and escape the reflective action; the latter repelled, and therefore subjected to it. Or, without making any supposition as to the sort of mechanism by which such a result might be attained, we might content ourselves with assuming, as Newton (the framer of this hypothesis) did, that the particles of light, throughout their whole progress through space, pass periodically through a succession of alternating physical states—or, as he called them, “fits”—“of easy reflexion and easy transmission:” the only objection to such a form of statement being, that it conveys no clear *physical* conception to the mind.

(56.) The particles so escaping reflexion are conceived to have penetrated within the limit of the repulsive, and to have entered that of the attractive forces, while yet at some inconceivably minute distance *outside* of the actual surface of the medium. Their movement of approach therefore to the surface is accelerated by the attractive force whose resultant direction is perpendicular to the surface, and when they have arrived *within* the medium so far that all further action ceases (by the counteraction of equal and opposite forces on all sides) each of them will have undergone the total amount of acceleration due to the attractive force—in the direction of that force,