

attractive and a repulsive sphere one within the other—the particles of light being repelled while passing through the outer or repulsive sphere, and attracted when arrived within the internal or attractive one. These forces are supposed immensely energetic, and to decrease with such excessive rapidity as to be absolutely insensible at any, the very smallest, distance appreciable to our senses. In virtue of this repulsive force, the surface of any material body may be conceived as coated (metaphorically speaking) with a film of repulsive power, off which, as from an elastic cushion, the luminous particles may be imagined to rebound: in which case, according to the known laws of elastic rebound, the angle of reflexion (perfect elasticity being supposed) would be equal to that of incidence, and the velocities before and after reflexion equal.

(55.) Reflexion, then, is easily and readily explained on this theory. In fact, it is explained *too well*. For it will be at once asked, how, on such suppositions, there can be such a thing as *partial* reflexion. Since all the luminous particles of a ray arrive at (suppose) a plane surface in the same direction and with the same velocity; whatever happens to one, *the repulsive force being the same*, must happen to all. This is another weak point of the corpuscular theory; and to escape from the difficulty so created, it becomes necessary to supplement the original hypothesis of *luminous particles* with another, converting those particles into mechanisms of a peculiar nature, of which the simplest conception that can be formed is to suppose them as it were *minute magnets*