

the other resolved portion. Suppose one end of a long horizontal cord fastened to a wall, the other held in the hand, and tightly strained. If a small vibratory motion cross-wise to the cord be given to the hand *in a horizontal plane*, an undulation *confined to that plane*, will run along the cord; if in a vertical one, then will the undulation be wholly performed in a vertical plane. If the propagation of a wave along a stretched cord be assimilated to that of a ray of light, the former of these cases will convey the idea of a ray polarized in a horizontal, the latter in a vertical plane. If the movement of the hand (always transverse to the cord) be not confined to any particular plane, but take place sometimes in one, sometimes in another, at all sorts of inclinations to the horizon—the undulation which runs along the cord in this case will convey the idea of an unpolarized ray. (According to Sir David Brewster, however, a partially polarized ray would, in this manner of viewing it, be assimilated to the case when the vibratory movement should neither be strictly confined to one plane, nor altogether irregular, but confined in its deviations from it to some angular limit less than a right angle.)

(141.) There is nothing to lead us to believe that the vibratory motions of the particles of material bodies, especially those in the state of gases in the act of combustion, in virtue of which they are luminous, are necessarily confined to any particular plane. Many thousands, or even millions, of vibrations in one plane may be succeeded by as many in any other, according to the direction and frequency of the shocks which give rise to