

(4.) This simplification (if such it be) of our view of material action is altogether untenable ; nor will it be difficult, I think (and certainly not superfluous), to show that such an arrangement must of necessity be rapidly self-destructive, and must result in the gradual but speedy dying away of all relative motion, and the reduction of the universe either to a single block of matter moving uniformly on, for ever, in one direction, without relative motion of its parts ; or else in the dispersion into space, and absolute final dissociation of its molecules.

(5.) For, be it observed, force (except in the sense of bodily extrusion) being non-existent, our billiard-balls must of necessity be supposed *inelastic*. Elasticity implies force. If this be disallowed,—if elasticity be not *force*, but *collision*,—each billiard-ball (each ultimate atom, that is to say) must be itself a universe in miniature composed of other more minute ones, moving and colliding, *inter se* to give them that resilience which we term elasticity, but which, in this view of the matter, is nothing but “clash.” Now what is to prevent these ultimate atoms of the second order, animated with velocities immense, as compared with their mutual distances, *coerced by no mutual attractions*, subject to no control but from their mutual collisions ; from dispersing themselves out in all directions into space and abdicating their functions as a group ? If we waive this objection (which, however, is fatal) nothing is gained. The original objection applies in its full force to these sub-atoms, and so on *ad infinitum*.

(6.) Now, in the collision of inelastic bodies, *vis viva*