

bodily movement of each vibrating element will be *transverse to the direction of the propagated wave*—a condition which, as we shall hereafter see, is essential to be fulfilled in the luminous undulations. As this hypothesis, however, has hitherto received no discussion, and is here suggested only as one not unworthy of consideration, however strange its postulates, we shall not dwell on it; remarking only that every phænomenon of light points strongly to the conception of a solid rather than a fluid constitution of the luminiferous ether, in this sense,—*that none of its elementary molecules are to be supposed capable of interchanging places, or of bodily transfer to any measurable distance from their own special and assigned localities in the universe.* The constitution above suggested would merely superadd to this abstract idea of a solid structure, the further conception of polar forces bearing some general analogy to those which may possibly subsist among the gross particles of a tesseral crystal.

(68.) This would go to realize (in however unexpected a form), the ancient idea of a crystalline orb. And it deserves notice that under no conception but that of a solid can an *elastic and expansible* medium be *self-contained*.\* If free to expand in all directions, it would require a bounding envelope of sufficient strength to resist its outward pressure. And to evade this by supposing it infinite in extent, is to solve a difficulty by words without ideas—to take refuge from it in the

\* From a liquid the extreme particles would be constantly flying off in vapour and dissipating themselves in space.