—viz., *nil* on the one hand, and *reduplication* on the other.

(83.) The vibrations by which light and *musical* sounds (*to which light is analogous*) are conveyed are so exceedingly minute, and the shock conveyed by each separately to our nerves, in consequence, so small, that it requires a continued series of them to impress our senses. The first few vibrations therefore which run on "*uninterfered* with" produce no sensation, and are as if they existed not. And thus we see how it may happen, that in the case of a complete *opposition of phase* two equal musical sounds may produce silence, and two equal rays of light *complete and continued darkness;* that a perfect coincidence of phase has the effect of doubling the sensation; and the intermediate states, a greater or less intensity as the case may be, short of that limit.

(84.) Let us now proceed to apply our principle (that of "*superposed and* INTERFERING VIBRATIONS") to the matter in hand. Suppose a series of equal and equidistant light-waves (such as *a ray* of homogeneous light is in this theory always understood to mean) to fall perpendicularly upon a plate of any transparent medium. A certain very small per-centage of it will be reflected back by the first surface—that is to say, a series of similar undulations, but of much less intensity or "amplitude," will be propagated back from the point of incidence. The remainder of the total movement thus subdivided will pass on, and, arriving at the second surface, again a *very nearly equal* series (the per-centage being the same, and the total incident light having suffered very little