

end to end of a stretched cord, or to the waves which *appear* to travel along the surface of water; though in reality such a wave is only an *advancing form*, the real movement of the watery particles being vertically up and down. Colour in this view of the subject is analogous to *tone*, or *pitch*, in music (if it be supposed to depend solely on refrangibility). As the *frequency* of the vibrations which reach the ear from a sounding-string determines the pitch of the musical note it yields, so the frequency of the undulations of this elastic medium or luminiferous "*ether*," as it is called, determines to the nerves of the eye the colour of the light. Or in that view of colour which considers all but three primary hues composite, it must on this theory be assimilated to a difference analogous to *quality* in a musical tone—as, for instance, between the sounds of a violin, a flute, and a trumpet, only much more decided and strongly characterized.

(59.) As sound spreads through the air with equal rapidity in all directions, and may be considered as propagated from its origin as a spherical shell continually enlarging, so in this theory must light be regarded as the movement of a WAVE in the ether, running out spherically in all directions from the luminous point, whose situation with respect to the eye, or to any other point on which the wave may strike, is judged of as the centre of the sphere—*i.e.*, as lying in a line perpendicular to its surface. A *ray* of light then, in this theory, is a purely imaginary line from such point, perpendicular to the general surface, or *front* of the wave, and has no other meaning. The *wave*, not the *ray*, is the primary object