

at a certain distance a medial *dark* line makes its appearance—which, if the distance be still further increased, changes to a bright one, and so on alternately till after a certain distance is attained the alternations cease. If the screen be stopped at the last position in which the medial line is dark, and there fixed, and an opaque strip, exactly half the breadth of the slit, be held *medially* along its whole length, so as to divide the slit and reduce it to two parallel ones, each one quarter of the original breadth (by which, of course, the total light traversing the aperture will be reduced to half its amount),—instead of darkening still more the medial dark fringe on the screen, as would naturally be expected on throwing a shadow upon it, the very reverse happens: the dark fringe in question disappears altogether, and is replaced by a bright one.

(107.) If the shape of the body which casts the shadow be angular, having salient and re-entering angles; the fringes where they surround the re-entering angles cross and pursue their courses up to the shadows of the sides respectively opposite to them; but those which surround salient ones *curve round them*, preserving their continuity. At an angle of the latter kind too, crested or plume-shaped *interior* fringes are seen—“Grimaldi’s crested fringes,” as they are called, from the name of Father Grimaldi of Bologna, who first described (in 1665) these curious appearances. If a re-entering angle, however, be very acute, the external fringes which border its sides on approaching the angular point curve outwards, cross one another, and run out both ways into the shadow in elegant curves of a hyperbolic form. Nothing can be ima-