

terior, are observed to dilate in breadth, according to a certain law which it is not necessary here to state, but whose agreement with the result of calculation affords a very satisfactory verification of the theory adopted for the explanation of the whole series of these phænomena on the undulatory hypothesis: while, on the other hand, it is very obvious that no such dilatation could possibly take place were the fringes produced by any kind of action on the rays in their passage by or near to the edges of the object, in the nature of attractive or repulsive forces originating in the material substance of which it consists, and deflecting them from their rectilinear paths; inasmuch as such action *could* neither be increased nor diminished, or in any way modified, by the greater or less distance traversed by the rays *before* their arrival within its sphere.

(106.) The appearances exhibited when the light is *transmitted* through a narrow rectangular slit, are even more curious. In this case a bright image of the opening is thrown on the screen, but instead of being an evenly illuminated narrow band, bounded on either side by uniform darkness, it is bordered both externally and internally by parallel fringes. The external ones are bright and highly coloured, and vary in breadth, but not materially in brightness, as the screen is withdrawn from the slit; but the interior fringes undergo singular changes as the distance increases. At near distances they are narrow and close, and leave a medial space of uniform light; but as the distance increases they enlarge in breadth, and close in on the illuminated space, so that