only difference : viz., that the resultant rectilinear vibration will be performed along the other diagonal, H F, of the same square.

(151.) It appears, then, that a change of phase in the vibrations of one of the component rays, of half an undulation, exactly reverses the polarization of the compound ray, and causes its vibration to be performed along the diagonal H F instead of G E. Let us now examine· by what sort of gradations the one of these movements passes into the other, when the phase of one of the vibrations C c is changed gradually. Suppose, for instance, the vibration a b (so, for brevity, we will designate it) to be in advance of the vibration A B by one-twentieth part of a complete undulation, so that at the moment when C starts from C in the direction C A, c shall have already got to I in the direction c a. Then at that moment our molecule O will not be at O but at y. After the lapse of one-twentieth more of a period, C will have got to I in the direction C A, and c to 2 in the direction c a, and O, actuated by both movements, will have arrived at z, having of course described in the interval a line y z, connecting these two extremities of the diagonal of the rectangle xyz. And exactly in the same way, at the expiration of the next twentieth of a period, it will be found in u, the extremity of the diagonal of the next rectangle—and thus tracing its course step by step through the whole twenty, which constitute a period, we shall see that it will have described a narrow ellipse, having m n for its shorter axis, and E G for *the direction of* its longer, and touching the four sides of the