

“*scattered.*” In the other mode the path of the ray, subsequent to the point where it first encounters the deflecting body, is wholly or partly *within* it, and the light is said to be “refracted,” or “transmitted.”

(19.) The first law observed in every case, whether of direct or circuitous illumination, is gathered from ordinary and universal experience. The illuminating and illuminated points are mutually interchangeable. By whatever path, however circuitous, light is conveyed from A to B, by the same it can be conveyed from B to A. This condition alone suffices to determine the path, and to fix the situation of the point at which its flexure takes place *by reflexion*, when the light is “incident” on any polished surface, whether plane or curved. That point (P) must be so situated *on the surface*, that the two lines joining it and the illuminating and illuminated points (A, B) shall there make equal angles with the surface, the three points (A, B, P) all lying in one plane with a perpendicular to the surface. For, 1st, except the *angles* were equal, the two directions (PB, PA) would not be *similarly* related to the surface at the point of incidence; so that in reversing the path of the ray, the physical condition which determined the obliquity of the incident ray to the surface in proceeding from A to B, to be greater or less than that of the reflected, would have to be reversed in the passage of light from B to A. And similarly, if the reflected ray lay in a plane to the right or left of that in which the perpendicular and the incident one were contained, the physical condition which determined it to deviate to the one side or to the other of that plane, would