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A NEW OPHTHALMOSCOPE FOR PHOTOGRAPHING THE POSTERIOR INTERNAL SURFACE OF THE LIVING EYE; WITH AN OUTLINE OF THE THEORY OF THE ORDINARY OPHTHALMOSCOPE.

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Before entering upon the construction and mode of using this Instrument I propose :

- (1.) Dwelling briefly upon the optics of the eye, glancing at the cause of the blackness of the pupil under ordinary circumstances and the invisibility of the parts behind it, and
- (2.) Giving an outline of the optics involved in the ordinary Ophthalmoscope.

In order to make the subject as plain as possible, I have at the outset summed up the leading optical principles involved, and that they may be more readily referred to, I have arranged them in the form of *Definitions*—(1), Rays of light incident upon highly polished plate glass with parallel surfaces, are partly reflected and partly refracted. If the plate glass is thin, the rays that are not reflected may practically be considered to pass through the glass unrefracted.

(2.) There is a point in every double convex lens called the optical centre, rays of light passing through which are either unrefracted or are refracted parallel to their original direction.