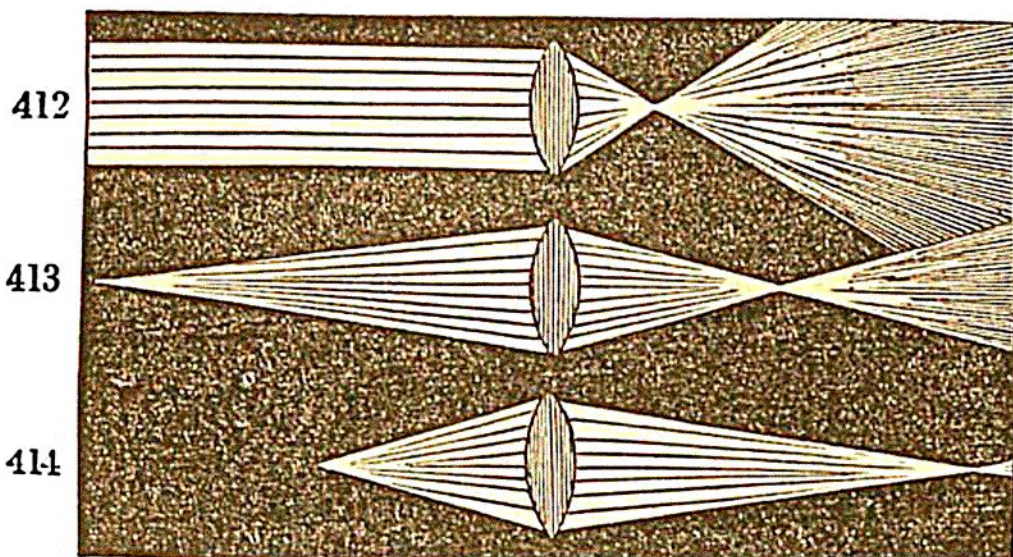


all intents, a camera obscura: for in both these instruments, the objects, the principles of construction, and the mode of operation are exactly the same; and the only difference is, that the former is an infinitely more perfect instrument than the latter can ever be rendered by the utmost efforts of human art.

### § 3. *Structure of the Eye.*

ONE of the many points of superiority which the eye possesses over the ordinary camera obscura is derived from its spherical shape, adapting the retina to receive every portion of the images produced by refraction, which are themselves curved; whereas, had they been received on a plane surface, as they usually are in a camera obscura, a considerable portion of the image would have been indistinct. This spherical form is preserved by means of the firm membranes which protect the eye, and which are termed its *Coats*; and the transparent media which they enclose, and which effect

With a view of simplifying the subject, I have assumed, in the account given in the text, that the rays which arrive at the eye are parallel, which in mathematical strictness they never are. The focus of the rays refracted by



a convex lens is more remote in proportion as the rays are more divergent, or, in other words, proceed from nearer objects. This is illustrated by Figures 412, 413, and 414; to which I shall again have occasion to refer in the sequel.