

perfect image formed, and consequently no distinct vision. Now, that the crystalline body acts as a powerful lens may be demonstrated by removing it from the freshly obtained eye of some animal and placing it over a mark, such as an arithmetical character, when it will cause the latter to appear much magnified.

To understand clearly the various aberrations in vision, the manner in which the image is formed on the retina must be kept very fully in view. It must be remembered that by the power of motion in the eyes by which they adapt to the position of the object, and by the power in the lens capsule by which the lens itself is altered in shape, the eye can quickly and readily suit itself to the distance of objects; and always when perfect vision is to be attained must the image fall exactly on the retina—not before it or behind it. What change takes place in the anatomy of the eye which renders the subject short-sighted (*myopic*)? A very marked one indeed. The eye becomes too large; its long diameter too great, that is its antero-posterior diameter, (its measurement from before backward.) The greater prominence of the segment of the smaller sphere (cornea), the greater bulging of the eye; the staring appearance of *myopic* eyes is due to this real enlargement. Exactly the opposite takes place in the eyes of the aged; they get smaller; partake in the common shrivelling and waste; the eye is shorter from before backwards, in consequence the cornea and crystalline lens flatten. As a result of these two opposite states it will at once be seen that the *myopic* eye refracts light too strongly, while the *presbyopic* eye does not focus strongly enough. The one class of persons have therefore to use concave, the other convex glasses, to correct the respective deficiencies of their organs of sight. The near-sighted

person brings objects close to the face so that the lenses of his eyes may be required to exert more refracting power—in other words, to bring the image in the proper place on the retina, and not before it. As distance from the object lessens the amount of refraction required for a perfect image, the aged hold objects off to correct the defect of their organs. The great evil, however, that educators have to grapple with is *myopia*, which is increasing noticeably in all our schools. Before inquiring into its causes it may be well to consider some of its necessary sequences. By watching anyone looking at an object, it will be observed that the nearer the object is brought to the eyes, the more they incline inwards towards the nose, until finally they cannot move any further in this direction, when they give up, as it were, either closing and then looking outwards or forwards, or in some way altering their direction. Each eye is moved by six muscles attached behind to the most posterior part of the socket, and in front a short distance behind the junction of the sclerotic and cornea. Now if from any inherited weakness, or if from excessive use in turning the eyes inwards, due to *myopia*, any of these muscles get relatively weakened, the result must be that the stronger ones will overpower the weaker—the eye will involuntarily turn in the wrong direction, and squint (*strabismus*) will be the result. Again, the excessive motion of the ball, perhaps the undue pressure on it, together with the constant bending down of the head to look at books on tables, to write, etc., favours congestion or excess of blood in the visual organ, and thus exaggerates the size of the eye, and of necessity the *myopia*; so that if old habits be persevered in the case must go from bad to worse. Moreover there are few *myopic* persons who are not weak-eyed, if not subject to at-