

Donders considers that in myopia, the antero-posterior diameter is alone at fault; that is, it is too much elongated, and that the cornea and crystalline lens have usually a normal curvature.

The characteristics of a myopic eye, are *

- 1st. Parallel rays are focussed in front of the retina.
- 2nd. The "far" point is at a definite distance and positive.
- 3rd. When the eye is in a state of rest it is adapted for divergent rays.
- 4th. Concave glasses improve vision.

CHAPTER IV.—HYPERMETROPIA.

You will remember that when a normal eye is in a state of rest, and directed to a distant object, parallel rays are brought to a focus upon the retina, and that when a myopic eye is in a state of rest, parallel rays are brought to a focus in front of the retina. When, however, a hypermetropic eye is in a state of rest, parallel rays would (if continued) form a focus behind the retina. Hypermetropia is, therefore, the reverse of myopia. In myopia, the refractive power of the eye is excessive, and in hypermetropia it is not strong enough. When the accommodation of a myopic eye is paralysed, it has the power of focussing none but diverging rays upon the retina, but a hypermetropic eye under the same circumstances can focus only converging rays upon the retina. The "far" point of a myopic eye is at a definite distance and positive, but the "far" point of a hypermetropic eye is at a definite distance and negative. Concave glasses improve the vision for a myopic eye, and convex for a hypermetropic one.

This is an affection which has received very little attention until within the last ten years. It was indeed noticed by Dr. McKenzie of Glasgow, in 1841, but it was not until about five years ago that Prof. Donders, of Utrecht, from his elaborate researches on this subject, first pointed out how common this affection is, and how frequently it is the sole cause of that peculiar weakness of sight (formerly so little understood) called asthenopia.

Donders believes that this condition of the eye depends more upon a shortening of the antero-posterior diameter of the eye, than upon a too low degree of its refractive power; that the cornea and crystalline lens have a normal degree of curvature, and that parallel rays would form a focus at the normal distance behind the lens, were the retina far enough back to receive it.

* From Donders' system of classification.