Left Eye.—The condition, as regards pigment, is practically the same as in the right eye; the difference lies in the lens changes, the radial spoke is below the pigment mass, subcapsular clearly, and in addition there is temporally to the pigment another spoke, whitish and similar in shape to the others, but deeply placed in the lens.

General Remarks.—The case whilst differing from Dr. Thomson's cases is, to my mind, quite definitely of the same type; it is

The pupils are fully dilated by atropin.

the only one I have met, out of 3,000 cases examined at the clinic.

History.—The family and personal history is good. No history or sign of syphilis can be found, or history of eye trouble or treatment to the eyes at all. The parents, respectable hard-working people, with a family of ten, were aware that the child had not quite good sight, but did not think there was any need for treatment. With the appearances and the history, the fairest conclusion it is natural to arrive at is, that the case is one of congenital abnormality, quite unconnected with either pre- or post-natal inflammation.

PRESCRIBING SPECTACLES

BY

A. S. PERCIVAL

NEWCASTLE-UPON-TYNE.

SINCE writing my short paper on this subject which appeared in May, I have found that the expression for the *back focal distance* (BFD) can be much more simply expressed in the dioptric form.

Let the metre be taken as the unit, and let D be the power required. Then the thickness t or 3.8 mm. is written 0.0038 m.

and D becomes $\sim \frac{1}{\text{BFD}}$, and if d_1 denote the power of the anterior

surface, and d_2 the power of the posterior or ocular surface of the meniscus, we have $f_1'' = -\frac{\mu}{d_1}$ and $\frac{1}{f_2''} = -d_2$,

$$\text{so } x \text{ or } t - \frac{\mu}{d_1} = \frac{-\mu}{D - d_2}$$

$$\therefore \frac{1}{D - d_2} = \frac{1}{d_1} - \frac{t}{\mu}$$

This is the general formula:

$$\text{hence } d = \frac{\mu(D - d_2)}{\mu + t(D - d_2)}$$

$$\text{and } d_2 = D - \frac{\mu d_1}{\mu - td}$$

In the example on page 231 where d_1 is required, $D = 6$, $d_2 = -7$, so $D - d_2 = 13$

$$\therefore d_1 = \frac{13\mu}{\mu + 13t} = \frac{19.799}{1.5724} = 12.59$$

Of course + 12.5 D would be ordered.

On page 232 the prescription is written for a + 9D base, and we wish to find d_2 . Taking $D = 3.5$ and $d_1 = 9$ we find

$$d_2 = 3.5 - \frac{13.707}{1.4888} = 3.5 - 9.2067$$

$$\therefore d_2 = -5.7067, \text{ and } -5.75 \text{ is ordered.}$$

If the other meridian were considered even - 6D might be ordered, for $D = 7$ and $d_1 = 12.5$.

$$\therefore d_2 = 7 - \frac{19.0375}{1.4755} = 7 - 12.9 = -5.9$$

This ambiguity about the value of d_2 will always occur when a convex toric surface is ordered, but when a concave base is ordered, the value of the anterior surface d_1 is always defined.

Thus for case (2) where the same spherocylinder is ordered on a - 6D base, we must find d_1 . But here for one meridian we have $D = 3.5$ and $d_2 = -9.5$ and $D - d_2 = 13$; for the other meridian we have $D = 7$ and $d_2 = -6$ and again $D - d_2 = 13$

$$\therefore d_1 = \frac{\mu(D - d_2)}{\mu + t(D - d_2)} = \frac{13\mu}{\mu + 13t} = \frac{19.799}{1.5724} = 12.59$$

for both meridians.

Consequently the anterior surface should be of the power + 12.5D. It will often be found that this attention to the position of the second principal point makes all the difference to the comfort of the patient, and frequently, but I fear not always, does away with the curved appearance of the objects viewed.