

cases of convergent strabismus are caused by hyperopia, that a large number of cases of divergent strabismus are due to myopia, and that the development of the strabismus may be arrested by the early correction of the optical defect by the use of suitable spectacles, and also that after a tenotomy has been performed, the wearing of spectacles is often necessary to prevent a relapse of the deformity.

More recently, it has been satisfactorily demonstrated that the irritation arising from uncorrected errors of refraction may cause various eye troubles, such as phlyctenular inflammation of the cornea, or conjunctiva, blepharitis marginalis, neuro-retinal congestion, &c.

Ophthalmology has been wonderfully advanced by the adoption of Standard Test Types. The average acuteness of vision in the visual line—that is, at the *fovea centralis retinae* is taken as $\frac{1}{5}$ of a degree. Capital letters, varying in size from $\frac{1}{4}$ to 4 inches in length, printed on a large card, are so constructed that the diameter of the perpendicular stroke of each series of letters shall equal exactly $\frac{1}{5}$ of a degree, when viewed from a fixed distance designated: thus, No. 15 should be seen distinctly at 15 feet, No. 20 at 20 feet, No. 100 at 100 feet, and so on. When a patient can distinguish, say No. 20 at 20 feet, his vision is considered normal, and is indicated by the fraction $\frac{20}{20}$, or unity. If, however, he can only distinguish No. 100 at 20 feet, his vision would be expressed by the fraction $\frac{20}{100}$,—that is, the distance at which the letters are actually seen is divided by the distance at which the letters might be seen with normal vision.

In modern ophthalmology, in addition to making a careful record of the acuteness of vision in the visual line, note is also made of the field of vision. This may be clouded, or completely obliterated in certain directions, and may be caused by detachment of the retina, hæmorrhagic effusions, tumours, &c

Before giving a favourable prognosis in cataract cases, the extent of the visual field is carefully examined.

In certain cases colour tests are also used, as it has of late been demonstrated that colour blindness may be an acquired lesion. In to-

bacco amaurosis, for instance, a seaman or a railroad man may be able to attend to his ordinary duties, but fail to distinguish between a red or a green signal. Hence such persons should be examined periodically for colour blindness.

We are indebted to Von Græfé for the modern treatment of glaucoma. He had noted the fact that iridectomy reduces the normal tension of the eye. When, therefore, it was subsequently discovered, by the combined aid of the ophthalmoscope and pathological examination, that glaucoma is caused by excessive intraocular pressure, Von Græfé immediately tried the effect of iridectomy in relieving the intraocular pressure, and gave to the world a cure for an hitherto incurable disease.

During the last 15 or 20 years, a complete revolution has taken place in the treatment of cataract. By the combined use of the ophthalmoscope and oblique illumination, the different varieties of cataract can be differentiated, and the state of the development of the opacity accurately ascertained. With facilities for making an accurate diagnosis, improved operative procedures, and with the judicious adaptation of the operation to each case, the results of treatment are at least as satisfactory as in any other class of surgical cases.

Statistics have been collected of 11,000 cases of hard cataract treated by the old "flap" operation previous to 1868; and of 11,000 cases treated by the modern operation,—showing that with the former there was a total loss of sight in 16.7 per cent. of the cases, and that with the latter operation the total loss was 6.5 per cent.; still further, that of 1,000 cases of hard cataract operated upon by Von Græfé between 1865 and 1869, the total loss was less than 3 per cent. In the modern operation, for which we are indebted to Von Græfé, the triangular Beer's Knife and the semicircular corneal flap are discarded, and a narrow knife and a straighter and more peripheral cut substituted. The cut is made more nearly in the direction of a great circle of the globe, and a sector of the iris is removed, so as to facilitate the extension of the lens, and prevent prolapse of the iris.

It is, perhaps, almost unnecessary to state,