His own experience of goniotomy ran to 9 cases, to which might be added 4 which Mr. Harold Ridley kindly allowed him to quote. He followed Barkan's technique as far as possible, but he found that a modified Saunders' needle, ground down so that the blade was thinner than the shaft, was easier to use than Barkan's knife. He also found Barkan's operating contact lens so big as to fill up the whole conjunctival sac. He therefore got Hamblin to make a much smaller contact lens which was very easy to manage: it did not give much magnification but with it and a binocular loupe one could see sufficiently into the angle to put one's knife there. Actually he had only used it once for operation but quite often for looking at the angle. The number of cases in which one could use a contact lens was not very large.

His own 9 cases supported Barkan's observation that goniotomy was only likely to succeed in early cases where the cornea was not greatly enlarged or altered, and that it was no use trying it when the cornea was larger than 14 mm. Out of the total of 13 cases (23 eyes), 6 (9 eyes) or 46% might be considered to be definitely successful so far; 2 cases were definite failures, the remainder being either partially successful or doubtfully attributable to goniotomy. In the successful cases sometimes two or three goniotomies were necessary, sometimes only one; in all his own successful cases the history was six weeks or less and in 4 the corneal diameter was not more than 13·5 mm.

There were two important and obvious criticisms to be made; the first was that almost any operation had a good chance of success in the early and mild cases. None, however, was so cosmetically perfect or injured the eye so slightly; there was a risk of hæmorrhage but if one was careful and did not try to do too much of the angle at a time this risk was slight.

The other criticism was the length of follow-up. His cases had all been followed up for about two years now and they had all been all right so far, but the most critical period he thought would come round about puberty. One found so many cases in which, although a spontaneous arrest or an apparent operative cure was effective for the first nine or ten years, during the teens drainage ceased, tension went up and vision deteriorated. Then, therefore, would be the time when goniotomy would be tested.

Dr. M. Klein said that he would like to draw attention to the difference between high magnification and low-power magnification gonioscopy, in which a Troncoso gonio-lens, a headloupe and a good focal light are used. With this method patients could be examined in the outpatient department as it took only a few minutes. The cases in which he had found it useful were such as those described by Mr. Hobbs, for example foreign bodies in the angle of the anterior chamber. In a case of iris sarcoma which he saw at Mr. Wolff's clinic with this gonioscope one could see how far back it went, and this helped to arrive at the decision that the tumour could be removed by iridectomy. Low magnification gonioscopy was not suitable for research purposes but it was a great help clinically in suitable cases and should be included in the routine equipment of the ophthalmologist.

Hereditary Bilateral Ptosis and Blepharophimosis Associated with other Developmental Abnormalities of the Outer Eye.—M. KLEIN, M.D.

In a 3-year-old boy ptosis, epicanthus, blepharophimosis, dystopia of the lower lacrimal puncta and hypoplasia of the caruncles were noted. The levators and superior recti were also involved.

Vision of the right eye 6/12, of the left eye 6/6. There is no appreciable refractive error. Ocular movements show limitation of upward movement but there is no vertical deviation. Fusion is good with an amplitude of approximately from −2 degrees to +20 degrees.

The lids cover the upper third of the pupil. Levator action is absent, and though the upper lid is soft one can feel that the levator-tarsal layer is fibrotic. In the father, who has the same condition, this thickening and fibrotic change in the upper lid is even more marked. The ptosis is associated with blepharophimosis, and in such a case it has been suggested that the shape of the palpebral fissure is responsible for the ptosis, and operation should aim at enlargement of the palpebral fissure.

The dystopia of the lower lacrimal puncta, the hypoplasia of the caruncles, the epicanthus, and the wide opening of the two inner canthi correspond, according to Waardenburg (1930, 1932), to conditions found at the fœtal age of 8 to 10 weeks, and he assumes that this stage of development becomes fixed. The absence of levator action and involvement of both

superior recti are probably due to absence, or developmental abnormality, of these muscles (Fig. 1).

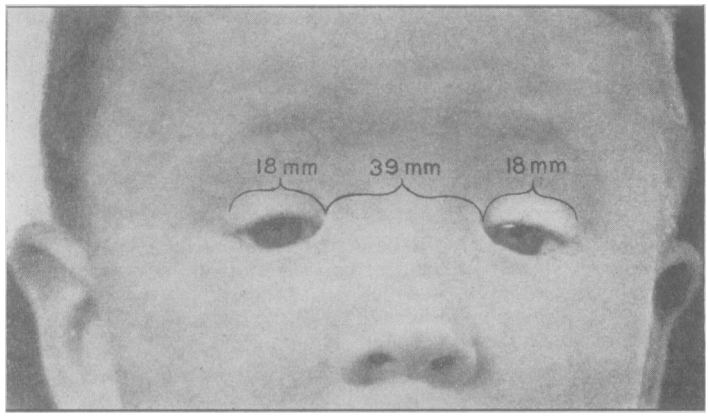

FIG. 1.

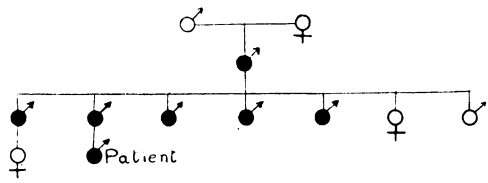

FIG. 2.

The pedigree shows that the condition first appeared in the grandfather of the patient, and no previous member of the family was affected. He transmitted it to five sons. A daughter and a sixth son were free (Fig. 2).

Similar family trees have been published and this one resembles that of Dimitry (1921). Usher (1925) published a pedigree where ptosis was linked with epicanthus, and in some members both conditions were present, in others only the epicanthus.

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Mr. Frederick Ridley said that an important point had been omitted. This was an Icelandic family, and the condition was new in Iceland. It looked as if the grandfather was a genetic oddity who developed this condition *de novo*.

Mr. Maurice Whiting said that he would not touch the levator muscle in this case since it appeared to be defective and it would not be much use to shorten a defective muscle.

It would be better to do an external canthotomy, not too much—as this would exaggerate the distance between the inner canthi—and then to put in two narrow fascia lata grafts so as to get a slight raising of the lid. One could not make the eyes look normal, but it would improve the appearance and uncover the pupil to the normal extent.

Mr. B. W. Rycroft said that a number of these cases were seen from time to time at East Grinstead and the practice was to carry out a canthoplasty. This was done by the plastic surgeon. Afterwards a Blaskovicz resection was done. Movement was not obtained by either method but a Blaskovicz operation gave the better cosmetic result.