ment, this contributing to a calm and easy procedure of the operation. In order to obtain the greatest possible adaptation to the anatomical relations these blades must be bent in the shape of a saddle while in addition the upper blade must have an arch parallel to the surface of the eyeball.

In cataract operations any pressure from the instrument upon the eyeball must be avoided. In the case of the lower blade there is no danger of this as it is kept at a safe distance from the globe. In the case of the upper blade, however, this danger does exist, even if the exerted pressure is slight, this blade being supported by the rim of the orbit. To avoid this pressure on the eyeball the upper blade is provided with a small curved piece of wire. Through the eyelet, thus formed, a thread can be passed if necessary which can be held tight by the assistant at the operation to prevent the metal coming into contact with the eyeball. This can be performed by one less experienced in eye operations.

If a speculum with dissimilar blades is to be employed for operations on the right eye as well as on the left, the blades should not be attached to the instrument. On the speculum illustrated here, the blades can be detached from the arms and alternated. A spring prevents them from slipping off easily.

The hinge of the instrument has an adjustment screw which rests against the patient’s temple. By means of this screw this part of the speculum can be slightly tilted to improve the adapting of the blades to the eyelids.

The instrument, as illustrated, has been tested upon several people and has been put into practice in various kinds of operations. It has been shown that by its use a very wide palpebral fissure is obtained, while according to those tested, they felt no pressure on the rim of the orbit; at the most, slightly the stretching of the external canthus.

USE OF POLARIZED LIGHT IN SCOTOMETRY WITH BINOCULAR FIXATION

BY

ULF HALLDÉN

UPPSALA

A GREAT number of different devices have been constructed to allow of the investigation of the visual field using binocular fixation. In ordinary cases binocular fixation will be somewhat more steady than monocular, but the difference is hardly of practical importance. In
all kinds of central scotomata, however, (retrobulbar neuritis, macular changes and similar conditions) the monocular method is insufficient. In most cases of concomitant strabismus without amblyopia, there are as Harms (1937), Travers (1938) and others have shown, transitory scotomata which disappear immediately when the eye not under investigation is occluded. Those scotomata can only be studied with the binocular method.

Haitz in 1904 introduced his charts which were to be observed with an ordinary stereoscope. He utilized only a ten degree field, a disadvantage especially in the investigation of squint. An important improvement was made by Lloyd (1920) and his instrument in its numerous modifications seems to be widely used, especially in the U.S.A. It is generally preferred, however, to make the campimetric investigation at a distance of one or two metres. To this end Harms (1937) used red-green glasses and as a test-object, a red disc, invisible through the green glass. The use of a coloured test-object to investigate the field for white, seems rather unnatural. Foster (1938) has described an ocular with a mirror reflecting a fixation light placed outside the screen, and Travers has used a mirror in his investigation of the nature of suppression in squint. It must be a laborious and time wasting procedure to adjust the mirror, at least in cases of squint.

If a beam of polarized light is projected on to an aluminized screen, it is reflected irregularly, that is without glare, but with very little change in the polarization. The projectors described by Juler (1939) or by Odqvist (1942) may be adapted for the purpose, by attachment of a polaroid filter. I have myself used the Odqvist projector. The screen is viewed through polaroid filters with the planes of polarization at right angles to each other. By rotating the polarizer it is possible to extinguish the projected spot of light for the eye not under investigation, while the point of fixation and the whole screen are simultaneously fully visible for both eyes. The projected spot of light is now used as a test-object for the campimetric investigation. In this way it is easily possible to examine the visual field, within the limits of the tangent screen, at any distance from one to four metres, with a very free choice as to diameter and contrast of the test-object, and to use colours as well as white.

On the usual Bjerrum screen of black cloth the limits found are temporarily marked off with pins. This is not possible with an aluminized screen, I have used a screen of aluminized sheet iron, and small permanent magnets as indicators.

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When not to operate

It is not easy to lay down precise rules on this subject. Most of us formulate our own. Speaking generally no surgeon is bound to undertake an operation if, in his judgment, the risks are too great or the benefit therefrom too problematical. The patient is always free to consult somebody else, if he is not satisfied. Nobody disputes that cases of acute glaucoma or perforating wound with iris prolapse must be operated on. In ophthalmology it is in cases of cataract that the question of when not to operate mostly arises.

In pre-insulin days most of us were chary of undertaking an extraction of cataract in diabetics. But, nowadays, with the diabetes controllable, the problem hardly arises. We always considered that unilateral cataract with good vision in the other eye was for the most part best left alone. Particularly in cases of cataract with precipitates on the cornea we should not be too ready to suggest operation. It is often said that when a patient is practically blind with double cataract, he can hardly be made worse by an operation and he may be made very much better; and in general we agree. But, even so, there are times when things do go wrong, the eye does badly and has to be removed.

We recall a couple of cases of our own bearing on this point. In one we refused to operate, in the other we consented. The latter case was a labouring man with double cataract and insufficient sight to enable him to do his work. In addition to cataract he had every indication of having had trachoma in his youth and he had also had iritis as evidenced by posterior synechiae. We decided to do an iridectomy in the first instance to see how the eye would react, but before we could do it we had to do a canthotomy to get the speculum inserted. The eye did well; the lens was extracted at a second operation, the capsule finally needled, and vision of 6/9 made the man quite satisfied.

The other case was in a man, aged nearer 90 than 80, whom we were asked to see soon after we started practice. He had only one
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