APPLIANCES

FIXATION IN PERIMETRY AND CAMPIMETRY*

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THE physiological oscillations of the eyes amount only to about 4' and can hardly influence the result of a test of the visual field. There are, however, patients who show much larger excursions of their eyes when tested, *e.g.* nervous patients who cannot concentrate on the fixation mark and whose attention is drawn from the centre by stimuli arising in the periphery. In the case of low central visual acuity the fixation becomes unsteady. In glaucoma the impaired dark adaptation has to be taken into account. The light in the test room is usually poor and the scotopic relative central scotoma may handicap the fixation.

Two devices are described below which have proved useful to me and are simpler than the methods of Haitz and others, though in cases of unilateral absolute central scotoma one has to revert to the traditional methods.

For perimetry I use a small black metal cone mounted on the illumination box of the perimeter. The small aperture of the cone is 0.75 cm. wide and points to the fixation mark, which is 11 cm. distant (Fig. 1). Seen through the cone, the fixation mark appears to be "framed", and fixation becomes easier and steadier. As the aperture of the cone is small it does not make much difference whether a wire cross is inserted or not.

FIG. 1.—Fixation device for perimetry.

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My "aiming" device for the Bjerrum screen consists of a larger black truncated cone held by a handle with its upholstered smaller aperture against the orbital margin (Fig. 2). At the large aperture held away from the eye a cross wire is inserted. As the wire crossing diminishes the visibility of the fixation mark, the wires insert at a central ring of 0.6 cm. diameter which "frames" the mark. The length of the cone should be equal to the width of the large aperture. In this case the eye can see a field of $26^{\circ} 40'$ round the fixation mark, corresponding to the tangent of half the angle subtended at the anterior nodal point of the eye (0.5). The patient is told to aim at the fixation mark through the centre of the ring which appears in slightly diffuse lines. Thus, fixation is facilitated by the cross wires, and at the same time stimuli arising in the periphery and exciting eccentric motor impulses are eliminated.

FIG. 2(a).—Fixation device for campimetry.

FIG. 2(b).—Wire cross with central ring.

The clearer view of the field obtained by these devices cannot be due to a stenopaeic effect as the aperture is too large. The Bjerrum cone protects the eye as a hood protects the lens of a camera from diffuse peripheral light. The simultaneous contrast at the dark rim of the cone may have some influence, but the steadying of fixation is apparently more important for the improvement of the visibility.