contains, the performance of the test requires a specially devised apparatus.

In the clinical round, one usually obtains a contraction of the pupil, by illuminating either half of the fundus with a light held at the side. This procedure is faulty.

More satisfactory is the plan of placing the patient, sideways, at a window, and, while directing him to look into the distance, of using diffuse daylight for illumination. Then, by turning right about, the other half of the fundus can be stimulated under like conditions. The eye, which is not being tested, ought to be covered with a dressing and light bandage.

For the test to be valid in the last procedure, the refraction of the eye must be emmetropic. Otherwise, the source of light and the illumined point on the retina will not be conjugate foci, and a diffuse lighting up, by reflection, of the interior of the globe will vitiate the result.

ANNOTATIONS

The value of letters and characters as visual tests.

That the letters used for sight testing vary in difficulty is a fact that has become almost universally recognized. Whereas letters like L and J which, approximate to isolated contours, are relatively easy, those which do not, such as S, R and B, are relatively difficult (cf. Hartridge and Owen, *Brit. Jl. of Ophthal.*, Dec., 1922).

Dr. Ewing, before the International Congress at Washington (D.C.), quotes the visual values for both block and Gothic letters, as compared with the Landolt broken ring. These values were obtained by the ophthalmic section of the American Medical Association. The recommendations made by the latter are:—

- (1) That block letters are superior to Gothic.
- (2) That the following block letters of medium difficulty should be used:—T, V, U, C, O, Y, F, P, D, Z. N, E. R, S, C. H.
- (3) That Snellén's original standard of 1 minute of arc for the width of the black lines composing a letter, and 5 minutes for the height and width be adhered to.

It is a matter for considerable regret that no information is given by Dr. Ewing as to the methods used in carrying out the tests. Were the tests done in ordinary day-light, i.e., under illumination of very variable intensity or was a carefully standardized light source of constant intensity employed? Were the patients referred to in the paper skilled at making visual comparisons, or were they hospital patients taken at random? Were the tests done with an

ordinary variable pupil or was an artificial pupil used? Further, were the tests done so frequently that the figures quoted in the paper have some real numerical value? These are all questions about which nothing is said in the paper. Neither is any reason given for the fact that comparison was made with Landolt's broken ring. What are wanted are the minimum angles which the letters should subtend at the eye in order that they should be read correctly by a skilled observer with perfect vision under standard conditions of illumination, pupil, etc.

Taking, however, the figures given at their face value there are three other criticisms to be offered:—

(1) That C appears twice in the list of block letters, having a visual value of 0·79 in one place and one of 0·92 in another.

(2) That letters varying greatly in difficulty are included in the selected list. Thus among the 16 letters recommended, are T the visual value of which is given as 0·74, and H with one of 0·92, i.e., a variation of about 20 per cent. This variation would appear to be too large; it would be preferable to limit the number to the 9 letters:—V, U, Y, F, P, D, Z, N, E, which from the values given in the paper vary by under 10 per cent.

(3) The recommendation that letters be used which conform to Snellen's standard perpetuates the old square letter. This shape is stated to be distinctly inferior to that of Green's type in which the shape of the letter is given by:—height 5 minutes and width 4 minutes. This is also apparently the opinion of the committee appointed by the Council of **British Ophthalmologists** to consider test types.

It may, therefore, be said, that while there is no doubt that the letters of the alphabet vary in difficulty and that for purposes of sight testing a number should be selected which are approximately equally difficult, it is somewhat doubtful, owing to the scanty evidence given by Dr. Ewing, if the recommendations of the American Medical Association really meet the case.

Glasgow Eye Infirmary

In 1924 the Glasgow Eye Infirmary will have completed one hundred years of existence as an institution. In view of this interesting centenary Dr. Leslie Buchanan recently contributed to the *Glasgow Herald* a short article dealing specially with the beginnings of the infirmary under William Mackenzie and George Monteath, but carrying the history of the institution up to the time of Thomas Reid, who became surgeon in 1868. This article has been reprinted in the *Glasgow Medical Journal* for March, 1923, where it may be more accessible for professional readers than in the