

Book reviews

Quantitative Layer-By-Layer Perimetry: An Extended Analysis. By JAY M. ENOCH, C. R. FITZGERALD, E. C. CAMPOS. Pp. 232. \$29.50. Grune and Stratton: New York. 1981.

The introduction over the past 25 years of new anatomical, physiological, and biochemical techniques has added enormously to our knowledge of the complexity of the visual pathway, while the clinical localisation of pathological processes in the retina has been enhanced by fluorescein angiography and electrodiagnostic procedures. Much of the work of Professor Enoch and his group has been concerned with the development of noninvasive psychophysical tests of visual function, which not only provide information to be correlated with the more recent anatomical and physiological studies of the normal visual processes, but also have a bearing on clinical ophthalmological practice and research. This book gives an account of this work together with an assessment of its present stage of development and the advances which may be expected from its impact on future research.

The subject matter lies in an area of specialised interest shared by visual scientists and clinicians and deals mainly with 3 procedures—a test of 'sustained-like' function, a test of 'transient-like' function, and the flashing repeat static test (FRST). The first 2 functions are described with appropriate references to the previous work of Westheimer, who studied the correlation of this type of psychophysical test of vision with the underlying physiology.

The initial step in testing is the determination of the threshold of a small test target, presented as a flashing point of light. The luminance of this target is then raised by a constant factor. In order to test the sustained-like function a surrounding background field is introduced, the luminance and area of which can be varied; measurement is made of the effect of these variations on the perception of the test-target. The level of adaptation at which the test is done is set by a large illuminated field which surrounds the background field. In order to test the transient-like function the flashing test target is surrounded by a background field bearing a windmill-shaped pattern, and measurements are made with the windmill stationary and rotating. The flashing repeat static test is concerned with the alteration in retinal sensitivity over a relatively short period of time. The apparatus needed for these tests and the methodology are described. In reading the descriptions of these tests, the clinical ophthalmologist will appreciate that they are designed to assess relatively unfamiliar factors, such as integrative activity within the retina, temporal variations, and the effect of on-off signals, rather than the more familiar ones associated with the testing of acuity and visual fields during routine clinical practice.

Of particular interest to the clinical ophthalmologist are the extensive presentations of the results obtained on various groups of patients with pathological changes in different layers of the retina and with glaucoma, the clinical details often being supplemented by illustrations of fluorescein angiography and visual fields. It is clear that the work is still in its relatively early stages, but the evidence accumulated so far may be summarised as follows. Outer

retinal diseases, involving the choroid, pigment epithelium, and retinal receptors, appear not to alter the results of any of the 3 main tests. Diseases of the inner retina, that is, from the outer plexiform layer to the nerve fibre layer, cause alterations in the sustained-like or transient-like functions or in both, but the FRST is not affected. By contrast, diseases of the optic nerve beyond the nerve head, such as retrobulbar neuritis, alter the FRST but not the other functions. In open-angle glaucoma it is of interest that changes are found in the sustained-like and transient-like functions but not in the FRST.

This book is of interest mainly to 2 groups of readers, referred to, rather negatively, as the 'nonclinician' (p.19) and the 'nonpsychophysicist' (p.18). It is inevitable therefore that some material will probably appear elementary to one group and advanced to the other, but on the whole a satisfactory balance has been achieved. The general impression which the clinician may gain from the book is that, although the psychophysical tests described may be time-consuming and demand much from the patient, there is reason to suppose that their future application will be of practical clinical value in helping to demonstrate exactly where visual function is disturbed by a pathological process. Some of the basic science will be unfamiliar to the 'non-psychophysicist' but the general presentation is interesting and stimulating.

JOHN GLOSTER

Cataract Surgery and its Complications. 3rd edn. By NORMAN S. JAFFE. Pp. 611. £55.00. YB Medical Publishers: London. 1981.

This is the third edition of Dr Norman Jaffe's book, which has now become a classic. Like its predecessor it is divided into 2 main parts. The first part deals mainly with the principles of cataract surgery and the second with complications.

The first of the 10 chapters making up part 1 deals with the decision to operate. This should be read by all ophthalmologists, as it contains many useful tips on how to handle patients about to have cataract surgery and advice on post-operative management. There is also a detailed description of the evaluation of eyes with mature cataracts. The section on intraocular lenses is also outstanding, as might be expected from Dr Jaffe's great interest and experience in this field. The chapter on surgical techniques discusses in depth the older methods of extraction, such as the use of the Graefe knife and of the erisiphake, and compares the technique of sliding with tumbling. The paragraph on congenital cataract surgery is somewhat disappointing and contains vague statements such as 'the exact age at which surgery must be performed to avoid amblyopia is not known. This is probably sometime during the first year'. None of the references quoted on congenital cataracts are less than 11 years old. The chapter on the management of subluxated lenses is similarly out of date. Although it describes in detail the older methods, no mention is made of closed intraocular surgical techniques which have revolutionised the management of this very difficult problem. It is surprising that, although a whole chapter is devoted to phacoemulsification (written by Dr Charles Kelman) there is no mention of lensectomy techniques for the management of soft and complicated cataracts. The chapter on wound