for guidance in the repair of such larger defects. Total reconstruction of an eyelid receives no mention at all, and the large and beautifully executed drawings, which occupy much of the space in this chapter, merely depict the meticulous repair of relatively trivial defects. Incredibly there is no mention anywhere in the book of burn injuries of the eyelids, which seems a curious omission from a work of this sort.

One should add that, in spite of this critical review, the book contains much practical information and should be a useful addition to the textbook literature in this field.

ROBIN BEARE

Optometry Handbook. By LEROY RUBIN. 1976. Pp. 198, figs, tables. Butterworth Group: London (£8.90)

The *Optometry Handbook* has chapters on visual acuity, ophthalmic optics, prescription design, ophthalmic lenses, refraction and analysis, contact lenses, low vision, and pharmacology. Each chapter is a compilation of statistical data drawn from various sources which will be particularly useful to manufacturers and opticians but of little value to ophthalmologists unless they specialise in ophthalmic optics. Of some interest to ophthalmologists would be the section on pharmacology, which lists and cross-references many drug preparations used locally and systemically that have an effect on vision. The other statistics given still keep to the obsolete American foot measurements with regard to acuity, and therefore will be of less value to British and Continental readers.

M. RUBEN

Advances in Ophthalmology. Vol. 34. Edited by E. B. STREIFF, H. SAUTTER, and M. J. ROPER-HALL. 1976. Pp. 226+8, 65 figs., refs. Karger: Basel (DM 129)

The subjects covered in this volume are the ageing of the lens, persistence and hyperplasia of the primary vitreous, the mechanisms of amblyopia, the use of laser interferometry to measure retinal visual acuity, and finally the papers presented at a symposium on lasers and the anterior segment of the eye.

Professor Jean Nordmann's publications on the biochemistry of the lens span an astonishing 50 years from his thesis in 1926 to the present very welcome review of the ageing process in the human lens and the pathology of senile cataract. The normal lens continues to grow throughout life, though the rate of growth slows down with age. In all types of senile cataract the axial cortex is thinner than in a normal lens of the same age, and there is a deficiency of fibrogenesis and protein synthesis before opacities occur. All attempts to involve extralenticular factors in the genesis of cataract have failed except perhaps for hyperglycaemia, and it seems that cataract is a local condition resulting from changes in the lens alone. Protein synthesis is slowed down, particularly with regard to glutathione, but the importance of this factor is unknown. Attempts to substitute the deficient glutathione have not given satisfactory results, and the most hopeful therapeutic possibilities are to find substances

which can penetrate the lens to activate protein synthesis. The requirements for substantiating claims for any method of treatment are clearly outlined. Drs M. Gonvers, R. Faggioni, L. Zografos, and C. Gailloud from Lausanne review the literature and present a case of persistence of the primary vitreous, concluding that this is a condition comprising a number of entities previously considered as separate. The possibility of an aetiological connection with retrolental fibroplasia cannot be excluded.

Dr G. K. von Noorden reviews the mechanisms of amblyopia as revealed by animal experiments which have shown that amblyopia is accompanied by alteration in the response of neurones in the striate cortex and by structural changes in the lateral geniculate body. It is likely that the bilateral amblyopia in such conditions as congenital cataract results from deprivation of form vision, whereas in unilateral amblyopia from squint there is an additional factor resulting from abnormal binocular functions.

Retinal function can be tested by forming interference fringes on the retina with a low-power laser. This subjective test is independent of refraction and can be used to assess function in patients with cataracts. The instrument used by Drs Rassow and Wolf is described, and a comparison of the results with the final visual acuity after cataract extraction was encouraging.

The symposium on lasers and the anterior segment was held in Hamburg in April 1976 and was concerned with experimental and clinical studies on the use of lasers for iridotomy and trabeculotomy. The experimental studies dealt with the biochemical reactions in the eye after laser irradiation, including metabolic changes and the liberation of prostaglandins, threshold damage levels for the structures of the anterior segment, and experimental results with a dye laser.

The clinical discussions confirmed that laser iridotomy is now well established as a satisfactory procedure, and although it is possible to burn a hole with the argon laser alone it is probably better to use the argon laser to produce initial stromal damage and to complete the iridotomy with a pulsed laser. The clinical value of laser trabeculotomy for chronic simple glaucoma is still controversial, although good results were claimed from using a Q-switched ruby laser. But the fall in intraocular pressure in successful cases is limited, suggesting some degree of obstruction in outflow channels beyond the trabeculum.

As is usual with this series the volume is well produced and illustrated and provides an excellent review of current work in the fields represented.

E. S. PERKINS

Grundlagen und Methodik der Ophthalmodynamometrie, Ophthalmodynamographie, Temporalisdynamographie. By D. ULRICH. 1976. Pp. 152, 58 figs., 21 diagrams, 33 tables. Georg Thieme: Leipzig (no price)

In comparison with other blood vessels in the body the retinal vessels have two advantages for measurement of blood pressure; they can be easily seen and they are enclosed in the corneo-scleral envelope. This means that it is relatively easy to increase the external pressure acting

on the retinal vessels and to observe the effect. Perhaps it is the frequent reminder, during routine ophthalmoscopy, of the ease of observation of the retinal vessels which continues to urge ophthalmologists to try to improve the technique and the interpretation of the results of ophthalmodynamometry and related procedures. In relation to the effort, however, the yield of information about the ocular circulation seems to be low, although it may be possible to make certain deductions about the state of the carotid and cerebral circulations. The duration of the effort to develop ophthalmodynamometry can be judged from the brief historical review in this book, which shows that work on the human eye can be traced back to the first decade of this century.

Early chapters in this book deal with the relevant anatomy (including the numerous variations in arterial origins and branchings), physiology, and hydrodynamics of ophthalmodynamometry, and there are some useful diagrams to help the reader through this part. There follows a section on the different techniques which have been described. The instruments themselves vary according to whether they raise the intraocular pressure by pressing on the eyeball or by exerting suction on it. Also, in some techniques, force is exerting on only a small part of the eyeball (for example, with Bailliar's ophthalmodynamometer), while in others (for example, Hager's so-called ophthalmodynamography) the force is transmitted to all the orbital contents. It is rightly stressed that one has to consider what is being measured. With the usual methods of ophthalmodynamometry it is the pressure in the ophthalmic artery, but with Hager's procedure it is probably the pressure in the internal carotid. A technique of dynamography of the temporal artery is also described.

The author makes clear that there are many sources of error and a number of problems in interpreting the results, and he discusses these matters fully. A great deal of factual material is presented. For example, there are 15 pages of graphs giving the relationships between pressures in the ophthalmic artery as determined by ophthalmodynamometry and brachial arterial pressures, and the corresponding relationships for pressures measured by ophthalmodynamography and in the temporal arteries. This mass of information is further complicated by the need to give systolic, mean, and diastolic pressures, and by the change in relationships according to the posture of the patient.

Dynamography differs from dynamometry in that it gives a recording of the form of the pulse wave and is applicable to the orbital contents or the temporal arteries. The recording of the pulse wave gives the opportunity for further analysis of haemodynamic events in terms of pulse volume, pulse duration, and the speed of rise and fall of the pulse wave. All these matters receive attention. Recent developments offering more hope for future advances are also mentioned; these include the use of ultrasound and the Doppler effect, and the combination of dynamometry with recordings of the visual evoked response.

On the whole the contents of this book amount to a careful and painstaking presentation of the known facts

of ophthalmodynamometry and related techniques, but one is left with a feeling of disappointment that it is not possible to demonstrate a greater contribution to practical clinical problems.

J. GLOSTER

Ocular Electrophysiology: A Clinical and Experimental Study of ERG, EOG, and VER. By J. BABEL, N. STANGOS, S. KOROL, and M. SPIRITUS. 1977. Pp. 172, 145 figs., 21 tables. Georg Thieme Verlag: Stuttgart (DM69)

The field of electrophysiology as applied to the eye has seen significant advances in recent years, and workers in this field are now familiar with the beautiful recording technique of these particular authors at the Geneva eye clinic. This book, which is translated from the French, is a clinical and experimental study of the electroretinogram, the electro-oculogram, and the visually evoked response based on work done over the past 10 years. The notable feature of the work is the development of the technique of averaging to produce these electrical responses. In particular, the form of the electroretinogram is portrayed very accurately, and the changes shown with disease will be of interest to the less specialised clinician.

N. R. GALLOWAY

Radiology of the Orbit. By GLYN A. S. LLOYD. 1975. Pp. 216, figs., refs. Saunders, London (£10)

This book represents one volume in a series on diagnostic radiology. It is a tribute to the author, who has compiled a unique experience in this specialised field as consultant radiologist to Moorfields Eye Hospital and the Royal National Throat, Nose, and Ear Hospitals in London. The material is largely from his personal files and includes a lifetime of experience in the diagnosis of orbital lesions.

The early chapters describe the methods of investigating the orbit by plain x-rays, tomography, contrast techniques, computerised scanning, and various forms of ultrasound. There follow chapters on vascular anomalies in the orbit, unilateral proptosis, tumours, and pseudotumours. A useful chapter is included on the paranasal sinus, and of particular interest to clinical ophthalmologists are the chapters on dacryocystography and localisation of intraocular foreign bodies.

The book is well produced, with illustrations of exceptional quality and a useful bibliography. It will prove valuable to ophthalmologists as well as neuroradiologists, for whom it was largely intended. It is unfortunate that the date of publication precluded any major consideration of computerised scanning.

M. D. SANDERS

New Developments in Ophthalmology. Documenta Ophthalmologica Proceedings Series, Vol. 7. Edited by A. F. DEUTMAN. 1976. Pp. 365, 244 figs, 35 tables, refs. Junk: The Hague (Dutch Glds. 110)

This report of the symposium held to inaugurate the new eye institute of the University of Nijmegen has no particular theme except that it is concerned with new developments in ophthalmology. It must have been an