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SIR, Drs. Atkin *et al.* should not complain that their work has been inaccurately reported. In their letter they quote their report precisely and then tell us that it is neither what they meant nor what their (unpublished) data show. We would like to thank them for now confirming our result. They also stress the importance of flicker in glaucoma testing. Because we did not test patients with flicker we did not discuss their work beyond commenting on their stimulus. We now feel called upon to do so.

All clinical tests have a dual role. Those which rapidly and efficiently discriminate between affected and normal individuals come into general clinical use even when evaluated on purely pragmatic criteria. Others are normally used experimentally to tell us something about the functional or structural abnormality characterising the disorder. Such tests should be as accurate and unambiguous as possible.

We agree that tests with flickering targets can detect glaucoma better than those with static gratings. However, a maximally efficient test target should be placed in the midperiphery and need not be a grating. For example, C. Tyler measured the full *temporal* modulation transfer function for a defocused spot, subtending 4°, centered 20° above the fixation point. He reported hit rates better than 80% and few false alarms.¹ The success of flickering stimuli might reflect retinal organisation in that area, the type, number, or relative density of affected to unaffected ganglion cells, cortical synaptic efficiency, or the saliency of the stimulus. It may simply be that observers, especially naive patients, respond more reliably to flickering targets, where they must repeatedly distinguish between target presence and absence, than to static ones, where they decide only once.

Atkin *et al.*, in all 3 reports, specifically concentrated on the *central* visual field loss in glaucoma patients. They suggested that they had evidence of a specific loss of the Y cell group, mainly because their results with flicker were the only ones which were significant. We believe that we have not misinterpreted them or misunderstood them because of the importance they gave to this interpretation.

However, their theory has little support. Only a small percentage of optic nerve fibres come from Y cells. Their diameter spectrum overlaps that of X cells, so that they are unlikely to be specifically first affected by pressure damage. Although full spectra are still not available, optic fibre damage appears to be general within regions and bundles, not restricted to specific diameter groups.² Finally, X and Y cells may only respond differentially to flicker well above threshold, but not at it.³ With static stimuli we could not show an interaction between contrast sensitivity loss in

glaucoma and spatial frequency. Atkin *et al.* had to average over thresholds in structured and unstructured fields to get any significant effect. They have never shown that their effect is greater with the unstructured field, as it should be if it increases with decreasing spatial frequency. Other reasons for the loss of flicker sensitivity in disease are given above. In their letter, too, Atkin *et al.* present us with a second model of visual loss in glaucoma, which they had not previously advanced, but which is quite general and without implications for spatial or temporal frequency or field specific loss.

In our report⁴ we were concerned to develop a clinically acceptable test of the full contrast sensitivity function which could be used with any patient group. Glaucoma was discussed only as an example. We confined our discussion mainly to the many different patterns of loss which had been reported with static test stimuli.

If Drs. Atkin *et al.* aimed only at developing a maximally effective test of early glaucoma deficit they should have put their stimulus in the midperiphery, where the first detectable damage occurs. If they did want to say something about the underlying structural deficit in central vision in glaucoma, they have not established their point and are not misunderstood. In now stressing the importance of flicker they misrepresent the primary purpose of their work as well as our own.

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Book reviews

Current Management in Ophthalmology. By DOUGLAS D. KOCH, DAVID W. PARKE II, DAVID PATON. Pp. 338. £28.50. Churchill Livingstone: Edinburgh. 1982.

This is an informative, readable, well-researched book, always entertaining, sometimes controversial, but, like any

multiauthor book, the quality is uneven. Some chapters are excellent, others are not so objective, containing a particular bias or ideas that are either untried or do not bear relevance to the general management of the particular ophthalmic problem.

The chapters on pre-ocular tear film abnormalities, extended wear soft contact lenses, the management of posterior ocular injuries, and advances in the pharmacological treatment of glaucoma are particularly good, informative, well written, and of great help to practising ophthalmologists. Although fungal keratitis is not common in the United Kingdom, the chapter on this is of interest to all and a useful, up-to-date reference. Personal bias rather than objective knowledge is contained in the chapter on herpetic eye disease. The table on keratouveitis scoring is largely untried and is not of relevance to the general ophthalmologist, and the diagram on the disease progression is misleading. Personal bias is also seen in the chapter on intraocular lens implantation in children. Iris clip lenses are becoming unpopular because of problems inherent in their insertion and stability and the difficulty of adequate retinal examination. Should such a lens be promoted when there are now safer lenses, and when they are associated with a 38% endothelial cell loss, which must carry a poor prognosis for long-term corneal clarity? One slight criticism of the excellent chapter on the management of thyroid ophthalmology is that more emphasis should have been put on the measurement of the vision as an indication of the effects of orbital compression, particularly in cases where proptosis is not prominent (concealed exophthalmus).

Any elective book such as this leaves many questions unanswered, but it achieves its aim in informing on the subject it deals with, acting as a quick practical reference, and is highly recommended, although it is expensive. It will form a useful and essential contribution to all medical libraries.

JAMES MCGILL

Third International Symposium of Plastic and Reconstructive Surgery of the Eye and Adnexa. Eds. SHERRELL J. ASTON, ALBERT HORNBLOSS, MURRAY A. MELTZER, THOMAS D. REES. Pp 362. £48.25. Williams and Wilkins: London. 1982.

This book is a collection of chapters on ophthalmic plastic surgery written by different authors who contributed these articles at the Third International Oculo Plastic Conference of the Manhattan Eye, Ear, and Throat Hospital. It is a great tribute to the organisers that they collected such an impressive number of participants distinguished in a particular field. Such contributors include Beard on ptosis, Castanares on cosmetic surgery, Mustarde on lid reconstruction, Smith on blow-out fractures, Veirs on lacrimal repair, Wright on orbital surgery, and Zacarian on cryotherapy.

The disadvantage of most such symposium series is the difficulty of producing a comprehensive coverage of the subject, but the editors have overcome this to a remarkable degree by introducing some controversial articles such as the ones by Jackson on nasolacrimal duct reconstruction, Puterman on blow-out fractures, and Litton on cosmetic chemosurgery, and also by limiting the contributions on any

one subject. The treatment of adnexal tumours is thus covered by short separate chapters on cryotherapy, surgery, radiotherapy, Moh's technique of microscopically controlled excision, and the management of advanced cancer, which gives an overall view of the available forms of treatment.

Inevitably different authors examine their topics in different detail and the quoted bibliographies vary from extensive to nil. The subjects covered range from a fascinating history of plastic surgery in the orbital region to major craniofacial surgery and include articles on many ophthalmic plastic surgery problems, but this should in no way be regarded as a comprehensive textbook. It is, however, a very interesting collection of the current views of a large number of experts in their own field and as such is well worth reading.

J. R. O. COLLIN

Ophthalmology Made Ridiculously Simple. By STEPHEN GOLDBERG. Pp. 82. £7.00. Medmaster: Miami, Florida, 1982.

The author's credentials are his post as associate professor in the Department of Anatomy and Family Medicine in the University of Miami, with board certification in ophthalmology, and a training in neurology. His audience is the nonophthalmologist, and the perspective is that of a family physician.

About a quarter of the 82-page slim paperback is occupied by chapter 9, 'Clinical review,' which matches symptoms with diagnoses and depicts in 34 simple line drawings a wide range of external and internal eye diseases. Chapter 7 is an alphabetical list of systemic diseases with their ocular features. Ophthalmic techniques, from visual acuity testing to indirect ophthalmoscopy, are collected together in chapter 8. The first half dozen chapters deal with anatomy, visual disorders (i.e., refractive errors and strabismus), the red eye, ocular trauma, retinal disease, and neuro-ophthalmology.

This small book is surprisingly comprehensive and up to date: radial keratotomy for myopia receives a cautious mention, with about as many reservations as intraocular lenses. The applanation tonometer is ignored, in favour of the Schiøtz instrument ('sterilised' by an alcohol wipe). The subject is not made ridiculous; it is a serious book interspersed with a few amusing drawings in the early chapters, and a few quips like advising breath mints if you do ophthalmoscopy on the patient's left eye with your right eye. The lack of colour pictures is a handicap in a colourful speciality.

The author has some success in simplifying the subject for students in the USA, deprived of clinical instruction—'most medical schools do not have a required course in ophthalmology.' Naturally I would advocate reinstatement of an important subject, though that would deprive us in Britain of some keen elective students who enliven our summer months.

CALBERT I. PHILLIPS

Focus on Vision. By R. A. WEALE. Pp. 194. £5.75. Hodder and Stoughton: Sevenoaks, Kent. 1982.

This is a most stimulating book. To read it is rather like going on a conducted coach tour through vaguely (as far as



Current Management in Ophthalmology

James McGill

Br J Ophthalmol 1984 68: 64-65

doi: 10.1136/bjo.68.1.64

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