final reading of the IOP from the dial but also during the adjustment of the tonometer dial. It is possible for the examiner to observe both the prism mires through the microscope and the IOP scale on the tonometer by a simple movement of the eyes, without movement of the head. Observation of our colleagues has shown that this manoeuvre of alternating viewing of the prism head and IOP scale occurs commonly in clinical practice, and that the final IOP recorded is frequently influenced by the observation of the tonometer scale during the process of adjusting the mires. Most ophthalmologists, of all grades, when questioned were unaware that this movement of their eyes occurred. All, when informed, however, felt that this was a source of error and bias.

Evidence of the importance of measurement bias also comes from blood pressure studies where digit preference, the decision effect, and bias towards the norm for 'unblinded' measurements have all been reported.[2] In systemic hypertension the muddled zero sphygmomanometer has become an essential instrument for clinical trials.[3] We suggest that the Goldmann applanation tonometry technique could also be modified to reduce the risk of bias.

The Haag-Streit 900 slit-lamp has a clear perspex breath shield (reference 5702019). When this is made opaque, drifting of the eyes to the measurement scale on the tonometer is prevented and reading of the IOP scale needs an active decision by the observer, requiring a small head movement away from the microscope eyepiece. We have made the breath shield opaque by painting it matt black and found no hindrance to the use of the slit-lamp (Figs 1 and 2). We suggest this simple modification will reduce the risk of bias during adjustment of the measurement scale, and should be used particularly when clinical trials using applanation tonometry are being conducted.

J T GILLOW
R AGGARWAL
Birmingham and Midland Eye Hospital, Church Street, Birmingham B3 2NS

1 Hollows FC, Graham PA. Intraocular pressure, glaucoma, and glaucoma suspects in a defined population. *Br J Ophthalmol* 1966; **50:** 570–86.
2 Perry IJ, Beevers DG. Measurement of blood pressure in epidemiological surveys. In: O'Brien E, O'Malley K, eds. *Handbook of hypertension.* Amsterdam: Elsevier Science, 1991: Vol 14.
3 Wright BM, Dore CF. A random zero sphygmomanometer. *Lancet* 1970; **1:** 337–8.

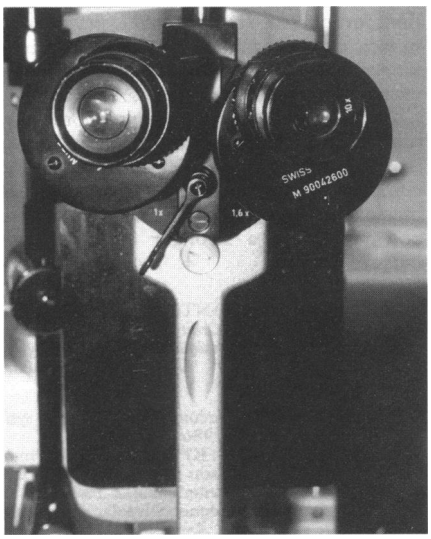

Figure 1 When the observer is positioned to view through the eyepieces the modified breath shield obscures the tonometer scale.

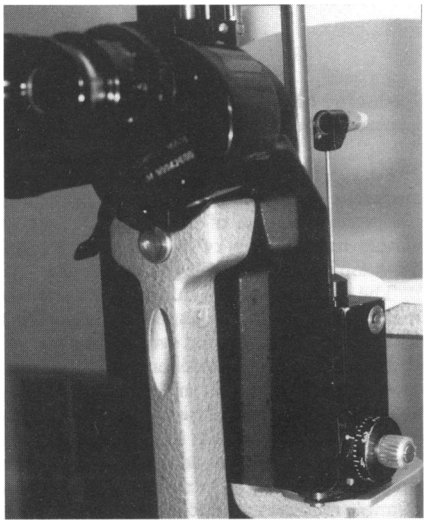

Figure 2 A purposeful head movement away from the eyepiece is required to read the tonometer scale.

The end stage of birdshot retinochoroidopathy

EDITOR,—The long term visual prognosis for birdshot retinochoroidopathy is not entirely certain; the disease has been reported to stabilise after the initial active stage. However, in other series 40% of patients experienced a loss of useful vision in one or both eyes.[1 2] We report an untreated case of birdshot retinochoroidopathy associated with poor visual acuity and retinal abnormalities resembling tapetoretinal dystrophy.

A 65-year-old white man from Germany suffered for more than 20 years from bilateral chorioretinal disease which was diagnosed in 1989 as birdshotretinochoroidopathy. He was found to be HLA A29 positive. A fundus photograph taken 15 years ago revealed scattered ovoid cream-coloured lesions in the midperipheral retina, which were typical of birdshot retinochoroidopathy (Fig 1). Local or systemic anti-inflammatory drugs had never been given; however, climatic therapy in Davos (a mountain resort in Switzerland) and a low voltage therapy (treatment modality not known to us) in Germany were thought to be indicated. Multivitamin preparations were also prescribed. For a second opinion, the patient consulted another ophthalmologist in 1994 in Germany; he raised the possibility of the diagnosis of tapetoretinal degeneration based on the funduscopic findings and electroretinograms (absent in the right eye and residual potentials in the left eye).

Ophthalmic examination in December 1994 revealed a visual acuity of finger counting for the right eye and 0·2 for the left eye. The anterior segments were normal; lens and vitreous contained no opacities. Funduscopy demonstrated optic disc pallor, very thin vessels, and peripheral reticular pigment deposits, resembling the features of tapetoretinal degeneration (Fig 2). The former choroidal spots in the posterior pole had become atrophic scars. Fluorescein angiography revealed extreme atrophy of the choriocapillaris and pigment epithelium (Fig 3) and in the late phase slight macular oedema was noted. Family history of ocular diseases was negative and his general medical history was unremarkable. Previous laboratory investigations for uveitis were within normal limits.

On the basis of photographic evidence from the earlier stage of the disease and the presence of HLA A29, we believe that the present clinical features represent the extreme cicatricial end stage of birdshot retinochoroidopathy. For our patient the diagnosis of retinitis pigmentosa is not likely because of

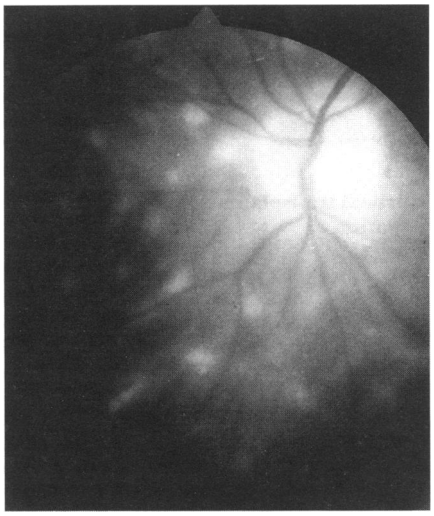

Figure 1 Left fundus in 1979. Multiple ovoid lesions deep in the retina which are hazily demarcated and clustered in the midperiphery of the retina. Peripapillary lesions are also visible. Visual acuity of the left eye at that time was 0·3.

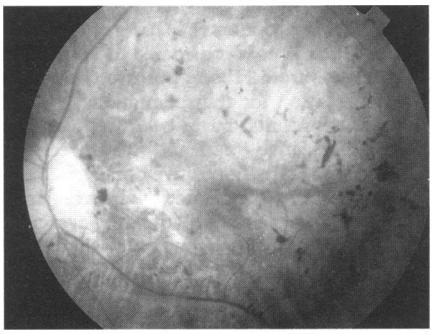

Figure 2 Left fundus in 1994. Atrophic birdshot lesions. Attenuated retinal vessels and optic disc atrophy. Peripheral pigment clumping resembles alterations usually seen in retinitis pigmentosa. Visual acuity of the left eye was 0·2.

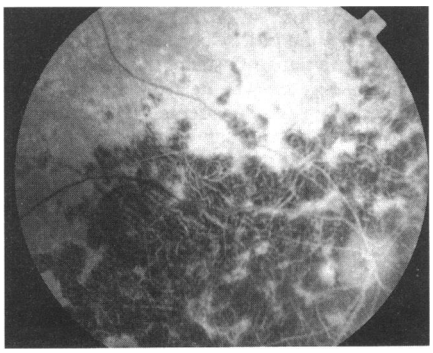

Figure 3 Fluorescein angiogram in 1994. Left eye, early phase documents atrophy of choriocapillaris and pigment epithelium.

the clinical course and the absence of cataract. Extinguished electroretinograms are not exclusive to primary tapetoretinal degeneration; subnormal and extinguished responses have been reported in various types of uveitis including birdshot retinochoroidopathy.[3 4] The diagnosis of sarcoidosis is not probable since, over the years, our patient has never exhibited signs of systemic disease nor associated anterior uveitis or retinal 'candle wax' vasculitis.

Late in the course of birdshot retinochoroidopathy the development of optic disc atrophy, attenuated vessels, and fine pigmentary changes has been documented.[5] The extreme findings for our patient may, in part, be attributed to the inadequacy of his treatment; however, the effect of corticosteroids or cyclosporin on the final prognosis remains to be assessed.[6] Noting the useful vision and the slight macular oedema of the left eye we considered a therapeutic approach, starting with periocular corticosteroids, to be worthwhile.

ANIKI ROTHOVA
MARY J VAN SCHOONEVELD
FC Donders Institute, Academic Hospital Utrecht, and Netherlands Ophthalmic Research Institute, Amsterdam, the Netherlands

1 Nussenblatt RB, Palestine AG. Birdshot retinochoroidopathy. In: *Uveitis. Fundamentals and clinical practice.* Chicago: Year Book Medical Publishers Inc, 1989: 248–56.
2 Ryan SJ, Maumenee AE. Birdshot retinochoroidopathy. *Am J Ophthalmol* 1980; **89:** 31–45.
3 Priem HA, De Rouck A, De Laey JJ, Bird AC. Electro-physiologic studies in birdshot chorioretinopathy. *Am J Ophthalmol* 1988; **106:** 430–6.
4 Hirose T, Katsumi O, Pruett RC, Sakaue H, Mehta M. Retinal function in birdshot retinochoroidopathy. *Acta Ophthalmol* 1991; **69:** 327–37.
5 Gass JDM. Vitiliginous chorioretinitis. *Arch Ophthalmol* 1981; **99:** 1778–87.
6 Nussenblatt RB, Palestine AG, Chan CC. Cyclosporin A therapy in treatment of intraocular inflammatory disease resistant to systemic corticosteroids and cytotoxic agents. *Am J Ophthalmol* 1983; **96:** 275–82.

BOOK REVIEW

Local and General Anaesthesia for Ophthalmic Surgery. By R W Johnson, F C Forrest. Pp 183. £35. Oxford: Butterworth-Heinemann, 1994.

The authors, two anaesthetists, have produced a well referenced monograph which they hope will be of interest to ophthalmologists as well as anaesthetists. The monograph provides anaesthetists involved in ophthalmic surgery and anaesthetists in training with a very competent overview of the subject. However, ophthalmologists may find only some sections of the book of interest: the chapters on local anaesthetic drugs, local anaesthetic techniques, and day-case surgery would certainly fall into that category and could be useful and profitably read by ophthalmic trainees. They contain many germane observations that will aid practitioners in their quest to produce better and safer regional anaesthesia for their patients. However, the chapters on orbital anatomy and ocular physiology might be too superficial and the chapters on general anaesthesia irrelevant for ophthalmologists.

The illustrations are clear line diagrams but some of the anatomical drawings would be enhanced by colour. The reviewer would suggest different emphasis in future editions, with some subjects particular to ophthalmic anaesthesia given more in depth treatment and with other more general topics such as resuscitation, malignant hyperthermia, and how to insert a laryngeal mask airway being omitted altogether.

There are occasional errors such as the unqualified statement that adrenaline does not reduce the absorption of bupivacaine. Adrenaline has been shown to reduce peak concentrations of bupivacaine in many forms of regional anaesthesia. However, these minor criticisms should not detract from what will be a useful monograph for anaesthetists. Ophthalmologists may also find sections of the book of interest.

D NOBLE

NOTICES

Royal Society of Medicine, Section of Ophthalmology

REGISTRAR'S PRIZE WINNER

This year the RSM Section of Ophthalmology Registrar's prize winner is Mr S Beatty, senior house officer, Birmingham and Midland Eye Hospital, Birmingham B3 2NS.

MEETINGS

The following meetings (beginning at 5 pm) are open to RSM members and their guests only.

LIMITS TO PRECISION, 9 November 1995
Contact lens manufacture; Microsurgical instrument manufacture; Quality aspects of Healonid; Manufacture of ophthalmic sutures.

CHRISTMAS MEETING, 14 December 1995
A vision of sport; Dr Charles Kelman – the pedigree's chum?; Traditional Chinese medicine and its application to ophthalmology; The eyes, windows to the soul.

BLINDING DISEASE IN THE DEVELOPING WORLD, 11 January 1996
Update and magnitude and causes of blindness; Latest strategies against onchocerciasis; Risk factors and interventions for cataract in developing countries; Current thinking in childhood blindness.

TOXOPLASMOSIS, 8 February 1996
Epidemiology of toxoplasmosis; Representing people affected by toxoplasmosis; The diagnosis of ocular toxoplasmosis; Clinical aspects of toxoplasmosis.

LANG LECTURE, 14 March 1996
New perspective; corneal grafting Professor David Easty.

NEW HORIZONS IN THERAPEUTICS, 9 May 1996
The identification of human tumour antigens: a strategy for developing tumour vaccines; New developments in the management of CMV retinitis; The development of ophthalmic drugs; The challenge of gene therapy in the context of eye diseases.

Further details: Alyson Taylor, Sections Officer, Royal Society of Medicine, 1 Wimpole Street, London W1M 8AE. (Tel: 0171 290 2985; fax: 0171 290 2989.)

REGISTRARS' MEETING, 13 June 1996, 2 pm
For registrars to present research work and case reports. Papers to be considered for publication. Abstracts should be submitted (max 200 words) for the attention of P Murray, The Royal Society of Medicine, 1 Wimpole Street, London W1M 8AE. Closing date for entries is 12 April 1996.

Wellcome General Overseas Travelling Research Fellowships 1994–95

The purpose of these fellowships is to allow postdoctoral scientists and medical graduates to gain further research experience by working in leading laboratories in the UK or the Republic of Ireland. Applications are invited from such workers who wish to undertake a research project in any branch of the natural or clinical sciences, which has a bearing on human or veterinary medicine, with the exception of cancer.

Applicants may be from any country outside Europe, with the exception of New Zealand and the USA for whom special schemes are available. Awards will be made on the basis of the research proposal. The research proposed should be relevant to the research interests of the candidate in his/her own country. Awards are made for one year in the first instance, although requests for an extension may be considered. Fellowships provide a stipend within the range from £13 941 to £27 869 per annum, depending on age and experience. They also include the cost of research, attendance at scientific meetings, and return travel.

Candidates must be nominated by a sponsor in the UK or the Republic of Ireland, through whom all initial inquiries should be made. A preliminary proposal should include a one or two page outline of the research proposed, the curriculum vitae of the candidate, and a letter indicating that he/she has a position to return to at the end of the fellowship. There are no special deadlines for this scheme and applications may be submitted at any time during the year.

Requests for application forms should be addressed to: Dr J M Wilkinson, The Wellcome Trust, 183 Euston Road, London NW1 2BE. Tel: 0171-611 8407.

Candidates from New Zealand and the USA should contact the Health Research Council of New Zealand, Auckland, NZ or the Burroughs Wellcome Fund, Morrisville, NC 27560, USA, respectively, for details of appropriate schemes

Office of Continuing Medical Education

The 8th Annual Wilmer Institute's Current Concepts in Ophthalmology will be held on 7–9 December 1995 at the Johns Hopkins Medical Institutions, Baltimore, Maryland, USA.