
It is quite impossible within the confines of an ordinary review, to set forth the many excellencies of this book, and no attempt will be made even to summarize its contents. Perhaps the fact that this review was due for publication last month and has not appeared until now is some indication of the character of Volume I of Duke-Elder's Text-book of Ophthalmology. It was not possible to scan the whole hastily. One started perhaps with this intention in mind but the text proved of such absorbing interest that detailed perusal was inevitable. Many instances of this might be given—there is, for example, a particularly interesting account of the chemical control of the circulation in which is described the important rôle of histamine bodies in bringing about vaso-dilatation as a result of antidromic impulses along the sensory nerves.

Encyclopaedic is the adjective which seems best fitted to give the general character of the volume under review. Whenever a subject is mentioned, it is described in full and in all its details. In the description of the movements of the eyelids for example, we are given not only the different varieties, ontogeny, and phylogeny of blinking, but also the average times occupied by the movements of the lids as obtained by analysing photographic records. (0'05 second to lower the lid, 0'15 second while it remains lowered and 0'2 second occupied in raising it.)

One has a feeling, therefore, that no limitations of space have been imposed upon the author and that he has ransacked the ophthalmic literature of the world for material on which to base his writings. One particularly important feature is the quotation of references to the literature thus employed—in fact with the possible exception of Parsons's Pathology of the Eye no such complete bibliography would ever appear to have been published in an English text-book. Another innovation is the provision of short biographies of those who have done important and authoritative work on the subjects described, the biographies being accompanied by full-page portraits. Sir William Bowman is appropriately the first of these. Apart from this, interesting little historical notes are also given; for example, we are told that when Schlemm originally found his canal it was filled with blood because he used as his
material the eye of a criminal who had been hanged. Incidentally, the author notes that although the canal was first described by Schlemm in 1831, its presence had been noted by Albinus, as far back as 1775.

The thought and care which have gone to make the text of this book of interest, are everywhere in evidence. A particularly nice analogy is given, for example, in the description of the retina wherein the bipolar cell and its processes are likened to a peripheral nerve, the ganglion cells to the cuneate and gracile nuclei and the nerve fibre layer, the optic nerve and its prolongations, to the mesial fillet in the medulla and pons. The question also of the dorsal decussation of the fourth nerve, usually a matter of no particular interest, becomes so when we are given four separate explanations of its occurrence, and phylogeny, comparative anatomy and physiology are constantly being brought in, in their appropriate places with the same effect. Physical chemistry, a subject closely associated with the name of the author is of course very adequately dealt with. More especially the original work which he did in showing that the aqueous was a dialysate is fully described. If an apology were needed for this, it might be found on page 440 where we read under the heading of "ionised diffusible substances" that "diffusible cations do not readily find their way into the eye." This might seem to some to be a statement of merely academic interest, but bismuth and mercury are diffusible cations, so its clinical importance becomes evident. Of similar importance are the remarks about how local anaesthetics increase the diffusion through the cornea of substances such as eserine, instilled into the conjunctival sac.

The subject of physical optics which must make an appeal to any ophthalmologist is excellently described, and is appropriately accompanied by portraits of Isaac Newton and Albert Einstein.

The concluding sections of this volume deal with the physiology of vision. As a general summing up of the present position with regard to colour vision it would be difficult to find a more appropriate statement than that of the author, "For more than 70 years the two streams of thought—physical and psychological—have run parallel; no one has appeared who has been able to unite them into a unitary conception." This last sentence slightly paraphrased, might be made to apply to the author's latest and greatest literary work, since its effect is to integrate to a high degree, if not entirely to unite into a unitary conception, the world's present knowledge of the development, form and function of the visual apparatus.

It goes without saying that a book of this kind should be the indispensable possession of the ophthalmologist who values a knowledge of his subject and more particularly of one whose duty
it is to instruct students. Finally, it seems almost superfluous to say that we congratulate the author on his achievement; we can only hope that its production will be as great a source of satisfaction to him as it will be of inspiration to the world of English-speaking Ophthalmologists.

Röntgen Ray Diagnosis and Treatment in Ophthalmology. (Die Röntgenadiagnostik und—Therapie in der Augenheilkunde).


This small book gives a very complete résumé of the present position of X-ray diagnosis and treatment in Ophthalmology. The first fifteen pages are taken up with a full account of the various methods of localizing foreign bodies in the eye. The preference is given to a method devised by Comberg. In this a contact lens with a bit of lead fastened to it is placed on the eye and the fixation object is a small light placed along the line of the X-ray beam, so that the position of the eye is definitely controlled and the position of the corneal apex accurately known.

Following this is a description of methods of demonstrating and localizing orbital conditions and the position and size of the optic foramina.

A valuable chapter is devoted to the dangers of X-rays and the damage which might be caused by them. This is followed by a full description of the methods adopted in treating many different conditions of the eyeballs and adnexa.

The book should prove very useful in indicating what can be done and what must be avoided.

Letters and Diary of Theodor Axenfeld. (Theodor Axenfeld's Briefe und Tagebuchblätter). By Helmut Axenfeld.

Enke: Stuttgart. 1931. Pp. 128 and 25 illustrations. 8M.

To all the pupils and friends of the late Professor Axenfeld this book will bring memories of an essentially lovable man. In it his son has published the letters which he sent to the members of his family during his journey to Japan, together with extracts from his diary. This was the last journey Axenfeld undertook, as he died shortly after his return. To those who did not know him personally it will bring a vivid representation of the ideally happy family life which he led and will also show how devoted he was to the scientific aspects of ophthalmology.

They will realize the deep piety of the man, his honesty of purpose and his great love of humanity.

It is a book that will well repay perusal and it was an act of great filial devotion on the part of his son to publish it.

This book commences with a chapter on Units—in incidently adding another to the plethora—and passes on to chapters on the discrimination of intensity, dark adaptation, acuity of vision, the visibility (i.e. luminosity) of the spectrum, the laws of colour mixing, the hue discrimination data, recurrent vision and flicker phenomena, fatigue and after-images, simultaneous contrast and spatial induction, theories of colour vision and colour blindness, colour vision and normal variation, a detailed examination of colour-blind subjects, and the theory of colour vision.

It is a very valuable addendum to the ordinary text books, because, in addition to describing the author's own researches on the discrimination of brightness, Riccò's law, the effect of contrast on visual acuity and colour blindness, it reviews and criticises much of the more important recent work on the subject. It is true that most of the criticism is destructive, but as the arguments are valid, this is not to be accounted to the author as a fault. Thus, for example, by the simple device of plotting $I/\Delta I$ against $\log I$, instead of the usual $\Delta I/I$ (where $I$ is the intensity of the light and $\Delta I$ is the least discriminable difference), Houston has found that König and Brodhun's data—the best available—accurately fit a Gaussian curve of error. This invalidates Weber's law of a constant fractional increase, which has long been suspect. None the less, Weber's law does hold good approximately over a limited range of moderate illuminations. Hecht's theoretical deductions from his excellent work on dark adaptation do not survive critical examination, whereas his statistical explanation of the effect of intensity of illumination on visual acuity receives the author's blessing. A suggestion of the present writer, founded upon the maximum of the luminosity curve (which physicists will persist in calling the "visibility" curve), that our eyes have become adapted to sunlight so as to convert as much of its energy as possible into light, was criticised by T. Smith in Nature, and is now finally asphyxiated by the equation

$$\frac{d}{d (\log \lambda)} \frac{I}{\lambda^4} e^{-c_2/\lambda T} = 0$$

which gives the maximum as $725 \mu \mu$—which is absurd!

Houston's work on colour blindness is valuable in laying stress on the statistical distribution, which has hitherto been neglected. Both the methods and the deductions appear to the writer to be open to criticism, which cannot be adequately set forth in a review.

The book can be strongly recommended to all who are interested in these problems, but will prove rather strong meat for those who have not learnt to think in logarithms and graphs.

Lieferung 374 of this colossal work deals with the methods of investigation of the cornea, by F. P. Fischer, of Leipzig, and the methods of measuring sensation-time (Empfindungszeit) by M. Monjé, of Rostock.

In the first part Gullstrand’s, Dekking’s, and Ansler’s methods of photographing the corneal reflexes and Berg’s allied ophthalmometer are described. This is followed by some excellent photographs of the corneal reflexes by Fischer.

In the second part Frölich’s and Monjé’s methods of measuring the absolute value of the “Empfindungszeit” are described, and this is followed by Pulfrich’s method of measuring the differences in the “Empfindungszeit’s” and its modifications by Wölfflin and Engelkin and Pors, and by Frölich. A section is devoted to the extinction methods of Helmholtz-Exner, Piéron, and Monjé.

The measurements of “Empfindungszeit”—which has a technical meaning inadequately represented by “sensation-time”—will appeal chiefly to research workers in physiological optics. The articles on the cornea will appeal more strongly to ophthalmologists.

Government Ophthalmic Hospital, Madras. Annual Report, 1931.


The modern history of the Madras Government Ophthalmic Hospital began under the superintendency of Elliot in 1904 when the hospital was greatly enlarged and vast improvements were made in organisation. Elliot was succeeded by Kirkpatrick in 1914, who in turn gave place to R. E. Wright, the author of this report, in 1917. Wright has recently retired from the service of the Government of India.

The author obviously has been greatly interested in his clinical and operative work. In his description thereof, no doubt to secure emphasis, he has not hesitated to use modes of expression and metaphors which are rarely found in Government reports.

More than 1,800 cataract extractions were performed during the year by the author and his assistants. The results were very good for oriental patients.

Secondary glaucoma due to intumescent cataract seems to be a common clinical entity; this is a condition which is rarely seen in London.

In previous issues of this journal, Wright has described in detail that condition of the cornea known as superficial punctate keratitis, or as he prefers to call it keratitis diversiformis et uveitis anterior,
A common condition in tropical and sub-tropical countries. Nearly 3,000 such cases were seen and healed during the year under review. The author was unfortunate enough to suffer himself from this disease, which left him with slightly less astigmatism than before.

There is no doubt that the very fullest use was made of the in-patient accommodation at the Hospital, for with a total of 170 available beds the average number of in-patients accommodated daily was 231.

CORRESPONDENCE

To the Editors of THE BRITISH JOURNAL OF OPHTHALMOLOGY.

Sirs,—The publication of the note on a “Device for Preventing Glare in Electric Ophthalmoscopes” (Brit. Jl. of Ophthal., April, 1932, p. 225) has led to the discovery of the originator of the device. I have just heard that Mr. Thomson Henderson, of Nottingham, had it made for him some 20 years ago. It is such a delightfully simple and effective device that credit should go where it is due. I pay my tribute to Mr. Thomson Henderson’s ingenuity.

I have found that the pattern shown at the Ophthalmological Section of the Royal Society of Medicine can be improved. The tube is now reduced to a curved ledge, fitted to the lower edge of the hole in the mirror, somewhat the shape of the tip of a mapping pen. The protection is just as full, but the field is appreciably widened. The alteration has been made for me by Messrs. Rayner.

Yours faithfully,

N. BISHOP HARMAN.

NOTES

The death is announced of Hermann Pagenstecher, of Wiesbaden, at an advanced age. He was the author, with Genth, of a pathological atlas of the eye.

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The provisional programme for the centenary meeting of the British Medical Association has been published. The following are the officers of the ophthalmic section. President: Sir John Parsons, F.R.S.; Vice-Presidents: W. Gordon M. Byers, J. Jameson Evans, N. Bishop Harman, Sir William Lister, K.C.M.G., R. Foster Moore,