are due to disturbances in the capillaries, and in seeking a parallel condition in the eye he points out the various independent rings of terminal capillaries that surround, and supply nutrition to, the avascular dioptric system of the eye, and he suggests that the capillaries in the various terminal zones of the eye are subject to the same intermittent spastic disturbances as occur in other parts of the body, and these disturbances by producing a temporary ischaemia may bring about degenerative changes in the tissues supplied by them, the degenerative phenomena depending on the intensity and duration of this ischaemia, and in the case of the lens being observable clinically as opaque dots mostly permanent in character.

Confirmation of his contention that the disturbances assumed for these lens changes are possible and do occur in the capillaries of the eye is found in the degenerative changes at the macula as the result of capillaro-spastic conditions (that have been described by other writers), and in the positive vascular signs, seen in vaso-neurotic persons, that are due to the increased tone of the capillaries and arterioles surrounding the macula.

THOS. SNOWBALL.


(9) Callender and Campbell's article gives details of the various procedures carried out in the preparation of pathological specimens and gives the following particulars of a method for procuring post-mortem specimens. As soon after death as possible 0.25 c.c. of full strength formalin should be injected into the vitreous through a fine needle passing through the equator of the eye-ball on the temporal side. The posterior segment of the eye-ball can then be removed after breaking through the roof of the orbit without disfiguring the body and without detaching the retina. Bouin's fluid is the best fixative to use in these cases.

F. A. WILLIAMSON-NOBLE.

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BOOK NOTICES


We have recently reviewed a book on physiological optics by Hillebrand (Brit. Jl. of Ophthalm., Vol XIII, p. 215), drawing attention to the fact that the subject was considered specially from
the physiological and psychological point of view and incorporated the opinions of Hering and his school. The present work is written by a physicist and the subject is treated from the starting point of the stimulus rather than that of the response. The two books are therefore complementary and neither should be neglected by students of physiological optics. It was intended that this volume should have been written by Prof. Pulfrich, but only the introduction and small sections on the field of vision, eye movements, and the Fechner law were completed at the time of his death. It has fallen to Dr. A. König, an optician, to carry out the major part of the work. His is a name honoured in the history of physiological optics, for the work of A. König, who was Helmholtz’s assistant, on the effects of illumination on visual acuity and on colour vision has rightly attained the dignity of becoming classical. We understand that the present author is no relation of the earlier König.

The book is an admirable description of up-to-date knowledge of Physiological Optics, with full bibliographical references. Since it covers the whole range of the subject in little more than 200 pages it cannot be regarded as exhaustive. Indeed there are places where the compression is so great that there is some lack of lucidity, and some of the figures would be more intelligible with further explanation. The classical work of Helmholtz and others is therefore by no means superseded by the present work, but taken in conjunction with that masterpiece and with Hofmann’s “Die Lehre vom Raumsinn des Auges” it will prove an invaluable addendum. It is beautifully printed, and the price is more reasonable than is now customary for German scientific books.

**Functionelle Veränderungen am Gefäßsystem der Netzhaut.**


Functional changes in the retinal vessels have as yet received but little attention, though their existence is well known; the monograph under review represents Mylius’s personal contributions, the greater part of which is devoted to the changes observed in eclampsia and pre-eclampsia. By functional changes the author understands in the main two conditions, one—the more important—being spasm, and the other hypertonicity of the vessel wall. Spasm may be not only of the most transient nature, but also localised to a small segment of a vessel, and is hence often missed; it may be more extensive, when spasmodic contractions can be seen to travel along greater extents of the vascular tree; and in the severest cases it may pass into a state of tetanic contraction, giving rise to very constricted vessels which are then maintained in this condition for a variable period (lasting sometimes even for weeks).
By hypertonus the author understands an increase in the normal tone of the vessel wall, which in contrast to spasm and tetanic contraction does not imply an expenditure of energy to maintain the vessel in its new state. All these conditions are functional in the sense that in themselves they allow a return to the normal; secondary changes, such as exudates, may indeed occur, but they are the results of the impeded circulation—consequences rather than the concomitants of the functional changes. These functional changes are by no means isolated phenomena: they may be both superadded to organic lesions and be the precursors of such lesions.

The endless vagaries and combinations that the ophthalmoscopic appearances can show, are well illustrated by careful and lucid descriptions. The visual disturbances associated with these changes are just as varied: they may be absent altogether, or give rise to flashes of light, transient momentary blindness, or even loss of vision lasting for days, with either complete or incomplete restoration, depending upon the secondary changes that may have supervened.

Apart from the intrinsic interest in the conditions described by Mylius, the monograph is of importance in bringing forward evidence to show that functional changes can pass imperceptibly into organic lesions. This is closely bound up with the question of the relationship of retinal changes to the anatomical changes in the vessel wall in various retinal lesions, such as retinitis of pregnancy, and albuminuric retinitis, to mention only two. In the case of albuminuric retinitis it is well known that the retinal changes bear no direct relationship to the anatomical changes in the arterial wall; indeed the vessel wall is sometimes quite unaffected in the severest cases of renal retinitis. Whether spasm plays any part in devitalising the retinal tissue in such and in other cases is a problem that will have to be considered. And this is but one only of the many problems that this monograph raises.


This report is a survey of the methods of diagnosis and treatment employed in Dr. Harvey Cushing's Clinic at the Peter Bent Brigham Hospital, Boston. It has particular interest because it is written by an independent English observer who acted for a year as Assistant Resident Surgeon. He has tried as far as possible to "let the cases tell their own story" and there are detailed reports of 32 cases in the text, each of which serves to emphasise some important point. Ophthalmology naturally plays a large part in diagnosis since this often depends on the presence of changes in
the disc and fields. For example, a case is quoted of cranio-phar-yngeal pouch cyst, in which the sole symptoms complained of were mental deterioration and drowsiness. The discovery of early papilloedema led to X-ray examination which disclosed signs of calcified cyst. Operation followed and the boy completely recovered. The author remarks that had it not been for an ophthal-moscopical examination, it is highly probable that the boy would have passed eventually into an asylum, blind and mentally de-ranged.

Mention is also made of Walker's method of field examination, on a screen at two metres distance with test objects varying from 40 to 1 mm. in diameter. It is noteworthy that the workers at the Clinic depend almost entirely on perimetry to distinguish between cerebellar tumours and those not infrequent temporal and occipital tumours which give cerebellar signs.

The method of quantitative perimetry is regarded by many as being a modern development of the old procedure, but it was actually described as long ago as 1896 by Simon, who, using a range of objects from 1.5 mm. to 10 mm. wrote "one must work out the size in each case."

Other methods of diagnosis which received consideration are, clinical investigation, X-ray examination, ventriculography and exploratory craniotomy.

The description of these is followed by a section on treatment and the report closes with an instructive analysis of the fatal cases occurring during the year. The whole paper is excellently written and cannot fail to interest ophthalmologists, particularly those who are not satisfied merely with the diagnosis of optic atrophy but like to go further and find its cause.

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**OBITUARY**

**Professor H. TRUC, of Montpellier**

The recent death of Professor Truc at the age of 72 has removed a well-known figure from the ranks of ophthalmology in France. Struggling successfully against unusual difficulties in early life Truc became a student of Medicine at Lyons, and obtained his doctorate in 1885. He practised first as a general surgeon but two years later began to devote himself to ophthalmology. In 1891 he was appointed to the Chair of Ophthalmology at Montpellier University and held this post until he reached the age limit. Last year a commemorative medal was presented to him by his former pupils and colleagues.

Truc's contributions to ophthalmic literature were numerous