
(1) In the Montgomery Memorial Lecture, delivered at the Royal College of Surgeons in Ireland, on July 27, 1933, and reported in the Irish Jl. of Med. Science, Wright gives an account of his experiences of the operative treatment of cataract at the Government Ophthalmic Hospital, Madras, during the 12 years prior to March, 1932, amounting to 20,000 extractions. He discusses his views on the matter of surgical cleanliness of the field of operation and in his Indian practice prefers to rely upon the trial bandage test and Herbert's perchloride irrigation followed by painting the lid margins with a saturated solution of aqueous picric acid. An account is given of local anaesthesia and akinesia by blocking the temporo-facial division of the seventh cranial nerve, and of the ciliary block by retrobulbar novacaine and adrenaline injection. Such complications as orbital haemorrhage and paralysis of the inferior rectus attendant upon this latter procedure are mentioned. In the author's opinion a stitch in the superior rectus is not a solution to the problem of globe-rolling.

In the preliminary general preparation of the patient for operation a trial with opiates such as omnopon is advised to elicit any tendency of the patient to vomit after such drugs or an idiosyncrasy to them. A free use of sedatives in apparently large doses is recommended before and immediately after the operation. Before operation careful attention is paid to the treatment of respiratory affections, such as asthma, and hyperpiesis so as to minimise the effects of these disorders after operation.

The author discusses the intra-capsular extraction. He condemns the Smith operation on account of complications such as forward dislocation of the vitreous associated with impactions and iris displacements. He comments on changes such as condensation and liquefaction of the vitreous which may occur after intra-capsular extraction. In favour of intra-capsular extraction he states that when successfully performed "it gives an astounding freedom from reaction, an immediate return of iris function—early optimum visual function with a quiet, healthy eye."

The techniques of the Barraquer operation and the forceps extraction are discussed and compared.
Contra-indications for the intra-capsular operation are persons under 55 years of age; prominent or bulging globes, especially in fat plethoric patients; glaucoma; gaping of the wound after the Graefe section has been completed; and a shallow anterior chamber; high or even moderate myopia; and chronic anterior uveitis. Sub-luxated lenses, traumatic cataracts and many of the complicated cataracts with dense membranous capsules are unsuited to the Barraquer operation although the latter type, except Morgagnian cataracts are ideal for forceps extraction. After the extraction of the nucleus of a Morgagnian cataract the capsule can be removed complete with Kalt's forceps. The author comments that the most disappointing thing about intra-capsular extraction is the relative infrequency with which immature cataract can be removed without unjustifiable trauma on account of the resistance of a relatively strong zonule.

In the account of extra-capsular extraction the technique of irrigation is described at some length. Preliminary capsulotomy before making the Graefe section has been favoured at the Madras Hospital for over half a century, but the author feels that it might be improved upon. At present, in spite of trials with many instruments, he has not found an ideal method of removing a sufficiently large amount of anterior capsule free from tags that may float into the wound or become adherent to the cornea. The methods of making the section; the varieties of conjunctival flap; corneo-scleral sutures and the treatment of after cataract are discussed. In conclusion the author mentions certain preventive measures for cataract and among these he refers to the high incidence in Madras of cataract caused by the hook worm found in advanced ankylostomiasis.

H. B. Stallard.

(2) Grosz, Professor Emile de (Budapest). — Extraction of cataracts. Arch. of Ophthal., 1934.

(2) Emile de Grosz is entitled to speak with authority on this subject, since he estimates that of 14,000 operations for senile cataract performed in Budapest during the last 30 years some 10,000 were performed by himself. His instruments are sterilized by dry heat (half an hour at 130°C.) and his method of operating follows the German technique in which the surgeon stands at the side of the patient instead of behind his head. He employs capsule forceps, and after expulsion of the lens the removal of remnants is carried out with the Graefe spoon, assisted by the Daviel's spoon. Discussion of after-cataract was comparatively rarely needed, partially because the majority of the patients were satisfied with vision of 5/15 to 5/20. Latterly, the author has
been extracting the lens in its capsule using retro-orbital anaesthesia, akinesia, thread fixation and a special pair of capsule forceps. In the after-treatment, the eyes are bandaged for 24 hours, after which the eye not operated upon is left open, the other being kept covered for four days. Six hours after operation the patient is allowed to sit up in an arm-chair for 12 hours. The patients are never kept in bed for more than 24 hours. The author's results are excellent. As an illustration of the efficacy of his methods, two individual instances are given:—Count Tisza, fought four duels with the sword after a cataract operation and wounded all his adversaries without sustaining any injury himself, and the other, Count Khuen Hedervary, who took part in a political banquet two weeks after his operation without feeling any unfavourable after effect.

F. A. W-N.


(3) Appleman's technique was as follows: With the pupil dilated by atropine the ordinary section was made and an iridectomy performed. Kalt's forceps was then used to grasp the lens capsule in its lower third. Slow traction was made upwards and from side to side, until the zonule was ruptured below and the lower edge of the lens came into view in the pupillary space and remained there. The forceps was then removed and the lens tumbled and expressed by pressure backwards at the lower limbus with a Smith hook, combined with pressure downwards on the scleral lip on the incision with a spoon or spatula. With regard to results, three patients developed retinal detachment, two had no improvement in vision because of irido-cyclitis and one was a foreigner for whom no interpreter could be obtained. Of the remaining 96, 67 per cent. obtained 6/12 vision or better, whereas in 63 patients in which the extracapsular operation was performed, 6/12 vision, or better, was obtained in 58.7 per cent. The author feels encouraged to continue using this type of operation.

F. A. W-N.


(4) Alvis and Meyer Weiner describe seven cases of high astigmatism, five being due to keratoconus and two occurring after cataract extraction, corrected by cylinders varying from
8 to 30 D., which were worn with benefit to vision and with comfort.

The authors review the literature of this subject and describe their own methods of examination and the assistance they derive in these cases from information afforded by the ophthalmoscope, keratometer, and retinoscopy. Subjective testing requires infinite co-operation, patience and persistence for prolonged and repeated trials. The technique of this is described. When the visual acuity is no longer improved by a sphero-cylindrical combination, cylinders of opposite sign are placed at the opposite axis to that already in the trial frame and the authors have found this device of crossing cylinders useful. Case reports are given in detail showing the variations in the cylindrical and spherical corrections at examinations repeated throughout the course of several years.

H. B. Stallard.


(5) Bietti wished to see whether the use of diathermy to the sclera over the ora serrata caused any large rise of temperature in the lens. He finds that there is a definite rise at the equator and notes that in his experiments a cataract was occasionally seen but in almost all cases the opacity disappeared in a short time. By means of a thermo-electric needle he has measured the increase in various parts of the eye and finds it minimal, except in the region of the equator of the lens, where it may reach as much as 24°C, but generally is much less. As a result of these experiments he concludes that the cataract is due not to the direct heat but probably to some change in nutrition set up by changes in the ciliary body.

Harold Grimsdale.


(6) The cause of senile cataract is still quite unknown, though there are certain pointers which may eventually lead to a solution of the problem. There is no doubt that certain endocrine
disturbances tend to be followed by changes in the lens; and also occasional changes in the calcium metabolism. Tetany is the best known example of this connection; and this seems to be connected with alterations of the parathyroid. It is known that excision of the parathyroid is followed, in animals, by defective repair of bone; on the other hand some observers have noted that the administration of parathyroid preparations to young rabbits is followed by a great increase of calcium in the skeleton. These, and other similar facts, suggest that the appearance of cataract is in some way dependent on changes in the calcium metabolism.

Potassium and calcium salts are, to a large extent, mutually antagonistic in their actions on the tissues; thus, for example, calcium increases the strength of pulsation of an isolated frog’s heart; potassium depresses its action. The presence of calcium favours the dissociation of hydrogen ions; potassium of the hydroxyl ions.

If there is a small change in the calcium-potassium ratio in the aqueous, this may alter the permeability of the lens capsule and thus make a change in the nutrition of the lens. Galeazzi has examined the calcium-potassium content in the serum of a number of patients suffering from cataract. He finds the substances present in amounts closely corresponding to the findings in normal healthy people; there is a small increase in the potassium, which he thinks deserves further examination. He hopes to be able to extend his researches to the analysis of the aqueous, but this, as he points out, has obvious difficulties.

HAROLD GRIMSDALE.


(7) Cattaneo gives notes of 30 cases of cataract after contusion. He groups them under two headings, those with rupture of the anterior or posterior capsule and those with no obvious rupture. In the former class the cataract is due to the admission of the aqueous to the lens fibres; in the latter the cause is less obvious. The former are usually progressive and lead, except in the case of very small ruptures, to complete opacity; the latter are often temporary only and clear up leaving little trace. To understand the mechanism of these latter cases the author made a series of experiments on rabbits. He finds that within a few hours of the blow, opacities appear near the anterior suture of the lens; microscopical examination shows small areas immediately under
the epithelium filled with granular matter containing a few nuclei. These seem to be derived from the cells of the epithelium which are seen to show karyokinesis. After these initial opacities have cleared up, others may come on in the superficial layers of the cortex. Their position and shape probably vary with the force and direction of the injury.

It has been suggested that the opacity was due to actual contact of the cornea with the lens; the author has not been able to prove this; in one case he emptied the anterior chamber purposely before striking the cornea, and in this the results were different from those of the other experiments. A small rounded opacity appeared in the centre of the anterior region of the lens. In this case there could be no doubt that the force was transmitted to the lens directly through the cornea.

HAROLD GRIMSDALE.

(8) Biffis and Quaglio (Padua).—Experiments with the antigen of the crystalline lens. (Ricerche sperimentali di antignoterapia cristallinica). Ann. di Ottal., September, 1933.

(8) Biffis and Quaglio have made many experiments to discover whether the injection of lens proteins has any effect on the development or absorption of traumatic cataract. They have not been able to observe any difference of behaviour between the animals injected with the antigens and the control animals.

HAROLD GRIMSDALE.

(9) Lo Cascio and Bertuzzo (Padua).—Spectrographic examination of the lens. (Ricerche spettrografiche sul cristallino). Ann. di Ottal., September, 1933.

(9) It is known that the lens is not absolutely colourless, but has a slightly yellow tint increasing with age. Lo Cascio and Bertuzzo find that the absorptive power of the lens for waves of short length varies in different species of animals; in animals such as the cat, which can see in the dark, the lens is specially transparent to the short waves. Since the lens is slightly fluorescent, and since the waves excited in fluorescence are almost always longer than the exciting waves, it is not easy to determine accurately the limit of visibility of the spectrum. To obtain accurate results it would be necessary to examine subjects who had had the lens removed. It is probable that in normal subjects the limit of visibility lies between wave-lengths of 3905 and 3714.

HAROLD GRIMSDALE.
II.—MISCELLANEOUS

(1) Yudkin, Arthur M. and Gilman, Alfred (New Haven, Conn.). Osmotic equilibrium between blood and intra-ocular fluid as influenced by anisotonic injections. Arch. of Ophthal., October, 1933.

(1) Yudkin and Gilman making use of a new method to determine the osmotic pressures of small quantities of fluid, determined these pressures in the defibrinated blood and in the aqueous, of a series of dogs. In the normal animal they found that they were practically isotonic. Thirty minutes after intravenous injection of sodium chloride (5 c.c. of a 10 per cent. solution per kilo. of body weight) there was a definite rise in the osmotic pressures of the blood, but an almost parallel rise in that of the aqueous. When a hypotonic solution (distilled water) was intravenously injected there was a decrease in the osmotic pressures of the blood and aqueous. In each case the change in the aqueous was a little less in the blood, but the lag was greater with hypertonic solutions. Results of the same character were obtained when sodium chloride or distilled water were given by stomach tube. The authors consider these data as showing that intravenous injection of hypertonic saline must be of only temporary value in cases of glaucoma since osmotic equilibrium is established in about 30 minutes and after this has occurred there are no forces acting to cause a further loss of fluid from the anterior chamber.

F. A. W-N.


(2) Towbin and his fellow-workers took regular morning and evening measurements of the intra-ocular pressure in the eyes of nearly 100 patients on whom operation was performed for a variety of diseases on the one eye, and in more than half of the cases they found an alteration in the usual curve of the tension in the non-operated eye, their clinical observations thus confirming the experimental results recorded in recent literature.

The authors found that in glaucoma the changes in the "sympathizing" eye showed a marked difference from those observed after all other operations; while in some cases the tension fell, the variations between the morning and evening readings
of the tension diminished and the vision improved, in others the reverse occurred.

These varying results would indicate that in some cases the non-operated eye is released by operation on the other from the reflex that, arising from the latter, would otherwise tend to affect the former; in other cases the operation on the one eye reacts on the other and upsets the balance of the complicated system regulating the intra-ocular pressure in the latter—which is more likely to occur in restless, nervous patients.

In all other types of disease for which operation was performed the effect on the eye amounted only to a temporary departure from the normal tension curve.

In a few of these cases, all restless during the operation, the tension in the other eye rose immediately after, and this rise is attributed to a reflex from the sensation of pain in the operated eye which brought about a vaso-motor change in the other.

In a large proportion of the cases, however, an initial fall in the tension was recorded, due, it is held, to the fall in the operated eye, and followed by a return to the normal with or without an intervening rise in the intra-ocular pressure.

Thomas Snowball.


(3) "It is well-known how difficult it is at present to offer an opinion about the existence of vaso-motor arrangements in the brain. We have thought it worth while to investigate the retinal vaso-motor reactions in acute hypertension brought about by sudden (brusque) hypotension at the carotid sinus. We know as a matter of fact, since Hering, the rôle played by variations in the intra-sinus pressure in the regulation of general vaso-motor tonus. Every hypertension in this region causes somatic hypotension with bradycardia; every intra-carotid hypotension brings about somatic hypertension through peripheral vaso-constriction with tachycardia."

Weekers and Dautrebande have used ophthalmoscopic examination on narcotized dogs subjected to occlusion of both common carotids. They fully admit the difficulties involved in determining fine changes in the calibre of retinal vessels as the result of reflexes produced experimentally: In fact they admit the uncertainty of the method. But, they argue, that when the results of their examinations tend as a whole in certain directions they have a
definite value. One cannot here give the details either of the experimental method or of the individual results, but the authors' summary of results and conclusions may be given.

(1) Acute reflex hypertension caused by intra-sinus hypotension in the chloralosed dog is accompanied by circulatory changes in the retina. (2) These circulatory changes do not depend upon simple ischaemia but are brought about by a reflex mechanism the origin of which must be in the carotid sinus and the centrifugal arc of which passes through the cervical sympathetic. (3) These changes in most of the cases are characterized by vaso-constriction coming on at the highest point of the hypertension (graphs appear in the original which show this well). Although ophthalmoscopic examination may be subject to numerous criticisms, to us it seems hardly possible, as the result of our experiments, not to consider probable the existence of vaso-motors in the retina. (4) Non-anaesthetized dogs rendered chronically hypertensive, by section of the two nerves of Hering and the two nerves of Cyon, present retinal vascular changes comparable to those seen clinically in hypertensives (namely, as stated in the body of the article, vaso-constriction and pallor of the discs).

Ernest Thomson.

(4) Federici (Naples).—The behaviour of the capillary "barrier" of the eye under various experimental conditions. (Ricerche sul comportamento della barriera emato-oftalmica in varie condizione sperimentali). Arch. di Ottal., July-August, 1933.

(4) Abnormal permeability of the ocular vessels has been suggested as the true explanation of the incidence of glaucoma. Federici has made a large series of experiments on animals to find out under what conditions the permeability of the capillaries is increased. He finds that the application of atropine (to which rabbits are very insensitive) and miotics (to which they are very sensitive) is followed in each case by an increase of the amount of diffusible substance in the aqueous. The application of adrenalin at first checked the flow, but later when the mydriasis passed off, the flow increased. Heat applied to the anterior segment of the eye, and injury, physical or chemical, also increased the permeability. The author concludes that anything which increases the congestion of the anterior segment of the eye, favours the passage of diffusible chemical bodies into the aqueous.

He has made a second series of experiments with "vital" colours, injecting these intravenously, he notes the occurrence of coloration of the conjunctiva and its modifications under the action of various excitements.

Harold Grimsdale.
Sala (Catania).—The relation between the cervical sympathetic and the retinal vaso-motor nerves in the dog. (Ricerche sperimentali sui rapporti tra simpatico cervicale e vasomotoriretinici nel cane). Rass. Ital. di Ottal., September-October, 1933.

There is no doubt that the ocular vessels, like all the other vessels of the body, are under the control of the nervous system, but they seem to be less liable (as are the vessels of the brain, to which system the ocular vessels belong) to abrupt circulatory changes than vessels in other regions. Sala has experimented, removing the superior cervical ganglion on one side and observing the changes in the vessels on that side by the ophthalmoscope. He finds that immediately after the operation the vessels are constricted.

Atropine produces a dilatation of the vessels of the normal side but leaves those of the side operated on unaffected, adrenalin on the other hand causes constriction of both sides. He concludes that there are active vaso-dilating fibres supplied to the retinal vessels which are functionless after excision of the ganglion.

HAROLD GRIMSDALE.

Vele (Parma).—Observations on the capillaries of the limbus in some diseases of circulation. (La capillaroscopia dei vasi perilimbari nelle affezioni dell' apparato circolatorio). Boll. d'Ocul., October, 1933.

Vele has examined the limbal capillaries by the slit-lamp in a number of patients suffering from cardiac and vascular lesions; and holds that the findings in many of these cases have not only a diagnostic, but also a prognostic importance. The description of the various conditions found cannot easily be condensed, for example, in the cases of arteriosclerosis the capillaries are said to be much longer than usual, sometimes passing the border of the cornea; they are markedly narrow and tortuous; the current is slowed often with occasional stasis; frequently there are punctiform haemorrhages, invisible to the naked eye. This, the author thinks must be regarded as of special interest as an indication of a similar state in other tissues where even a minute haemorrhage may be of grave importance.

HAROLD GRIMSDALE.


Greenfield and Nevin have made an interesting contribution to the literature of amaurotic family idiocy. They describe the clinical features and pathology of the late infantile type of this
disease occurring in a female child, aged 2 years and 10 months, born of healthy English parents, with no history of intermarriage with Jews and no consanguinity. A large dull red spot surrounded by a greyish opaque area was present at the macula in each eye. The child became unable to walk or speak, became blind, mentally deficient and died of intercurrent disease at the age of 2 years and 11 months.

The post-mortem findings are described in great detail and it is evident that the authors have taken considerable trouble in making very complete histological examinations of the central nervous system, using a number of staining reagents for lipoid and Nissl granules and many solvents in attempts to determine the histochemical reactions of the lipoid in the nerve cells.

The brain sulci were wider than normal and some firmness and shrinkage of the optic thalamus on its ventricular aspect was discovered.

The large cells of the cerebral cortex were swollen, pear-shaped, round or oval with the nucleus displaced to the side or to the poles of the cell, and rarely occupying its centre. The cytoplasm was devoid of Nissl granules, but contained lipoid.

Lipoid swellings were observed on the dendrites of certain of the pyramidal cells of the hippocampus, the large cells of the claustrum and the Purkinje cells of the cerebellum.

The cells of the putamen and caudate nucleus were devoid of Nissl substance and contained lipoid in a few of the larger cells. A clear peri-nuclear zone of protoplasm was present in these cells.

The large cells of the globus pallidus contained residual Nissl substance around the nucleus and were uniformly filled with yellow staining lipoid. All the cells of the thalamus contained lipoid and Nissl substance was absent. The substantia nigra was the least affected part of the central nervous system and retained Nissl granules in the cytoplasm of the cells.

The motor nuclei of the brain stem and spinal cord were round and swollen and contained lipoid, and the nuclei of these cells were displaced and surrounded by a zone of fine Nissl granules. The lateral oculo-motor nuclei were less swollen, retained their shape and had Nissl granules throughout the cell body. The large motor nuclei of cranial nerves 5, 6, 7, 10 and 12 were swollen and some showed dendritic lipoid swellings and there was a tendency for the lipoid to extend into the bases of the dendrites.

In the cerebellum the Purkinje cells were irregular in size, shape and spacing, the nuclei were shrunken and surrounded by a zone of Nissl granules, the rest of the cytoplasm containing lipoid. Neurofibrils were absent in the most degenerated cells. The dentate and roof nuclei also showed lipoid degeneration.
In the posterior root ganglia Nissl substance was scattered throughout the cell whereas in the sympathetic ganglia there was only a trace of it around the nucleus of the cell. Lipoid degeneration was present in the cells of the ganglia. The medullated fibres of the striae Gennari were well marked, but elsewhere the tangential fibres only lightly stained.

Diffuse neuroglial overgrowth was present in the occipital lobes, the hippocampus, thalamus, mammillary bodies, corpus striatum and the septa of the lateral columns of the spinal cord.

In the retina the ganglion cells were swollen, round or oval. The nuclei were irregular, pyknotic and displaced to one side. Lipoid filled the cytoplasm of the affected cells except in a few instances where vacuoles were present at the poles. The remainder of the retina showed no change. It was of normal thickness and no oedema was detected.

The authors give a full account of the staining properties of the lipoid with alum-haematoxylin, Kulitschzky’s haematoxylin, Weigert’s haematoxylin, iron haematoxylin, Scharlach R, Sudan III, and Nile blue. Also they have made a detailed investigation of the solubility of lipoid in such solvents as alcohol, acetone, ether, xylol, pyridin, chloroform, acid alcohol and ether, and methyl alcohol and chloroform.

The literature on amaurotic family idiocy is reviewed and commented upon, and the retinal changes discussed.

H. B. Stallard.


(8) Mitter comments on the bilateral macular lesions that occur in children, probably inflammatory in nature and of toxaemic origin, appearing after the acute exanthemata, typhoid and other infectious diseases. He describes the case of a boy, aged 9 years, the subject of congenital icthyosis, who presented oedematous and pigmentary changes at the maculae. A rapid recovery in three weeks led to the restoration of vision from counting fingers at 10 feet in the right eye and at 8 feet in the left eye to 6/9 partly with each eye. Some fine pigment deposits persisted at the maculae. The author in his commentary of this case quotes Porter’s statement that 70 per cent. of children affected with congenital icthyosis have a subnormal basal metabolic rate suggestive of hypothyroidism. The author suggests that faulty metabolism may have resulted in a mild toxaemia and altered the permeability of the capillaries in the vicinity of the maculae.

H. B. Stallard.

It is not generally recognized how frequent are the ocular symptoms in tuberculosis of the lungs. Many authors have drawn attention to various manifestations in the eyes of tuberculous patients. This paper is the record of the examination of 150 subjects of pulmonary tuberculosis. Apart from the condition of the lashes, which Giannantoni and Possenti found almost constantly increased in number and length, they have observed changes in the width of the palpebral fissure; the fissure on the side of the affected lung being wider in 64 per cent. of the cases. Inequality of the pupils, was found in almost 50 per cent.; and more frequently with the gravity of the infection. In two-thirds of the cases in which there was no obvious inequality of the pupils, differences were found in the behaviour to mydriatics. Sergent's test (measurement of the time of recovery of action after mydriasis) showed in 86 per cent. a marked prolongation of the time necessary for recovery varying with the state of the lung. These changes in the pupil reflexes, point to some latent derangement of the nerves which govern the movements of the iris.

Harold Grimsdale.


There are many diseases of the cornea, so many in fact, that although the chapter on this subject in the Graefe-Saemisch Handbuch was started 35 years ago, it has not yet been printed. The sclera, however, has relatively few diseases and it is, therefore, a little surprising that scleromalacia perforans should have escaped detection up to date. The disease "has as its principal symptom, the appearance of holes in the sclera which can coalesce so that the sclera shows large gaps in which the uvea lies either covered by conjunctiva or bare." In this disease, inflammation plays no rôle, or at least a very secondary one, the process being mainly degenerative. van der Hoeve saw his first case in 1928, in a woman, aged 55 years, who was crippled with rheumatic polyarthritis. There were several holes in the sclera containing uveal tissue which in some places was covered by conjunctiva and in others was bare. Vision in one eye was perception of light and in the other 1/300. Professor Rochat had had a similar case in 1925 and another in 1932. The fourth case described in this paper is one of the author's which differed from the preceding three
in the absence of polyarthritis, the occurrence of the holes in the intercalary region of the sclera and the preservation of relatively good visual acuity. Now that scleromalacia perforans has been described, other cases will probably be published, but there seems little doubt that the credit for establishing this condition as a definite entity is to be given to van der Hoeve.

F. A. W-N.


(11) In this communication Urbanek gives details of a series of cases of fat embolism in the eye following severe injury. In three of these he confirmed his observations by microscopical examination.

These cases all occurred after fracture of long or flat bones, in some the symptoms of fat embolism supervened after the setting of the fracture.

Ophthalmoscopic changes were not observed before the third day after the accident, and took the form of small haemorrhages and white spots on the retina, resembling diabetic retinitis; the haemorrhages usually preceded the appearance of the white spots, which developed at the bifurcation of the vessels in close proximity to the haemorrhages. Where the cases could be observed for some time it was found that the first batch of haemorrhages and white spots disappeared, and others developed at other points in the retina and again disappeared.

From the results of the anatomical examination the author draws the conclusion that the fat emboli are to be found much earlier in the posterior half of the eyeball than in the anterior, and more frequently in the choroid than in the optic nerve or retina.

The vision and fields may or may not be affected; in the absence of disturbance of vision these changes in the retina may readily be missed.

The author comments on the paucity of reports of eye changes in fat embolism, considering the large general literature on the subject, and concludes that this is due not to the fact that they have been overlooked, but that their true significance has not been recognized. Among other cases that have been so recorded he would include Eales' case of "supposed unilateral albuminuric retinitis" (Trans. Ophthal. Soc. U.K., Vol. 5) and Purtscher's "Angiopathia retinae traumatica" as examples of fat embolism in the retina.

Thomas Snowball.
Benedict's article opens with the caution that surgeons operating upon tumours within the orbit must be familiar with the regions adjacent to it, and be prepared to cope with unexpected complications outside their usual field of operation. For these reasons he advises the ophthalmologist to work in conjunction with a rhinologist or a neurological surgeon. Examples of this are afforded in the removal of an orbital osteoma whose superior surface may have eroded the roof of the orbit and be adherent to the dura, or in the removal of a more vascular tumour when it may be necessary to ligate the internal carotid artery to control haemorrhage.

There are three areas which are concerned in planning surgical procedures. The first is the potential space between the periorbita and the orbital wall. This is reached by an incision through the skin from the supra-orbital notch to the temporal side of the orbit, parallel to its upper margin. The periosteum can then be stripped off the bone and the orbital contents depressed sufficiently to leave room for surgical manipulations. The second space is that between the periorbita and the cone of muscles. More than three-fourths of the tumours in this region can be reached through the skin incision already described after division of the periorbita in a radial (antero-posterior) direction. The third space is that within the muscle cone. Here, again, the sub-periorbital route may give adequate access, though external canthotomy, division of the conjunctiva and displacement of the globe to the inner side may be more satisfactory in some cases. Krönlein's operation is seldom employed for any region of the orbit other than the posterior third. Internal canthotomy should be avoided whenever possible on account of danger of interference with the lacrimal duct and the lower lid should not be incised because of the risk of subsequent cicatrization and ectropion. These operations are best performed under general anaesthesia because infiltration of the orbital tissues adds to their difficulty and because the scope of the operation may have to be extended beyond the bounds originally thought necessary.

F. A. W.-N.

François classifies the varieties of ectropion as follows, viz., (1) cicatricial; (2) paralytic; (3) spasmodic; (4) senile; and he adds (5) inflammatory as a fifth type. This fifth type has
been classified by others as coming under the types called senile, paralytic or non-cicatrical indifferently. The author thinks it should be separated from the others. After comparing and contrasting it with the others he gives the definition that its characteristic is "tarso-conjunctival thickening secondary to inflammation of the inferior tarso-conjunctiva." The operation which he has found successful consists in complete excision of the whole ecropioned conjunctival surface and of the underlying tarsus. The method of operation is described and illustrated.

Ernest Thomson.


(14) Beaumont gives a brief survey of the theories concerning the aetiology of strabismus, but does not discuss these. He describes the synoptophore and its practical application and states the advantages that this instrument possesses over the amblyoscope and cheiroscope in enabling the surgeon or orthoptic trainer to make objective observations instead of relying upon subjective information from the patient. He describes the sequence of events in a case of squint. Three tables are shown in the text exhibiting clinical data of (1) a group of cases treated by operation and then orthoptic training; (2) cases treated by orthoptic training without surgical intervention, and (3) a group of cases which proved unsuitable for orthoptic treatment on account of a well-established false macula, amblyopia of long standing, aphakia, mental dullness and other factors.

H. B. Stallard.


(15) At the Australasian Medical Congress in 1923, Barrett presented the results of an analysis of 192 applications for admission to the Royal Victorian Institute for the Blind for the period 1901-1923. The present paper is an analysis of such patients during the last 10 years.

The total of 226 is analysed in two tables; one of 94 cases under 15 years of age, the second of 132 over that age. In each, myopia and optic atrophy show the largest figures.

By comparison with the first series, trachoma is shown to be a far less common factor in the younger cases, bearing out the fact that the disease is rapidly disappearing in Australians. Ophthalmia neonatorum is another declining cause of admission, but myopia and retinitis pigmentosa have increased.

The figure of 50 per cent., given in 1923 as the percentage
caused by venereal disease, can now be lowered to nearer 40 per cent., and if venereal disease were eliminated at least 30 per cent. of the cases would not exist.

The numerous cases of myopia and the cases of retinitis pigmentosa open up the eugenic problem in an acute form.

R. C. Davenport.

BOOK NOTICES


This is the second and amplified edition of Professor Márquez’ text book which appeared in 1928. The book remains substantially the same with the addition of some further diagrams and coloured plates and a new chapter on the binocular field of vision. It is a most excellent, clearly written and comprehensive text book. It aims at catering primarily for the student who at the outset is completely ignorant of his subject, but in spite of this it is sufficiently full to serve as a book of reference for the more advanced practitioner. It begins with a short historical note on the growth of modern ophthamology and thence passes to the examination of the eye, each chapter of the book being devoted to a stage in the clinical examination and the various conditions which it may reveal. The examination is of the most detailed, including the use of the slit-lamp, the gonioscope, fundus photography and radiography. The illustrations are excellent and the book written in a most lucid and interesting style.


In this book the author sets out to draw attention to the damage to human eyesight and economic loss by the toleration of bad lighting of workrooms, schools, factories and homes. He describes the physical and psychological factors involved in visual tasks and illustrates "the futility and injustice of judging seeing conditions by the rate at which productive work is done." He comments on the fact that fatigue is a very difficult effect to measure.

Chapters are devoted to the "Science of Seeing;" eye defects of age and usage; light and lighting; and the human seeing machine at work.

The author has spread himself in saying what he has to say, much of which could have been compressed without the loss of