of a binocular field probably compensates for lack of macular acuity and we see no reason why such a person should be debarred from driving. This report will have done good if it calls the attention of the authorities in the States to the importance of the subject, and we will end with the pious hope that it will soon be as difficult to find a one-eyed driver in America as it was to find a dead postboy in the old coaching days in England.

ABSTRACTS

I.—GLAUCOMA


(1) Magitot is of opinion, that the disease which A. v. Graefe has labelled amaurosis with excavation, should be classified into three groups:—

(a) Myopic glaucoma according to the conceptions of Axenfeld.

(b) Very chronic glaucoma with only occasional rise of the intraocular pressure. The disc may or may not show cupping.

(c) A third group, which presents a deep atrophic cupping. Here, the word glaucoma is probably a misnomer, and the old name amaurosis with excavation is more adequate. Pressure of the sclerosed carotids on the chiasma or on the optic nerves has been suspected as the cause of this atrophy. However, the author is not fully satisfied with Thiel's radiographic evidence of sclerosis of the intracranial carotids. The proof is still wanting, that sclerosis of the carotids or of the anterior cerebral artery does result in atrophic cupping. Many old people, whose carotids offer the same radiographic aspect, do not show an atrophic excavation. Further, tumours of the hypophysis undoubtedly exercise a considerable pressure on the chiasma and the optic nerves; nevertheless, the consequent optic atrophy is only exceptionally associated with excavation.

Humphrey Neame.


(2) Malling investigated 181 patients suffering from glaucoma simplex and found that the deposits on the posterior aspect of the cornea which are regarded as characteristic of capsular glaucoma,
were seen frequently in simple glaucoma, though not as frequently as in capsular glaucoma. Occasionally they were also found in apparently normal eyes. He subjected a series of eyes in which corneal deposits were present with or without changes in the lens capsule and with or without glaucoma, to the compression test (i.e., rate of recovery of the tension of the eye reduced by compression with a tonometer or such like instrument). He found that in most of the cases the channels of excretion must be patent, and therefore dismisses exfoliation of the lens capsule and blocking of the angle with its debris as the primary cause, and argues that the corneal deposits, the lens exfoliation and the glaucoma are all signs of an uveal lesion. Each of these three signs may be seen singly. The changes in the capsule must be regarded not as the cause of glaucoma, but as a sign of an uveal affection that may lead to it.

ARNOLD SORSBY.


(3) Dalsgaard-Nielsen draws attention to those cases of cupping of the disc which have all the appearances of glaucoma except that increase of tension cannot be demonstrated. She recalls the work of Ransom Pickard and other observers in assessing the significance of these appearances, and reports 12 personal cases. In five of these, detailed studies of tension, fields and provocative tests revealed chronic glaucoma. In three more the diagnosis of glaucoma was complicated by the associated traumatic or arteriosclerotic lesions. In two the cupping was unquestionably due to pressure atrophy from a pituitary tumour. In one case the appearances were probably of congenital origin and in the final case no aetiology could be established. The water tolerance test proved helpful in this study and radiography of the internal carotids was useful in establishing arteriosclerosis as a possible cause—as, of course, also the presence of a pituitary tumour.

ARNOLD SORSBY.


(4) From a statistical analysis of 105 cases out of 326 treated by cyclodialysis at Meller's clinic in 1920-1935, Hausmann gives the following results:—

1. Increase of tension after cataract extraction:
   (a) After uncomplicated extraction: good results in eight out of 11 cases.
   (b) After complicated extraction: good result in one out of two cases.
MISCELLANEOUS

(2) Secondary glaucoma: seven cases, five successfully treated.

(3) Primary glaucoma treated by cyclodialysis only: in 34 cases (47 eyes), 28 cases (30 eyes) showed satisfactory results.

(4) Primary glaucoma treated by cyclodialysis and subsequently another operation: 22 cases (31 eyes). The second operation (further cyclodialysis or iridectomy, etc.) normalised tension in 13 cases (18 eyes).

(5) Primary glaucoma treated by cyclodialysis subsequent to a previous glaucoma operation. Twenty-one cases: of these 15 had iridectomy in the first place and four (6 eyes) trephine operation. Except in two iridectomy cases cyclodialysis normalised the tension. The value of cyclodialysis as a second operation is stressed.

ARNOLD SORSBY.

II.—MISCELLANEOUS


(1) Jameson Evans' paper was read at a meeting of the Birmingham Branch of the British Medical Association on November 17, 1937. After a brief outline of the anatomy of the nasociliary nerve he gives notes on five cases which he considers more or less typical of oculo-nasal neurosis. In analysing these cases he finds that the main ocular lesions are three in number. First, sectorial epithelial dystrophy of the cornea and conjunctiva, marginal heaping and oedema of the corneal epithelium with fine translucent elevations or crinkling which at times erode to form punctate superficial ulcers; these heal with very little scarring, occasionally a more central type of infiltration may leave a definite nebula. Second, sectorial or complete anaesthesia or hypoaesthesia of the cornea. Third, episcleral and conjunctival vasodilatation, usually in sector form, corresponding to the corneal involvement.

The nasal lesions are apparently neither pathognomonic nor specific. But it can be stated that gross focal sepsis in the nose does not as a rule give rise to the oculo-nasal neurosis. The nasal lesions found are not as a rule acutely inflammatory or purulent. Nasal discharge is watery, the turbinates are congested and oedematous. Deflected septa are not unusual. The nasal lesions are thus in the anterior part of the nares.

The author's hypothesis as to the way these lesions in the eye arise is as follows:—noxious efferent impulses are set up by the nasal lesion and travel up the oculo-nasal nerve till they reach the
long ciliary nerve. Here they are diverted down the long ciliary nerve, antidromically, to the eye.

Treatment is directed to the nasal condition by means of local anaesthetics combined with adrenalin, and 0.5 per cent. phenol. Surgical measures are only rarely indicated but zinc ionisation can be given a trial if thought desirable.

The ocular lesions need simple soothing applications, such as shade or pad; phenolaine, yellow oxide of mercury ointment. In the case of stubborn ulcers of the cornea atropine is indicated, but it is most unusual to have to resort to cauterisation of the ulcer in this connexion.

R. R. J.


(2) The method of treatment of tabetic optic atrophy employed by Miklós was based on the theory, already put forward by other writers, that a fall in the general blood pressure is frequently seen in tabetics; this affects the retinal circulation with consequent disturbance in the nutrition of the retina and a rapid decline in the vision and field.

Treatment was accordingly directed to an improvement in the circulation of the retina (a) directly, by raising the general blood pressure by the administration of tonics, such as strychnine and caffein (although their effect is comparatively slight), alcohol and tobacco in moderation being allowed, and (b) indirectly, by reducing the tension with miotics and operation.

Operation—cyclogalysis as modified by Blaskovics—was the most effective method. Pilocarpine did not uniformly reduce the tension, but was most useful in prolonging the effect of the operation or as a prophylactic in early cases of abnormally low blood pressure.

The results, here recorded, of this treatment, which was combined with the energetic use of anti-syphilitic drugs, were so good that it is recommended as worthy of trial.

THOS. SNOWBALL.


(3) In chronic inflammatory conditions of the eyelids a number of remedies are often tried in turn without success. Linksz gives a careful survey of the treatment of lid conditions with special reference
to the qualities of the skin which may be met with in different individuals. He gives details of prescriptions with the dermatological indications for their proper use. For these the original paper should be consulted.

D. R. Campbell.


(4) The differential diagnosis of these tumours, which are not common, is difficult. The author gives the story of three cases which have come under his observation and discusses the symptoms and the means of diagnosis.

The nature of these tumours is various; about half are carcinomatous and half sarcomatous. In the latter the mucous membrane of the pharynx retains its normal appearance; in the former, it is changed. The first symptoms are usually slight; often deafness is the most marked, since the tumour may begin near the Eustachian tube. Later, as it invades the base of the skull it may cause severe headache, or trigeminal neuralgia, if it invades the fifth nerve at its exits. Sooner or later there is usually some interference with the movements of the eye; the sixth nerve, and the third being attacked in that order. Careful examination by radiography in several positions of the head will give indications of the mode of invasion of the skull. At least three projections are necessary; axial, lateral and submento-vertical. The posterior clinoid processes are always eroded. Barré considers this finding as pathognomonic of these tumours. Treatment by surgical interference is useless in Mazzei's opinion. Treatment by radium and X-rays seldom gives permanent benefit but often relieves the pain for a time.

Harold Grimsdale.

(5) Bietti (Rome).—The action of drugs on the pressure in the central retinal artery. (Ricerche sull'azione di alcuni farmaci sulla pressione dell'arteria centrale della retina con particolare riguardo all' adrenalina). Riv. Oto.-Neuro.-Oftal., March-April, 1938.

(5) It has often been assumed that the action of drugs, such as adrenalin, is the same for every part of the body. This is certainly not true in every case. Bietti has made a long series of experiments to establish the action of these drugs in man. He shows that their action differs in different regions of the body. Small doses of adrenalin given subcutaneously are followed by a marked fall in the pressure in the arteria centralis especially in the diastolic pressure;
very small doses given intravenously (1/80 to 1/120 mgr.) sometimes cause a similar fall, but less constantly. Larger doses always are followed by a rise of pressure; sympatol has an action parallel to that of adrenalin. The action of caffeine, which is known to dilate the vessels of the brain, may provoke a fall in the retinal pressure, but less than that after adrenalin. Certain bodies which are generally antagonistic in action to adrenalin, also, may cause a fall in the arterial pressure in the retina; such for example follows the use of large doses of lymphoganglin and less constantly of doses of ergotamine.

The author thinks that the fall in pressure following subcutaneous injection of adrenalin is principally due to passive dilatation of the vessels following vasoconstriction of the general vessels. He thinks that the behaviour of the retinal arteries may be an index of the reaction of the cerebral arteries.

HAROLD GRIMSDALE.

(6) Dandy, Walter E. (Baltimore).—Intra-cranial aneurysm of the internal carotid artery cured by operation.


(6) Dandy's case is, as far as he is aware, the first attempt to cure an aneurysm at the circle of Willis by direct attack upon the aneurysm.

A frail, small, sallow man, of 43 years of age, came to the Johns Hopkins Dispensary in mid February, 1937. He was afflicted with complete paralysis of the right oculomotor nerve. He had been in hospital for three months in 1936 for gastric disturbance, possibly ulcer, and he had been drinking heavily for the past 18 months.

The present attack began six days before admission with severe frontal pain. Intense stabbing pain was complained of in the right eye the same day and he slept badly that night. Next morning he was aware of diplopia and later in the day the right eye closed.

On admission the only positive finding was complete paralysis of the right third cranial nerve. Fundi, fields and reflexes were all normal. An X-ray examination of the head revealed no abnormality. The patient attended the Dispensary for five weeks without improvement and was then referred to Dandy. The Wassermann reaction was negative.

Dandy operated on March 23, 1937, using a small hypophyseal approach. Marked cortical atrophy was present, evidenced by the pools of fluid in the subarachnoid spaces, the removal of which fluid gave ample room for exposure. An aneurysm, the size of a pea, was found on the outer wall of the internal carotid, adjacent to the entry of the posterior communicating artery. The aneurysm did not
involve this artery but arose from the carotid by a narrow neck. The third nerve passed obliquely backwards in its normal course and was attached to the aneurysm at one point only, viz., where it entered the cavernous sinus. There was no evidence of subarachnoid bleeding.

Forceps placed upon the thick aneurysmal wall pulsated forcibly. An ordinary flat silver clip was placed over the neck of the sac and tightly compressed, obliterating it completely. The clip was flush with the wall of the carotid artery. The sac, lateral to the clip, was then picked up with forceps and thrombosed by the electrocautery. It shrivelled to a thin shred of tissue.

The post-operative course was attended by an attack of delirium tremens, but the man made a good recovery and left hospital in two weeks time. Seven months later there was complete return of all functions referable to the third nerve.

Dandy, in discussing this case, refers to a similar case which he saw ten years earlier in which the internal carotid was ligatured in the neck, but the patient died of cerebral softening.

This interesting case is illustrated by photographs of the patient before and 13 days and 7 months after the operation; two X-ray pictures of the skull and an excellent diagram of the aneurysm and the parts concerned.

Matas's paper is a long contribution which he gave as a discussion on Dandy's case, with supplementary remarks. It is too long to abstract here and is accompanied by a bibliography of 62 items. Both papers should be read in the original.

R. R. J.

(7) Orzalesi and Cassuto (Florence).—The action of sympatol on the pressure in the arteria centralis retinae. (L'azione del sympatol sulla pressione nell'arteria centrale della retina). Boll. d'Ocul., April, 1938.

(7) It has been shown that the cerebral vessels, and the ocular which are derived from the cerebral, react to certain vaso-active drugs in a different way from those in other regions of the body. Thus, for example, amyl nitrite which produces a lowering of pressure generally, provokes an increase in the arteria centralis retinae. Sympatol, the substance which is the subject of this paper, has a chemical structure very similar to that of adrenalin, and is very similar in action.

In all cases, both when given by instillation and subcutaneously, a considerable reduction of the arterial pressure in the retina was noted. In all, this was greatest after about twenty minutes and the pressure returned to its former height in about two hours. In no case was there a rise. In this it seems to agree with adrenalin
MISCELLANEOUS

(which endovenously sometimes showed an increase, according to Bietti, but in the present series of experiments intravenous injection does not seem to have been tried).

HAROLD GRIMSDALE.


(8) Several papers have been reviewed in this Journal recently on the action on the eye of substances allied to adrenalin. Baratta has investigated the action of sympamin in man. This substance, sold commercially as "benzedrin," has been largely used especially in America, on account of its astringent action on mucous membranes. The author finds that instillation of sympamin hydrochlorate produces mydriasis which begins 10 minutes after application and is at maximum in about 20 minutes. The mydriasis lessens after 90 minutes and passes off in about 6 to 8 hours. The effect of subconjunctival injection is similar. He has found that the addition of sympamin to cocaine increased the anaesthetic action and lengthened it. If the sympamin was dropped in at an interval after the cocaine, there was no reinforcement. Similar reinforcement was seen when the drug was added to other mydriatics, homatropine and atropine. Alone, it seems to have no effect on the intra-ocular pressure; its value therefore, to assist ophthalmoscopic examination is probably considerable.

HAROLD GRIMSDALE.

(9) Cordero (Pisa).—The action of a-dinitrophenol on the eye. (L'azione dell' a-dinitrofenolo sull'occhio). Arch. di Ottal., pp. 152, 213 and 294, 1937.

(9) The action of certain drugs, used to decrease obesity, has been studied recently on account of their other more dangerous actions, since in some cases they have proved fatal. These drugs which act by increasing metabolism and raising the body temperature belong to the aromatic series. The first accurate knowledge on their thermogenetic power is due to Cazeneve and Lapine who used this property to raise the temperature of animals on which they were making experiments. Later, in the years of the War, it was found that men who worked in the preparation of phenol nitrate were often poisoned and sometimes died. It was noted that there was great rise of temperature with rapid breathing. The amount of oxygen consumed was largely increased. It seems that the drug does not cause this hyperthermia by means of the centres of the medulla since destruction of this region does not prevent the rise of temperature. The action, therefore, seems to be peripheral rather than central, but the exact course cannot be yet ascertained.
It is an important practical point that thyroid seems to sensitize towards the nitro-derivatives; those patients who begin a course of dinitrophenol after taking thyroid, are more easily poisoned by the latter. When the patient complains of weakness, headache, or profuse sweating, erythematous eruptions, or yellow colouration of the skin, these are danger signals and the drug must be stopped immediately. In some of the fatal cases agranulocytic anaemia has followed these premonitory symptoms.

In so far as the eye is concerned, the only damage noted is the development of cataract; this has followed in a considerable proportion of cases. The subjects are most commonly women, probably because men are less anxious to diminish their girth. The cataract comes on usually after some months of treatment with the drug, but sometimes at a time after treatment has been suspended; in one recorded case the interval was nine months. The beginning is usually the development of numerous vacuoles, close under the anterior capsule; then follow opacities in the same position, which are often coloured. In the later stages the nucleus appears gold-yellow or copper coloured. This appearance is diagnostic of this form of cataract; the history of treatment by a-dinitrophenol is usually obtainable and helpful. In some cases the lens swells much during the formation of the cataract and may cause increase of tension. In many cases operation has been performed without complication.

HAROLD GRIMSDALE.

(10) Cordero (Pisa).—The action of a-dinitrophenol on the eye. (L’azione dell’ a-dinitrofenolo sull’occhio). Arch. di Ottal., May-June, 1938.

(10) In this number Cordero continues his study of the action of this drug; with the idea of finding some connection between the lesions of general health and the special lesions which affect the eye, he has examined the various organs of the animals, the subjects of his experiments both macro- and microscopically. He finds that when there is acute poisoning the symptoms resemble those of strychnine. All the animals showed signs of acute emphysema, with small haemorrhages and oedema of the lungs; early inflammatory changes in the kidneys; and slight fatty degeneration of the heart muscle. These animals died within a few hours of the first injection.

Others were kept alive, with smaller doses, for a considerable time; some for more than a year; immediately after every injection a rise of temperature and of the rate of breathing was noted; this soon passed off. Generally there was a fall in weight but one rabbit gained considerably; this animal lived for 13 months under treatment. The rise of temperature in this experiment was small,
never exceeding a degree and a half; in many cases the daily average temperature was raised about half a degree.

Abscesses were noted in various parts of the body: the contents were caseous; the skin over them ulcerated; these healed easily, if the drug were stopped; neither in the cases of acute poisoning nor in the chronic, were any changes observable in the eyes. As in the acute cases, the organs most damaged are the lungs, the kidneys, the liver and the heart.

**Harold Grimsdale.**


(11) Magitot and Dubois-Poulsen give a survey of the difficulties which may be encountered when coloured test objects are used. These difficulties may be due either to the method of examination or to the condition of the patient.

Difficulties of the first type include the changing contrast phenomena, the hue, brightness and variability of the test objects. A small red object will appear grey in the periphery of the visual field. On its way to the centre a yellow colour will be perceived before red can be seen. Accordingly, the contrast phenomena will change and influence the visibility of the object. Therefore, it has been recommended to paint the perimeter in a grey of the same brightness as that presented by the test object. Thus there will be no contrast phenomenon, the visibility will be improved and the visual field will appear to be larger. Further, it is difficult to obtain test colours which do not become darker in a rather short time, especially if the colours are not very saturated. There is the following dilemma. To get exact perimetric fields spectral lights would be required. On the other hand a full field can be traced only in a bright illumination, which will tend to desaturate the colours.

In addition to these difficulties, the colour deficiencies of the patient have to be taken into account. Of course, coloured test objects are of little use in taking the field of a patient who has an abnormal colour sense. Further, the colour absorption by the lens in old age, the better focusing through a narrow pupil, the restriction of the field for red in hyperopia, for blue in myopia has to be considered.

Intelligence and attention come much more into play when coloured test objects are used. It requires a certain training to appreciate the intermediate tints in the periphery. Fatigue comes on much more quickly than in working with white test objects and makes it useless to examine a patient for longer than ten minutes.

The principal use of coloured test objects is to disclose in a rapid way the existence of a central scotoma.
There is no relative colour scotoma. An absolute scotoma will be found in such cases by sufficiently small white objects. According to the authors the Bjerrum screen is not superior to the 33 cm. perimeter for exploring the central field, if care is taken to damp down contrasts, to keep the illumination constant and to use sufficiently small objects. The central area is best examined by the stereoscopic method or by Evans' angioscotometer, the zone between ten and thirty degrees by a 1 mm. object and the peripheral field by a 3 mm. object. The test object should not be mounted on a handle as the patient might become aware of any movement of the surgeon. The projection of a spot light on the perimetric arc constitutes an excellent test object.

The superiority of “white” perimetry is illustrated by some cases in which red test objects failed to reveal peripheral islands or important characteristic features of the field. Repeated examinations by white objects gave an average variation of 24 per cent. against 108 per cent. when red objects were used.

Humphrey Neame.


(12) A long paper with many genealogical tables and having particular reference to the associated eye symptoms:—Errors of refraction, strabismus, retinitis, hemianopsia, together with alterations in the vitreous and the crystalline lens.

The authors point out the probability of the associated clinical symptoms being due to changes in the diencephalic hypophysis.

An extensive bibliography is appended.

Francis R. Hill.


(13) After describing the general symptoms of the disease and commenting upon the doubt which still surrounds its aetiology, the authors refer to the resemblance that it bears in some aspects to syphilis; while in the stage of generalisation the local lesions react to the tuberculin tests.
They then describe a case under their own care and review the ocular symptoms noted by other observers in similar cases, particularly iridocyclitis.

FRANCIS R. HILL.


(14) Magitot continues a series of papers which discuss in great detail the importance of the anaesthesia of the sphenopalatine and ciliary ganglia in ocular affections, with special reference to the treatment of inflammatory conditions of the anterior segment and uncompensated glaucoma. The efficiency of this treatment is due to damping down of the hyperactivity of sympathetic fibres. Thus, profuse lacrimation (the lacrymal gland is supplied by facial fibres which originate in the sympathetic intermediate portion of Wrisberg and run to the sphenopalatine ganglion), blepharospasm and photophobia can be eliminated.

The anaesthesia of the sphenopalatine ganglion by painting the posterior part of the middle turbinate with Bonain’s lotion containing equal parts of cocaine, phenol and menthol is not so reliable as the anaesthesia of this ganglion by an injection of novocaine into the pterygo-palatine canal from the mouth. Novocaine has only a very transient effect. For an anaesthesia of longer duration the injection of 40-60 per cent. alcohol is recommended. The needle should have rather a short point in order to avoid a lesion of the palatine vessels, an accident which might be followed by necrosis of the maxillary bone.

A far superior method is the anaesthesia of the ciliary ganglion by retrobulbar injection of 1 c.c. 1 per cent. novocaine followed after half-a-minute by 1·5 c.c. alcohol. Again, the needle should be short-pointed to avoid the orbital veins. The only untoward after-effect seen was a transient paresis of the external rectus. To prevent this inconvenience, the injection should be made neither too far outwards nor inwards.

These injections do not only relieve pain. They have a far reaching therapeutic effect which is most striking in interstitial keratitis. The photophobia disappears and the cornea becomes clear within a month in cases which can be expected to take more than four times longer.

The orbital injection transforms an acute or subacute glaucoma into a chronic one, allowing surgical interference to be done under more favourable conditions. However, the operation should not be
CORRESPONDENCE

postponed for long as the tension remains high though the pain has ceased. It is interesting to see the corneal oedema disappear while the hypertension persists after the orbital injection. The author claims therefore that the usual view regarding the corneal oedema as a sequel to the increased tension is wrong. Further, orbital injections of alcohol have an established value in the treatment of iritis and iridocyclitis, especially in hypertensive and very acute cases. It is striking to see a patient suffering from gonococcal iritis relieved by the injection.

The corneal sensation returns 48 hours after the injection, but the pain does not. The injections may be repeated weekly.

HUMPHREY NEAME.

CORRESPONDENCE

To the Editors of The British Journal of Ophthalmology.

DEAR SIRS,—In his second letter, Brit. Jl. of Ophthal., December, 1938, Professor v. Liebermann refers to his paper: “Kaustische Resektion der trachomatoesen Bindehaut,” published in the Arch. f. Ophthal., Vol. CV, pp. 542-550, 1921. From this paper it may be understood that this operation was applied by him in 22 cases of cicatricial trachoma, and in 14 other cases this operation was combined with tarsectomy—but till now not a single case of operation of a severe case of spring catarrh by this method has been published by him.

In 1922, in the Klin. Monatsbl. f. Augenheilk., Vol. LXVIII, p. 617, Prof. v. Liebermann wrote that he proposed to perform this operation in suitable severe cases of spring catarrh, and even gave to this proposed operation the name: “Kaustische Resektion der Tarsalbindehaut bei Conjunctivitis Vernalis”—but so far, evidently this proposition was not carried out, since no operation in a severe case of spring catarrh by his method was published by him.

Basing myself on 32 cases of severe spring catarrh operated on by my method, I may say that the caustic resection proposed by Professor Liebermann is not applicable in cases of severe spring catarrh. From the Fig. on page 546, Arch. f. Ophthal., which demonstrates his operation, I understand that the three sutures drawing the everted tarsus, are lying on the surface of the conjunctiva, 1·5 mm. from the border of the lid. These sutures must prevent the destruction by galvanocautery of the papillae of spring catarrh,