oculist, at his French castle. Intercourse at the sittings between the delegates belonging to different nations went on in the most amicable manner. These friendly terms must be highly appreciated. Everything points to the Organisation becoming a prosperous undertaking. The countries which are obliged to prevent the disease from being introduced are indeed in the same need of a campaign against it as those where it is actually destroying eyesight. In Hungary the elements of this campaign were enacted as early as 1886 by a special law. The exertions of Japan in this respect are the object of general admiration. There are 1,000 trachoma consultation rooms, where half-a-million trachoma patients are being treated by 1,000 doctors at an annual cost of half-a-million yen.

The League of Nations has issued a special circular letter to the Governments requesting them to support the scheme.

ABSTRACTS

I.—RETINA


A considerable amount of interest is at present being excited with regard to the treatment of detachment of the retina by ignipuncture, and a detailed paper has been published by Vogt dealing with his experiences of the method and giving what he considers contra-indications for it and an account of his technique. A valuable contribution was made to ophthalmology by English surgeons that conservative treatment rarely held out any hope of success in the case of retinal detachment in which there was a hole. The obvious corollary that the closure of this hole might alter the prognosis in this type of case was at the time missed, and it is to the credit of Gonin that we are in a position now to hope that, provided the hole is obliterated, this type of detachment is amenable to cure. It must not be imagined that the method outlined below is invariably successful nor that the prognosis of this disease after treatment by ignipuncture can be considered good. But the published results of Gonin and the experiences of Vogt, as detailed in the present paper, would suggest that instead of the disease being practically hopeless, there is now a fair chance of accomplishing a cure for it.
The most favourable prognosis is attached to the so-called spontaneous detachment. With regard to the aetiology, Vogt believes that many of these result from an inflammation with the occurrence of cicatricial contraction in the vitreous. In these cases he adopts the suggestion originally made by Leber, that the detachment itself is due to an inflammatory pre-retinitis with the formation of a detaching membrane in the vitreous; this is responsible not only for the detachment but for the tear in the retina itself. He suggests that the more solid portions of the anterior parts of the vitreous which are closely adherent to the retina in the region of the ora serrata are responsible for many detachments with holes occurring in the anterior part of the retina. Blessig’s vacuo which are observed in persons with myopia and in senility constitute another cause, since in this condition holes may form analogous to those present in cystic degeneration in the macula. In this case the detachment may occur as the result of degeneration without inflammatory processes. These detachments, whether due to this degenerative cause or an inflammatory cause are conditioned as a general rule by trauma, even although the latter itself may be very slight and incidental.

Cauterization in the treatment of detachment of the retina has been employed for over forty years, but the advance made by Gonin was to close the hole in the retina itself by cauterization after having located it with the ophthalmoscope, a technique which has never been employed before. Operation is useless unless the rupture has been found and unless it has itself been cauterized and thereby closed. The hole is often difficult to find and several examinations involving several hours of observation may be necessary before it is located. Examination by red-free light is sometimes valuable, since in this light the edge of the hole is contrasted more distinctly against the choroid. If the hole is near the region of the macula so that it cannot be reached by cautery, treatment is useless; and the treatment is rendered more difficult if the rupture is large or if its edges are ragged, or if multiple holes are present.

In the actual technique of operation, the first essential is to locate the hole with great accuracy. The meridian in which this lies is first marked by a suture stretching across the cornea from opposite points on the limbus, so as to avoid any error by rotating the globe when grasping it with fixation forceps. The actual point on this meridian is obtained by measuring ophthalmoscopically the distance of the hole from the disc and the macula or from the ora serrata in disc diameters. The site of the ora serrata is taken as 8 mm. behind the limbus, and adding the ophthalmoscopic measurement to this, the position of the
hole is found by measurement along the line of the suture which marks the meridian. This point is marked by a dye, and after the conjunctiva has been reflected as a flap, the sclera is pierced by a knife and then the cautery is introduced into the eye so that it reaches the hole in the retina. On withdrawing the cautery the conjunctival flap is put back into place, the eye tied up, and the patient put back to bed.

With the present experience which Vogt had had of this treatment many technical points still remain unsolved. The greatest drawback of the method is that only those detachments are favourable for treatment in which the hole is visible ophthalmoscopically and at the same time can be reached by cautery. There are other points which remain outstanding with regard to the size of the hole which it is reasonable to expect to close, the prognosis in the progressive development of multiple punctures and the precise method by which cauterization acts.

The main result which has so far emerged is that 4 out of 8 patients operated on by Vogt have obtained good vision lasting so far over one year and a half; and although no undue optimism is expressed regarding the new method of treatment, it is hoped that when experience has been gained, more definite indications of treatment will be laid down.

W. S. DUKE-ELDER.


(2) In a subsequent paper Vogt reviews his experience thus. Of 11 cases submitted to operation in 5 the detachment was replaced, and in 6 the result was unsuccessful. Of the favourable cases, in one no hole could be seen, but only a suspicious thickening and after this area had been cauterized in 5 operations, improvement occurred. In a second with multiple tears two operations were necessary. In a third with cystoid retinal degeneration and two holes, the closure of one appeared to cause re-attachment. In the fourth two holes were successfully cauterized; and in the fifth, in which one eye was blind from a detachment complicated by cataract, a detachment in the other eye was replaced by operation after the patient had been kept in bed for several months without result. This last case particularly shows the value of the treatment. Seven cases were treated unsuccessfully. One of them had eleven holes in one eye which was unimproved after six ignipunctures, and in some of the others with multiple holes the treatment is still persisting. These results which, it will be noted, do not include favourable cases
only, give a percentage of cures of 40 to 50. It is noteworthy that only in two cases out of 25 examined could a hole not be found. The ultimate prognosis depends on the size and situation of the hole or holes, on their number, and on the willingness of the patient to submit to prolonged and tedious treatment.

Vogt finds that the hole is usually from 3 to 5 disc diameters from the ora serrata, and it is seen most easily by the indirect method of ophthalmoscopy. In difficult cases the anterior region of the retina should be searched under an anaesthetic by pushing the ciliary body inwards by pressure on the limbus. If the hole is far back it may be reached by a galvano-cautery which is bent into the shape of the eye-ball, with the point turned at right angles: this is insinuated round the globe under the protection of a suitably curved metal shield. Care must be taken that the cautery is not inserted too deeply into the eye or held in it for too long a time: this will result in the formation of vitreous opacities and even in necrosis of the surrounding retina which may cause a fresh hole. A loss of the vitreous is also to be avoided.

With regard to the primary cause of detachment Vogt considers that the condition is invariably associated with a degeneration of the vitreous, and that the strands of the "scaffolding" of the vitreous body, being attached to the internal limiting membrane pull upon the retina, tearing it. The hole thus formed allows the fluid to gain access to the subretinal space, and is the immediate cause of the lesion.

W. S. DUKE-ELDER.


(3) In an important contribution, Junius brings forward arguments for the recognition of a new type of macular lesion. He describes four cases to illustrate the variety of appearances in which this disease may manifest itself. The essential features of the affection are that the lesion is purely retinal, and though it gives rise to severe visual disturbances during its active stage, it tends to subside leaving good vision and either none at all or but little permanent evidence in the fundus. The first case concerned a woman aged 34 years, who developed a large oedematous patch in the central area of one eye: it took ten weeks to evolve, and at its height it presented a sharply circumscribed macular lesion, 2'5 x 2'0 D. D. Haemorrhages were present, and visual disturbance was marked. The condition then regressed slowly, and at the end of six months, vision was fully restored and the retina showed no trace of any previous
affection. Now after 25 years there has been no recurrence and no eye trouble of any kind. The complete return to normal ("restlose Heilbarkeit") is the characteristic feature of this case, in which the fundus appearances were not dissimilar to those described by the author and by Kuhnt in their well-known monograph on Disciform degeneration of the macula.

The second case presented a retinal lesion not unlike that seen in late stages of embolism of the central artery; oedema localized to the macular region, some exudation and pigmentary disturbance. This occurred in a patient aged 32 years. Within a month great improvement had taken place; haemorrhages previously seen had disappeared, and after another month the fundus was completely normal. Vision, which at first had been greatly affected, had now improved, but was not quite full. The patient is now a woman of 61 years; she has had no further trouble, and has good visual acuity.

A girl of 14 years is the third case. Here the lesion was bilateral and quite unlike that of the other two cases. The disc was oedematous and showed striation, but the characteristic features were a large circumpapillary area of exudate and merging on to it was a macular star. No general disturbance could be shown to exist; the kidneys in particular were not obviously affected; vision was greatly reduced. After six months the fundi were still unchanged, though vision had improved. At the end of a year, the star-shape disappeared leaving the macula slightly pigmented but the appearances at the disc had not changed much. Five years later the disc was normal, the macula rather pigmented, and the arteries near the disc carried a white sheath. On the whole the fundus was fairly normal, and vision was good. At the age of 21 years, this patient was found to have an aortic aneurysm, which ultimately caused her death, 19 years later. Syphilis, congenital or acquired, could not be established in this case. (A similar case, as far as the fundus appearances go, reported by Werner, is recalled by the author.)

The unity of these manifestations lies in the fact that the macular lesion tends to recover without permanent damage. The author sees a uniform pathology underlying these cases by recording a fourth case of a man of 27 years, the subject of migraine, who, following on an attack of migraine, lost the sight of an eye owing to central detachment of the retina. The author believes that some affection of terminal arterioles near the macula is the responsible factor. It is a transient affection, probably supervening on top of an unstable vaso-motor system. It may be a recurrent exciting cause, in which case it gives rise to the rare condition described by von Graefe, and authenticated
by Hirschberg and by Fuchs, as one of recurrent central retinitis. The tendency to restoration to normal must be ascribed to the state of the youthful end arterioles: vascular lesions near the macula leave permanent evidence in the aged. The relationship to Coats' disease is left an open question. Four plates with eight illustrations greatly add to the value of this paper.

ARNOLD SORSBY.

(4) Terrien, F. and Renard (Paris).—Remarks on so-called albuminuric retinitis. (Remarques sur les Rémitites dites "azotémiques.") Arch. d'Ophtal., October, 1929.

(4) In an interesting paper, containing clinical records of four cases and three ophthalmoscopic drawings, Terrien and Renard discuss at length some of the undetermined problems of their subject. Their conclusions are:

The ophthalmoscopic changes in the retinitis accompanying Bright's disease, appear to result from the associated action of multiple factors, which evoke a profound systemic disturbance, manifesting itself most frequently by excess of blood pressure and alterations in the composition of the blood serum. These factors lead to vascular lesions in the eye, and, perhaps resulting from them, or perhaps occurring concomitantly with them, to exudation in the retina. Besides these special lesions others develop in other parts of the economy, particularly in the kidney. These in general are evolved along parallel lines to the ocular lesions, and in such cases the latter retain all their prognostic value. We then see the classical syndrome of albuminuric nephritis with retinitis.

Although in some instances the renal changes may be scarcely obvious, they exist nevertheless, and because there is always a possibility of a brisk aggravation of the nephritis it is essential to apply all possible means of examination.

Although a patient with "albuminuric retinitis" may be maintained in apparent good health for a longer or shorter period, he is always exposed to serious happenings, the occurrence of which is witness to the gravity of the prognosis afforded by the presence of retinal lesions. Such events may occur in cases apparently benign, and emphasize the necessity for thorough clinical investigation.

The authors quote from a recent paper by Prof. Ambard, who writes, . . . "of all the conditions found to be co-incident with albuminuric retinitis, excess of blood pressure is the most frequent and the most noticeable; this is followed by uraemia and finally by cholesterinaemia."

J. B. LAWFORD.
Arnold, Max (Zürich).—A further contribution to knowledge of cystoid degeneration of the macula (honeycomb macula), with remarks on the technique of red-free light. (Weitere Beiträge zur Kenntnis der cystoiden Maculadegeneration (Bienenwabenmacula) mit Bemerkungen zur Technik des rotfreien Lichtes.) Arch. f. Ophthal., Vol. CXXII, p. 299, 1929.

Arnold here gives notes of a series of cases of cystoid degeneration of the macula, first described by his former teacher, Vogt, a condition in which the macula presents an appropriately named "honeycomb" appearance that is best brought out by examination with red-free light.

In this series eleven patients, who were mostly young individuals, were the subjects of a chronic irido-cyclitis—in two, indeed, this degeneration of the macula preceded the onset of the cyclitis.

This affection, which is well illustrated in the text, it is important to look for, as it offers an explanation of the marked fall in the central vision in cases of irido-cyclitis, where the changes in the cornea and vitreous are only slight.

He also gives examples of this condition in cases of retinal detachment due to inflammation of the choroid and retina, in which it is, according to the experience of the Zürich Clinic, a common phenomenon, especially in young persons.

In other cases quoted the aetiologgy was obscure. As regards the technique of red-free light, the author emphasizes the necessity of using the arc-lamp with direct current, in order to bring out the colour of the yellow macula with sufficient strength; the nitra lamp and common incandescent lamps are useless.

Thos. Snowball.


Verhoeff's case is interesting because he believes it to be the only one of retinoblastoma (vel glioma retinae) known to have occurred in an adult. The patient was a man aged 48 years, who had noticed "spots like snowflakes" with the left eye, six months before admission. In spite of a posterior cortical cataract, the vitreous was seen to be full of fine opacities and a circumscribed detachment of the retina could be made out on the nasal side. The projection was irregular in contour and its surface showed prominent blood vessels. The eye was removed and section showed a grevish white tumour in the upper nasal quadrant extending from the root of the iris to a point 3 mm. from the optic disc. Histologically, the growth showed areas of
necrosis and was found to consist almost entirely of rosettes. It seemed to have originated from the pars plana ciliaris retinae and had invaded the ciliary body and choroid to an extensive degree.

F. A. W-N.

II.—NEUROLOGY


In a valuable review of the multitude of conflicting theories on the nature of the Argyll Robertson pupil, Ingvar points out that the generally accepted assumption is that the syphilitic toxin has a special predilection for the pupillary pathways. As the phenomenon is practically always bilateral, it has been further assumed that it is the region of the central crossing of the pupillomotor fibres that is picked out. Yet such a predilection has never been recorded from the very extensive histological examinations made to reveal the anatomical basis of this reaction, so that its supporters have been driven to assume that the anatomical basis is ultra-microscopic. The fact remains that "the histo-pathological endeavours to reveal the nature of the Argyll Robertson pupil have all failed.

Ingvar's own view is based on extensive studies in anatomy, both human and comparative. He points out that for evolutionary reasons the pupillomotor pathways are lying very superficially on the diencephalon, like the other phylogenetically old pathways. It is known for certain that they take a surface route from the posterior part of the optic tract to the anterior commissure in front of the anterior quadrigeminal bodies. It is this superficial course which explains the Argyll Robertson phenomenon, for the metaluetic and luetic meningitic processes produce successively developing marginal degenerations of the optic pathways, as also of the diencephalic parts on the whole. The pupillomotor fibres must therefore be injured at an early stage, and all the characteristic features of the reaction find a ready explanation in this manner; "the reflex immobility of the pupil is to be considered simply as a meningitic symptom." The reaction is an indication of what is happening within the basal subarachnoid spaces along the optic pathways. The Argyll Robertson pupil seen in cases of head injury is also the
expression of meningeal disturbance. It is absent in the acute meningeal processes, for in these there is a rapid sequence of all kinds of complications, and there are no opportunities to study the pupillary symptoms in so pure a form as in the slowly progressing meningeal process, typical of syphilis. As all the evidence indicates that only such morbid processes as manifest themselves in producing marginal destructions within the basal subarachnoid spaces of the brain are able to cause the Argyll Robertson pupil, we understand that the metaluetic and luetic diseases hold a monopoly among the causes of this valuable symptom."

Nielsen and Verity report a case in which the Argyll Robertson reaction developed during an attack of polyneuritis. The view that the polyneuritis was an accidental complication in a syphilitic, was untenable, for in the first place there was no evidence of syphilis and secondly the pupils became normal whilst the patient was under observation. The patient also showed bilateral optic neuritis and considerably increased globulin in the spinal fluid. It was "therefore known without assumption that inflammation of the regions traversed by the afferent pupillomotor fibres was in progress. With the onset of this inflammation, Argyll Robertson pupils developed, with its subsidence they disappeared." The authors feel justified in concluding that the case corroborates entirely Ingvar's explanation of the pathogenesis of reflex immobility of the pupils.

Arnold Sorsby.

III. — MUSCLES


(1) Gifford reports four cases of successful muscle transplantation for paralytic strabismus. Two of these were cases of traumatic abducens palsy in which some degree of outward movement was obtained. The other two were cases of divergence following tenotomy of the internal rectus. In both of these, the eye remained straight after operation and regained some power of convergence. The technique is as follows:

Complete tenotomy is first performed on the opposing lateral muscle through a small horizontal incision. The conjunctiva is then incised 3 mm. from the limbus from a little past the mid-line above, to a little past the mid-line below, exposing the insertions of the paretic lateral and of the two vertical muscles. The outer
thirds of the latter are detached from their insertions and attached to the insertion of the paretic muscle by mattress sutures passed from the deep surface so that the detached portions of the vertical recti slip under it. Both eyes are bandaged for seven days, and then covered with a shield which has a small hole for the other eye, so that no attempt to move the eye in the direction of action of the paralysed muscle shall be made for at least ten days.

F. A. W-N.

(2) Berens, C. (New York).—The diagnosis and treatment of non-paralytic strabismus New York State Jl. of Med., June 1, 1929.

(2) In this paper Berens reviews the types of strabismus and gives a full account of the measures for treatment. The various forms of orthoptic treatment are described but little is given of the results of such treatment, though the earlier and fuller the treatment, the better is the prognosis for vision in the deviating eye. He considers that there is no one definite time for all cases when operation should be performed. The recession operation is advocated as giving the best results of any single operative procedure. An analysis of a series of cases where various forms of exercise of the eyes were given subsequent to operation, shows the value of the exercising treatment.

R. C. Davenport.

BOOK NOTICE

XIII Concilium Ophthalmologicum. Amsterdam: Den Haag.


The Editorial Committee of the International Congress of Ophthalmology, held last year in Holland, are to be congratulated on the prompt appearance of the transactions, which contain the proceedings. Three volumes are bound, while the fourth comprises, inter alia, the world's ophthalmic register, a book which was badly needed, and which fills the gap admirably; Greeff's Katalog einer Bilderausstellung zur Geschichte der Brille, and the catalogue of trade exhibits. This fourth volume is provided with a loose cover to match the others. The first and second volumes give the text of the papers read and the discussions which followed. These volumes are liberally illustrated. Volume III contains the reports of the set discussions.

The whole reflects the greatest credit on the management in Holland. We hope to notice the contents more at large in later issues.