Society at its annual meeting. One could not be too thankful to the Committee of this powerful organization and especially to its distinguished Secretary General, Dr. ONFRAY.

As the result of an exchange of opinions, in which Rome, Geneva and London were mentioned, it was decided that the Secretariat would enter into correspondence with Mr. BISHOP HARMAN to select the date and seat of the Assembly for 1935.

During the sitting Dr. PARK LEWIS, on behalf of the American Ophthalmological Society, presented the Dana Medal to Professor DE LAPERSONNE.

ABSTRACTS

I.—OPERATIONS


(1) Pischel makes the introductory remark that his paper "does not lend itself to brief review." It is an interesting piece of work carried out conscientiously and without apparent prejudice on the vexed question of the respective merits of the so-called intra-capsular and extra-capsular cataract operations.

His investigations have been made on patients attending Professor Meller's clinic in Vienna. In the intra-capsular extractions the cases were "selected" and only those absolutely successful, in which there was no loss of vitreous, no rupture of the capsule during extraction and in which no criticism of poor technique or poor judgment could be made were studied. Fifty-seven patients in this series were studied.

In the extra-capsular series no selection was made and none was excluded which exhibited any complication at the time of operation or subsequently. Fifty-eight of these were examined.

The conditions of examination were identical as regards illumination of test types and other factors that might influence subjective testing for all patients.

The author's statistics of the visual results and complications are worth studying.

On the whole the visual results of the "unselected" group of extra-capsular extractions were better than the "selected" intra-capsular group. In the intra-capsular group the anterior chamber was restored more slowly than in the extra-capsular
cases, in some instances taking from 4-14 days and sometimes disappearing after restoration. When posterior synechiae occurred they were more extensive than those complicating the extra-capsular operation. Fine pigment deposits were sometimes seen on the posterior surface of the cornea but this was not observed in the extra-capsular group. On the whole the eye became white sooner after the intra-capsular operation than the extra-capsular extraction. Simple opening of the wound was a more frequent complication in the extra-capsular group than in the intra-capsular cases. For this the author offers the explanation that the conjunctival flap was sutured in the latter and not in the former.

It is worthy of note that only 6.9 per cent. of the extra-capsular cases required subsequent capsulotomy. The author attributes this to the fact that in performing this operation a large piece of the anterior capsule was seized by capsule forceps and thereby capsular epithelial metaplasia into fibrous tissue secondary cataract was prevented.

He concludes by stating that "while the results of the successful intra-capsular operation are practically as good as those in the well performed extra-capsular operations, there were more bad results even in a selected series of cases of intra-capsular operations than in an unselected series of extra-capsular operations."

H. B. STALLARD.


(2) Castroviejo gives an historical survey of the attempts made to perform keratoplasty from 1840 to the present day. Among many workers in this field the contributions of von Hippel and Elschnig are especially mentioned and the results of their experiments have led to the adoption of a technique similar in its main principles to that advocated by Tudor Thomas in Great Britain.

A variety of methods of cutting corneal grafts and of retaining these in place are described.

More favourable results are obtained by autoplasty and homoplasty, the graft being cut from the other eye of the patient if it is blind (autoplasty), or taken from a suitable donor in whom an excision is necessary or immediately on death (homoplasty). Heteroplastic grafts taken from the eyes of another species of animal all became opaque.

A trephine 4-5 mm. in diameter is recommended for preparing the graft and its bed. The deeper layers of the cornea should be cut in a shelving manner so that the graft does not sink into the anterior chamber. Tudor Thomas advocates a graft slightly
smaller than its bed. The use of forceps, knives and scissors damages the graft and leads to opacity. Some authorities recommend keeping the graft in warm physiological saline before implanting it in its bed; Elschnig prefers to keep it between layers of dry gauze; Tudor Thomas floats it in a watch glass of sterile olive oil.

A number of methods of retaining the graft in its bed are mentioned, the best of these are Elschnig's mattress retention suture running from the limbus between "12 and 6 o'clock" and traversing the surface of the graft, and Tudor Thomas' cross stitching in the cornea adjacent to the graft.

In von Hippel's method of grafting the pupil is contracted by a miotic, whilst Tudor Thomas employs mydriasis.

Adhesion of the iris to the graft causes it to become opaque. Defective coaptation of the edges of the graft also leads to this complication.

"Circumscribed penetrating keratoplasty," a term used in the author's classification, is the method advocated in cases where keratoplasty is justified. Total keratoplasty has been attended by disasters such as opacification, secondary glaucoma, panophthalmitis and phthisis bulbi.

Partial superficial keratoplasty is seldom indicated as optical iridectomy can be employed in many cases of corneal scars affecting localized areas of the superficial lamellae.

The author's criticisms of Elschnig's technique are as follows: The trephine cut is made vertically through the cornea and there is a tendency for the graft to fall into the anterior chamber; the mattress retaining suture does not exert even pressure on the graft and tends to become caught under the lips of the graft which it dislodges. With miosis there is a danger of incarceration of the iris and subsequent opacification of the graft. The author comments on the fact that Elschnig's best results occurred in cases of interstitial keratitis on account of the good vascular supply in the adjacent cornea and were bad in cases of dense leucomata following burns.

The author passes on to describe his own technique. He has fashioned a special instrument by cutting two strips from the edges of a safety razor blade and fixing these in a clamp 4 mm. apart. The instrument is used for making two incisions in the cornea 7 mm. long, 4 mm. apart and exactly parallel to each other in a vertical direction and over the pupillary area cutting through two-thirds of the depth of the cornea.

At the upper limit of these incisions a narrow-edged bent knife is introduced at an angle of 45 degrees. The blade of the knife is 18 mm. long, 4 mm. broad and the edges are sharp for 6 mm. from its point, the remaining 7 mm. being dull-edged. This
instrument is passed obliquely through the cornea above and on entering the anterior chamber the point is brought parallel to the plane of the iris and kept close to the back of the cornea, the counter puncture being made obliquely through the cornea and emerging at the lower extremity of the parallel incisions.

Next a curved spatula with one cutting edge is introduced into the anterior chamber from the upper to the lower limits of the graft in the same track as the bent knife described above. The cutting edge of the spatula is turned obliquely and cuts through the deepest one-third of the cornea in the line of the vertical parallel cuts, but made so that this deepest one-third of the cornea is shelving towards the anterior chamber.

The graft which is now completed is left in position in the donor's eye. The recipient's eye is first prepared by undermining two conjunctival flaps, incisions being made at the limbus above and below from "10.30 to 2.30 o'clock" and "8.30 to 3.30 o'clock" respectively. These flaps are fashioned so that they can be brought together with sutures over the centre of the cornea. They afford even pressure on the graft and ensure its retention. Later, after the sutures have been removed the edges of these flaps become adherent to the upper and lower limits of the graft and afford it nutrition through their vascular supply.

The author recommends that the graft should be transplanted with the minimum delay so as to avoid coagulation of the albumin in the aqueous, a complication he regards as undesirable.

The pupil is dilated with atropine before the operation and this mydriatic is again instilled before applying a dressing. The lids were sutured together in the animal experiments performed by the author.

Post-operative treatment consists in removing the lid sutures 48 hours after operation, gentle irrigation with 1 in 5,000 oxycyanide of mercury. Atropine is instilled. On the fourth day after operation the conjunctival flap sutures are removed.

This work was done with the normal corneae of experimental animals. Ninety-five per cent. of the grafts healed which the author claims is a higher number than by any other method employed. Thirty-five per cent. were successful clinically and subsequently proved to be so on histological examination.

H. B. Stallard.


(3) Mayou opened this discussion and dealt chiefly with hyperphoria. No ophthalmic surgeon had many cases of the rarer forms of squint and as the results were not generally known
there was a natural hesitation to operate at all. In operating for hyperphoria he used the old method of tenectomy with advancement and he did not separate the tendons from Tenon's capsule. He used Japanese fishing gut because it was soft and easy to pull through. The opposing muscles should be tenotomized in every case, (1) to increase the effect; (2) to lessen the traction on the sutures. When the patient was not under an anaesthetic the result was controlled by a light, set in the ceiling. The eyes were bandaged for seven days to ensure complete rest for the muscles.

Ernest Thomson.


(4) Peter classifies concomitant strabismus into convergent and divergent and subdivides these groups into uni-lateral and alternating. He discusses such aetiological factors as defective fusion faculty, refractive errors, hereditary and precipitating causes. The two barriers to cure are absence of the fusion faculty and central amblyopia. The author believes that all phases of treatment yield the best results before six years of age. He has noted that glasses effect the maximum degree of correction in one month in a child, aged 2 or 3 years, and that they may convert a unilateral squint into the alternating type. Amblyopia develops quickly but rarely, if ever, after the seventh year. Glasses may lessen the danger of amblyopia. The author recommends atropinization or occlusion of the fixing eye for children under 7 years of age in whom the squint does not exceed 20°. The occlusion should be for 3-6 hours daily, and it is of greater value when employed for near work than when at play. If there is no amblyopia he recommends occlusion of the fixing eye for two hours daily.

If the second order of fusion is present there is no harm in postponing training until the fourth year or later.

The author recommends early operation if the squint is 30 degrees or more. In cases where the internal rectus is not in contraction it is better to shorten the external rectus. There is a danger of weak convergence if recession of more than 5 mm. is done. In cases of organic contracture of the internal rectus recession is advised.

The author advocates that when two operations are necessary and amblyopia is absent or can be corrected, that double advancements are better than an advancement and recession. He advises resection of the external rectus for squints of 12 degrees to 15
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degrees; advancement for 20 degrees; and an advancement and some supplementary operation for more than 20 degrees of squint. He alleges that experience and judgment cannot be replaced by measures and calipers.

He states, in regard to stereoscopic training, that if the fusion faculty is capable of function it responds promptly and with little artificial stimulation. Small degrees of residual squint after operation can be diminished by fusion training aided by prisms base out. The external rectus should be exercised against prisms base in.

In alternating strabismus there is little hope of correcting deviation, fusion is totally absent and training need not be practised and amblyopia does not occur. Operation is recommended and diplopia need not be feared after this.

In cases of divergent concomitant strabismus the author states that amblyopia is rare and that fusion is better than in convergent concomitant strabismus. Full restoration of fusion rarely makes any marked impression on the deviation and few cases can be fully corrected without resort to surgery followed by stereoscopic training. Recession of the external rectus by itself is of little value and some form of muscle shortening of the internal rectus may be necessary in addition.

H. B. Stalloard.

(5) Curdy, R. J. (Kansas City).—The recession operation for strabismus. Amer. JI. of Ophthal., Vol. XVI, p. 891, October, 1933.

(5) Curdy describes a method of performing recession of the internal rectus muscle. The muscle is exposed through a horizontal conjunctival incision; a suture is passed through the upper cut edge of the conjunctiva at the proposed site of recession and then through the upper edge of the tendon about 1.5 mm. from its intersection. The tendon is now divided and allowed to retract 3-5 mm. as required. Great care is taken not to traumatize Tenon’s capsule more than is necessary to effect the retraction of the muscle to the desired site. The suture is now passed vertically through the episcleral tissues at the site selected for recession and is then brought through the tendon again near its lower border and thence out through the lower edge of the divided conjunctiva. The horizontal conjunctival incision is closed by tying this suture and inserting any other that may be necessary.

The author favours the horizontal conjunctival incision and states that sepsis around the recession sutures and disfiguring scars are less likely to occur when this is used. He stresses the importance of minimizing trauma to Tenon’s capsule. This
operation alone is not advised for cases in which more than 20° of deviation exist. The recession is limited to the anterior segment of the globe in front of the equator.

H. B. STALLARD.


(6) Veil and Felgines seem to prefer the method of diathermo-coagulation in most cases although they give credit to other methods of healing a retinal tear. They say it causes less destruction of tissue. It allows of easy ophthalmoscopic control in the course of the operation although on the other hand we do not yet know whether the cicatrices left after the use of the high frequency current are as solid as those of the galvano-cautery. The methods employed by some of the various writers on the subject, notably Vogt, Fischer and Veil himself are given.

ERNEST THOMSON.


(7) Bietti suggests the use of carbon-dioxide snow as a cauterizing agent to produce the necessary choroidal-retinitis for re-attachment of the retina. He claims that this form of cauterization is followed by very little disturbance and can be dosed and repeated, if necessary, with very little discomfort to the patient. The results of his first series of cases seem to be satisfactory. The freezing mixture (carbon dioxide snow and acetone) is contained in a special holder and to this are attached metal points of various forms as the case requires. The sclera is laid bare and the point applied to the surface for some 30 seconds in a number of places surrounding the position of the tear. The point generally adheres to the surface, being frozen to it, and requires a little effort to detach. Finally, the subretinal fluid is evacuated by a scleral puncture made either with Graefe's knife or a trephine. The author keeps the patient bandaged for some three weeks and then limits the movements of the eye by stenopic goggles. He gives only one word of warning which is to avoid touching the skin, conjunctiva, or ocular muscles with the cold point.

HAROLD GRIMSDALE.
II.—MISCELLANEOUS


(1) Corneal grafts may be taken from the same individual, from a member of the same species or from a different species. It is generally held that the last form of graft never retains transparency even though it remains attached, but Galante claims to have successfully transplanted rabbit's corneae on to dogs and *vice versa*, the grafts in a number of cases allowing a good view of the fundus, and seeming to the naked eye, completely transparent.

The author's method of operation is to take a disc of 5 mm. diameter and to place it in a gap cut with the same trephine in the cornea of the recipient; the pupil is kept fully dilated. A 3 per cent. solution of peptone sterilized by boiling is injected close to the corneal limbus; no stitches are used. The author has noted that the engrafted disc at first shows some opacity which clears after five or six days, but after two or three weeks a secondary opacity comes on which does not always clear; he regards this as the indication of resentment of the recipient eye to the foreign tissue implanted; he thinks that the injection of peptone acts to limit this adverse reaction. If it is possible to control the resentment of the recipient, the success of heteronymous grafts is made much more probable.

"I consider," says the author, "that there can be no possibility of complete and certain success with 'foreign' grafts, unless there can be found means of neutralizing the natural repulsion of the donor and recipient, and encouraging those characteristics which favour the assimilation of the structures artificially inserted... These fundamental conditions can be found by a close study not only of the morphology, but also of the chemical, physical and biological property of the parties concerned."

HAROLD GRIMSDALE.


(2) In this, and in the following numbers of the same review, the position of the surgery of the pituitary body is discussed; the discussion is opened by Cavina in a long and interesting paper. To the purely ophthalmic surgeon, the question is one chiefly of diagnosis since he will not usually go further than to advise consultation with a surgeon. But his part is of grave importance
since the early signs of this condition often come under his notice first.

The signs of the disease may be considered in three groups; the symptoms dependent on interference at the base of the brain with nervous structures, usually connected with the disturbance of function of the optic nerves; the disturbances of general nutrition, owing to the interference with the normal functioning of the pituitary; and the local changes in the skull due to the overgrowth of the gland and shown by the radiograms, as changes in the sella turcica and sphenoidal sinus. The author draws attention to the importance of the colour fields in the investigation of the patient; losses in the colour fields often precede changes in the fields for white.

The author points out that it is often possible, by the attentive study of the radiogram, to gain information about the probable nature of the tumour and its future development.

It is a well-established fact that endosellar tumours tend to invade the sphenoidal cells until finally the bony wall between the sella and the sphenoidal sinus gives way and the tumour protrudes as a hernia into the cavity of the sphenoid. The dorsum sellae is thinned and eventually appears to slope forward; the anterior clinoid processes remain for long normal in appearance, but as the cavity of the sella extends they seem slightly elevated. Most endosellar tumours are adenomata, and non-malignant.

The supra-sellar tumours alter the sella differently; the cavity becomes bowl-shaped; the dorsum is shortened and thinned, the clinoid processes shortened and pointed. When the tumours are large before they are discovered they have commonly caused so much destruction of the bones that their exact place of origin is a matter of doubt.

The majority of these tumours are not malignant; their removal is often followed by complete recovery, if the destructive process has not advanced too far. The author prefers operation through the nose, although this route is necessarily not aseptic. If surgical treatment is not accepted, the use of X-rays and radium offers some hope of alleviation.

In the following number of the same review, the subject raised by the author is discussed from various angles by several surgeons. Palumbo talks of the treatment by radium and X-rays. He states that acromegaly, gigantism and adenomata are favourably influenced by X-rays. When this is unsuccessful, he advises the application of radium in the cavity of the sphenoidal sinus after opening this.

Boschi and Campailla publish the case of a man in whom a tumour of the pituitary caused obstruction of the cavernous sinus, with exophthalmos, and congestion of the conjunctiva and lids. This was entirely relieved by the use of X-rays.
Mascherpa describes a new apparatus for ensuring a satisfactory radiogram of the sella turcica, and discusses the diagnostic importance of early change in the sella.

HAROLD GRIMSDALE.


(4) After quoting the figures showing the rise in recent years in the number of registered blind of the United Kingdom, Bickerton suggests that the total figure for our blind population may be as high as 250,000. Rough figures of the causation of the blindness are given, and he gives 44 per cent. as the figure of largely avoidable incidence. After reviewing the more obviously preventable conditions, including venereal disease, he passes to the genetic types of blindness. Starting with myopia, he gives a summary of the many hereditary diseases of the eye together with illustrative pedigrees from many sources. To prevent much blindness by improving environment and heredity he suggests, among others, the following available means:

1. Constructive birth control to avoid over-crowding and poverty.
2. Sterilization of mental defectives.
3. Review of the obsolete and ancient abortion laws which now act deleteriously and dysgenetically.
4. Euthanasia for infants with gross defects to be available for parents who wish to make use of it.
5. The Wassermann reaction to be examined during or before pregnancy.

R. C. DAVENPORT.

BOOK NOTICES


The Massachusetts Eye and Ear Infirmary was founded by Dr. Edward Reynolds and Dr. John Jeffries in 1824, and is the second oldest institution of its kind in the United States. This brief history contains an account of its modest origin and its progress to the Institution which today has 231 beds and treated, in the year 1932, 7,596 in-patients and 99,646 out-patients. A description of its benefactors, in particular Dr. Lucien Howe, and of the careers of the surgeons who have served on the staff of the hospital from 1824 is given.