

decoration of the ward is an important factor in its illumination. Although ward and ceilings and walls are frequently to be found varnished, there should be no gloss above the dado. The ceilings and friezes should be white, the walls below are better of a quiet and restful colour, darker or lighter according to window space and aspect. As regards the operating theatre whatever arrangements are made the highest possible degree of asepsis should be maintained, yet the fittings suspended over the tables are often thickly coated with dust. One should admit the greatest possible angular expanse of glass without admitting direct sunlight, and the glass should extend nearly the length of the room. The ideal light for operations should be made to approximate to that found quite away in the open under a clouded sky.

The illumination should be not less than five-and-twenty foot-candles, and the light should be so thoroughly diffused that it should be difficult to get the shadow of one's hand upon the work. No exposed light sources should exist within the field of vision. The colour of the light should be as white as possible, and it must be uniform and steady. In special circumstances the surgeon can use an electric forehead light.

The author has seen nothing better for the purpose of illuminating the operating room than the white flame arcs we had before the war. He specially mentions the method more in favour abroad than here, viz., that of projected beams of light converging on the table from several points.

Mr. Darch closes his paper with a plea for the good lighting of dispensaries.

ABSTRACTS

I.—LIVING SUTURES IN THE TREATMENT OF PTOSIS

Wright, W. W. (Toronto, Canada).—The use of living sutures in the treatment of ptosis. *Arch. of Ophthal.*, March, 1922.

Stimulated by the studies of Dr. W. E. Gallie and A. B. de Mesurier on the use of living sutures in surgery, it appeared to Wright that living sutures would be an ideal method of treating ptosis. He operated by this method on eight eyelids in five patients. The fascia lata was exposed and cleansed by a longitudinal incision, five inches in length, made over the outer side of the thigh. Two parallel incisions were then made in the fascia lata, four to five mm. apart. The piece of fascia between these incisions was then freed from the underlying muscle. Before cutting this strip at its extremities it was slit longitudinally into the two required sutures.

The sutures were threaded at both ends into fairly large slightly curved needles with large eyes, and as the sutures were short and slippery it was necessary to tie them on to the needle with fine strong silk. Pagenstecher's operation was then performed upon the drooping lid. The operation was performed under the strictest possible aseptic technique. In spite of this four cases of Wright's series showed more or less infection, all of which, however, did well and in no case was the ultimate result thereby impaired. The author claims that in his operation we have a method of treating ptosis that is at least as good as any method previously introduced.

S. S.

II.—CHANGES IN THE CORNEAL ENDOTHELIUM FOLLOWING PARACENTESIS

Mazzei, Dr. A. (Naples).—On changes in the corneal endothelium following paracentesis of the anterior chamber. (*Sulle alterazione dell'endotelio corneale in seguito alla paracentesi della camera anteriore.*) *Arch. di Ottal.*, March-June, 1921.

Mazzei begins his paper by a review of previous observations on the changes that take place in the ciliary epithelium after paracentesis. As he was unable to find any account of the condition of the corneal endothelium in the literature of the subject he made a fresh series of experiments on rabbits. One eye of each animal was left untouched, and examined with the same fixation methods as the eye experimented on, to act as a control. The actual operation was performed as in an ordinary clinical paracentesis, and the author notes that the various eyes took very different times to empty. The eyes were excised at intervals of five, ten, and fifteen minutes, one, three, five, seventeen, twenty-four, and forty-eight hours after the paracentesis. The microscopical appearances are carefully described and illustrated by two drawings. His conclusions are as follows:—

1. Following paracentesis of the anterior chamber performed under the same conditions as in clinical treatment, certain changes, characterized mainly by vacuolization of the protoplasm, are found in the endothelium of Descemet's membrane.

The alterations in these cells are visible as early as five minutes after the operation, persist for several hours, and begin to disappear about seventeen hours; finally at the end of forty-eight hours the endothelium has recovered its normal aspect.

2. The alterations met with in the endothelium of Descemet's membrane closely correspond to those already observed in the cells of the pars ciliaris retinae.

E. E. H.

III.—STRABISMUS

- (1) **Bettremieux.**—The orthopaedic treatment of strabismus. *La Clin. Ophthal.*, February, 1921.

Bettremieux has come to the conclusion that if squint in young children cannot be cured by glasses and non-operative measures it is better to operate, though he admits that the putting of the eye into the correct position does not guarantee binocular function. The operative method he employs is tenotomy of the rectus of the non-squinting eye. He avers that bad results have been due to bad operative measures, such as tenotomy of the squinting eye or double tenotomy at one sitting. He does not believe that advancements of external recti do less harm to the convergence apparatus, are more physiological, or are any less risky as regards over-correction than tenotomy of the internal rectus of the fixing eye. On the other hand, he has never seen divergence or insufficiency of convergence resulting from tenotomy of the fixing eye, whereas the harmlessness of advancement from the overcorrection point of view is not as absolute as its partisans make out.

ERNEST THOMSON.

- (2) **Schwartz, Frederick Oscar, M.D. (St. Louis, Mo).**—Tenotomy and looping for the surgical correction of strabismus. *Amer. Jl. of Ophthal.*, November, 1921, Series iii, Vol. IV, No. 11.

Schwartz gives a detailed description of an operation which he has found effective in dealing with both internal and external squint of considerable degree.

His method depends upon tenotomy of the opposing muscle, combined with advancement of the muscle which has to be shortened.

His aim is to anchor the latter muscle as firmly as possible, and he secures this by adopting the use of two thin gold plates, through which the sutures binding the muscle are threaded and tied, in order to act as a clamp.

Previous to operation precise measurements of the existing amount of deviation are recorded.

The opposing muscle is first divided completely so as to reduce the pull. The lips of the wound in Tenon's capsule and the conjunctiva are then drawn together in one suture.

Next, two double armed sutures, about .12 inches long, are threaded into a plate 7 mm. by 2 mm. rolled out of 14 c. gold wire, 4 small holes $\frac{3}{4}$ mm. apart being drilled in the plates.

Two of these plates are required for the operation.

One suture is threaded through the upper two holes of each plate, and the other suture in the lower holes.

The incision having been made in conjunctiva and Tenon's

capsule over the point of insertion of the rectus muscle, the muscle is raised upon a tenotomy hook and its attachment to adjacent tissue thoroughly freed by means of a second hook passed in various directions. The under surface is roughened by means of a scalpel. The muscle supported by the two hooks is now severed in a longitudinal direction for a short distance. Two silk threads are passed into the slit in the muscle and are used as retractors by an assistant, the gap in the substance of the muscle taking up a quadrilateral form. The amount of pull to be exerted by the assistant is determined by the degree of strabismus, a greater pull being demanded when the strabismus is marked and shortening of the muscle has to be more extreme.

The needles of the sutures already threaded through the gold plates having been introduced through the lips of the conjunctival incision, are passed in turn backwards through the adjacent band of divided muscle, and are then carried across the sharp angle formed by the retraction thread, to be re-introduced (from behind forwards) into the muscle near the point of insertion of the tendon. The needles are next passed out through this side of the conjunctival opening and threaded through the second gold plate in a similar fashion.

The sutures are now drawn together and the gold plates are in close proximity to one another on the surface of the conjunctiva. The sutures are tied, and the threads which were used as retractors are withdrawn. The gold plates act as a clamp and no further suture of the conjunctiva is required.

The roughened scleral surface of the muscle favours union of the tissue, and satisfactory anchorage of the muscle in its new situation should take place. The eyes are bandaged for eight to ten days, and the gold plates are removed in twelve days.

Clearly drawn diagrams assist in the description of this operation, which, provided one meets with a muscle capable of standing the amount of manipulation required, should give favourable results.

J. HAMILTON McILROY.

IV.—KERATITIS CAUSED BY EXCESSIVE SUGAR INGESTION

Macleish, A. C., A.B., M.D. (Los Angeles, California). —
Keratitis caused by excessive sugar ingestion. *Amer. Jl. of Ophthalm.*, Vol. IV, No. 10. October, 1921.

Those who advocate the theory of the ill-effects of sugar on metabolism in cases of phlyctenular disease will take interest in the history of the case of keratitis reported by Macleish.

The patient was a girl, aged three years, white, who had suffered

from severe eye disease for one year. Constant treatment by different oculists had failed to produce improvement. The child was nervous, and her general health not good, constipation and diarrhoea alternating; and the appetite was poor and erratic.

Intense photophobia and lacrimation were present. There was some interstitial keratitis, but examination of the corneal condition was very difficult. There was no ulceration or phlyctenular conjunctivitis as far as could be made out. The Wassermann reaction was negative. On enquiry it was found that the child was allowed to eat an excessive amount of sugar. A strict diet, from which sugar was eliminated, was prescribed, and local treatment consisting of hot compresses and atropin. Two weeks later the child was seen and showed an almost incredible improvement. There was no photophobia or lacrimation; the corneae were clearer, and the pupils well dilated. The general health showed a corresponding change for the better. A month later the improvement was still more marked, and progress continued for several months. A relapse occurred during a temporary illness of the child's mother, when supervision of the diet was relaxed. The child, however, became well when attention was again directed to the diet. The condition appears to have been directly traceable to error in diet.

J. HAMILTON MCILROY.

BOOK NOTICES

Diseases of the Eye: a handbook of ophthalmic practice for students and practitioners. By GEORGE E. DE SCHWEINITZ. W. B. Saunders. 1921. Price, 50s. net.

This is the ninth edition of a deservedly popular handbook of ophthalmology. It has been entirely reset and revised, forms a handsome volume, and may be well recommended to the student and practitioner as a reliable and useful guide in his work.

Whilst conforming to the usual form of such text-books there are a few features that are outstanding and make the book more valuable.

The optics sections are very full and well treated, the explanations of the various problems are in simple language, and now that more knowledge is required from the student on this important subject should be of great value to those who are preparing for examinations. We would, however, criticise a good many of the diagrams, which are far from clear, and the lettering in most is obscure and small. There also appears to be some confusion in the definition of "range" and "amplitude" of accommodation, which seem to be treated as synonymous terms. Again, later in