from 6 to 12 hours after administration was very slight, a fact which suggests that the administration of the drug in doses twice daily (at 9 a.m. and 5 p.m.) as advocated by Bellows and Chinn would be as effective as four times a day.

The administration of heat and such chemicals as ethyl morphine hydrochloride, atropine and physostigmine had no effect on the concentration of sulphanilamide in the aqueous but acetyl—β—methylchlorine chloride (mecholyl) caused through its power to alter capillary permeability, an increased concentration of the drug over the control values. Paracentesis of the anterior chamber followed half-an-hour later by another paracentesis also leads to an increased concentration of sulphanilamide in the aqueous.

Sulphanilamide dusted on to the conjunctiva and cornea lead to some irritation without any appreciable penetration of the drug into the ocular tissues. After subconjunctival injection of a solution of the drug the aqueous concentration was far below that which followed oral administration.

Bellows and Chinn found sulphanilamide in the tears of two patients who were receiving 3 grm. a day. In one instance the tears contained 1·5 mgm. in 100 c.c., 3 hours after the administration of 1 grm. and in the other 17 hours after a similar dose, the concentration was 0·8 mgm. per 100 c.c.

It is evident from these experimental and clinical findings that the ocular tissues are penetrated by sulphanilamide.

ABSTRACTS

I.—OPERATIONS


(1) The first part of this paper is a short review of the various measures which have been taken to correct the deformity of ptosis; Valerio points out that if the superior rectus is undeveloped, the frontalis may be employed to help to raise the lid but that the relation between movement of the eye and lid will not be normal; there must, therefore, be different methods employed according to the state of the external ocular muscles. Motais was the first to bring the superior rectus into play when the levator palpebrae is wanting; his operation is not very easy to perform and the author
draws attention to an operation devised by Nida which is simple and effective. It consists in laying bare the tendon of the superior rectus and lifting it on a hook. Then a strip is cut from the upper border of the tarsal plate about 2 mm. in width in the centre and 3 mm. at the ends; this is freed but left attached to the lid at the outer end; a second hook is passed under the superior rectus tendon, the tarsal slip is passed under the tendon and the end secured to its bed, and the operation is over. This secures the lid to the globe and the two structures move together. The author has performed the operation on several occasions and is very pleased with the result. He says, also, that in the case of Gunn’s syndrome he anchored the lid to the eye in this way and the appearance of the patient was much improved. The one disadvantage, which he does not mention, would seem to be the implantation of a strip of conjunctival tissue under the tendon and the possible formation of a cyst in that situation.


HAROLD GRIMSDALE.


(2) Jaensch describes the treatment of a case of paresis of both superior oblique muscles, which caused marked head tilting and extensive diplopia. A recession of the right and left inferior recti was done in turn, followed by myomectomy of the left inferior oblique. The final result was excellent and the patient was able to return to work. The records of the residual diplopia after each operation are very interesting.

D. R. CAMPBELL.


(3) Reitsch describes an operation which he has tried in a few cases of persistent glaucoma. A narrow tongue is cut from half the thickness of the sclera and is turned down and tucked through a small wound at the limbus, so that it projects well into the anterior chamber. The wound is covered with conjunctiva as in a trephine operation.

D. R. CAMPBELL.

Schmidt suggests that the hand trephine is more satisfactory than the motor trephine. The latter seems to cut the corneal endothelium irregularly and a clear corneal graft is spoilt later by a membrane growing across the back of the cornea.

D. R. Campbell.

II.—TRACHOMA


(1) Cuenod and Nataf report briefly the morphological and experimental researches on trachoma carried out during the past few years. These researches would suggest that the effective trachoma body or agent should be ranked near to the family of the Rickettsia, some of the characteristics of which it possesses although differing therefrom in other respects. Since, however, the definition and classification of the Rickettsia has not been clearly achieved, they suggest that it is preferable to use the expression "Rickettsoid body" instead of trachoma Rickettsia, and propose that the virus body of trachoma be called "Prowazekia Trachomatis" whereby the work of Prowazek would be honourably acknowledged without anticipating a definite classification.

Arnold Sorsby.


(2) After a discourse on the nature of bee venom and the method of collecting it, the author gives the results of the treatment of 20 cases of trachoma. She made use of "tracocid" a preparation of bee venom which must be mixed before use with an anaesthetic; this is injected subconjunctivally. She claims great benefit in almost all cases.

Harold Grimsdale.


(3) Morretti claims that by the method described in this paper, he is able to secure a more rapid production of scar
tissue of the upper cul-de-sac and a higher percentage of cures. He does not claim constant success. The method of his new plan is as follows: he anaesthetises the conjunctiva by an injection of pressocain followed by instillation of pressocain and dionin. The tissues of the cul-de-sac are swollen by this, and it is easy to evert the upper lid; this shows a number of granules in various stages; by means of the roller-forceps the granules are crushed and emptied; then with a sharp spoon all the conjunctiva of the tarsus and upper cul-de-sac is lightly scraped. The lower lid and the caruncle share in this. After this a small cut is made with scissors, vertically, about 2 or 3 mm. long, as near the outer angle of the lid as possible and in contact with the upper edge of the tarsus. Then a thin spatula is passed through the opening, towards the other end of the tarsus, and by slow and gentle movements the upper layer of the conjunctiva is separated from the deeper. Care must be taken that this splitting goes to the upper edge of the tarsal plate. The after treatment is the application of tannic acid in ointment and daily touching the conjunctiva lightly with sulphate of copper. After two or three weeks, the conjunctiva of the fornix loses its red colour and takes on the characteristic look of scarring.

When there is pannus, the author passes a suture round the cornea subconjunctivally, leaving the ends long and secured outside the commissure by means of plaster. If there is ulceration of the cornea, copper sulphate must not be used in the after-treatment which will consist in the use of an ointment of atropine and xeroform. It will be seen that the name “splitting of the conjunctiva” is chosen as representing the new factor in the treatment; the crushing and scraping, though essential parts, are not mentioned by name.

HAROLD GRIMSDALE.

III.—MISCELLANEOUS


(1) In a short but interesting paper, Bonnefon discusses the conclusions which he came to after having experience in the treatment of some 3,600 eyes affected by mustard-gas, during September, 1918.

After a short survey of the clinical picture met with in these cases, the author puts forward a strong and logical case for
the adoption of a therapy based on the use of the "hypertonic ocular bath."

Firstly, he points out that copious douching is unnecessary for superficial washing of the mucous surfaces, as this is achieved by the reflex flow of tears, and useless in so much as it does not reach the intracellular caustic.

The essentials of the author's method are then as follows:

1. To encourage the washing action of the tears, he suggests that at the First Aid Post, the patient should be given a basin of warm water and some cotton-wool, with directions for use by himself. He would then keep bathing the lids to prevent them becoming adherent, and thus encourage a continuous flow of tears.

2. On arrival at the Casualty Clearing Station, or First Reception Hospital, the hypertonic ocular bathing would be commenced. The author recommends the following solution:

   Sod. sulphate to saturation - 800 grammes.
   Syrup of sugar - - - 200 grammes.

The solution is used in an eye-bath, and as proof of its efficacy the author states, that after ten minutes immersion, the water in the bath is found to be caustic. The mechanism of osmotic drainage having come into play. He also points out that with 200 baths and four nurses, 1,500 eyes can be bathed twice a day with ease.

The continuation of this treatment is advised as long as there are any signs of photophobia or lacrimation. From his experience during the Great War, Bonnefon is convinced that the "osmotic bath" is the only effective way of banishing rapidly the irritant sequelae of these injuries. The author also stresses the danger of using cocaine ("that enemy of the corneal epithelium") to alleviate pain in these cases.

Ointments would also seem to be contra-indicated, as they tend to hold up the flow of tears, and are also accumulators of mustard-gas on account of the latter's high solubility in the hydrocarbon oils and animal fats.

The use of 2 per cent. dionine is recommended and a prescription is given for a hypertonic solution to be injected subconjunctivally in severe cases.

G. I. SCOTT.


(2) Purtscher describes the case of a man, aged 67 years, who showed bilateral Tenonitis followed by choroidal detachment,
eventually leading to spontaneous recovery. He disputes the conception that the space of Tenon is to be regarded as a synovial cavity subject to the same rheumatic manifestations as joint cavities. He holds that Tenonitis is a vasomotor neurosis, similar to posterior scleritis and episcleritis fugax. It is not an independent disease, but a result of episcleral inflammation. In view of his findings he stresses the need for searching for choroidal detachment in Tenonitis.

**ARNOLD SORSBY.**


(3) Siegert here describes in detail three cases of sarcoma of the iris showing different stages of development; two of these had been followed clinically.

The evidence of malignancy in these neoplasms is discussed at length, and in this connection he points in case 1 to the infiltrating mode of growth, a proliferation of cells not seen in either naevus or melanoma, and the enormous variation in the type and pigmentation of the cells. This variability in the cells (together with signs of karyokinesis and metastasis), in case 2 is also commented on. In these too there was an "oedema" or swelling of the most superficial cells of the iris next the aqueous fluid that is not found in benign naevus.

The exact origin of the sarcoma cells it is often difficult to decide. In case 1 there was no direct connection with the ectodermal pigment layer, while the pigmentation of the melanoblasts differed widely from that of the pigment epithelium. In case 3 no real difference was noted between the melanophores in the iris and the pigment epithelium. The author inclines to the view that these cells are mesodermal in origin. He also emphasises the fact that a malignant neoplasm may progress and yet may give rise to no symptoms or be recognised clinically, while on the other hand tumours which cause blindness from glaucoma may fail to show anatomically the characteristic features of malignancy (destructive growth and metastasis).

Metastasis in these slowly growing tumours occurs primarily by way of the perivascular lymph spaces not by the circulation or the aqueous fluid.

**THOS. SNOWBALL.**

(4) Bencini (Siena).—Six cases of sympathetic ophthalmia. (Considerazioni clinico-istologiche-terapeutiche sopra sei casi di oftalmia simpatica). *Boll. d'Ocul.*, May, 1939.

(4) In this paper is recorded the course of six cases of sympathetic ophthalmia in five of which the exciting eye was
examined microscopically after removal. The sixth case had the exciting eye removed before he came under Bencini’s care. In two, the marked symptom was a papillo-retinitis, and in these the ciliary nerves were specially concerned in the inflammatory process. The author thinks that this may point to the presence of a neurotrophic virus. In all the cases, the main treatment was the intravenous injection of urotropin, with large doses of sodium salicylate. In the latter cases the urotropin was combined with chinophenyl (phenychinolin-carbonic acid) which, he says, has helped much. In all cases the result was good; in one, there was relapse after apparent cure, and secondary glaucoma followed. In this case treatment was prolonged over seven months. In all, the exciting cause was a wound with prolapse of some part of the uveal tract; in one case, the second eye showed signs of sympathetic inflammation on the 15th day after the original injury; in two, enucleation preceded the onset of sympathetic in one case by 10 days and by 11 days in the other. The author thinks that all our knowledge points to the action of a virus in this disease. He has attempted to provoke herpes in the cornea of a rabbit by inoculating it with material from one of his cases, but without success. He concludes that the virus of herpes is not the cause of sympathetic inflammation. (Von Szily had been able to show that inoculation of the uveal tract of an animal with the virus of herpes, produced a form of inflammatory reaction with infiltration of the choroid by eosinophilis and leucocytes which could be passed from animal to animal).

HAROLD GRIMSDALE.

BOOK NOTICES


The findings of the ophthalmoscope, the slit-lamp and corneal microscope when correlated ultimately with microscopic evidence of morbid histology give to ophthalmology a precision which is both exquisite and scientific. The development of the technique of fundus photography is yet a step further in recording the truth. It lacks some of the imperfections and omissions of the artist whose observations are set down by drawing and painting and it also affords an admirable means of recording from time to time a changing picture of pathological events and thus of following up with accuracy the course of disease.