an employee is re-imbursted for damage to eyesight, which is a benefit additionial to the aliment which he receives while he is off work consequent on the injury to the eye, either under the Workmen's Compensation Act or under our interpretation of it."

"We divide our workmen into various classes, dependent on their earnings, and the "Solatium" for the loss of an eye varies in accordance with the class of the man. I need not give you all the details, as a single example would perhaps serve your purpose."

"A man in Class I—i.e., in receipt of an average weekly pay of 60/- or over—would receive for the loss of an eye in "Solatium" a sum of £180, less a small deduction. The deduction is the aliment which he has received during convalescence, and if he were off (say) eight weeks it would be £12. His nett "Solatium" would then be £168. Workmen in lower classes receive correspondingly less, but in no case is the total sum inferior to 75 per cent. of that quoted above. An injury to an eye involving partial loss of eyesight would be "solaced" pro rata to the extent of the injury as certified by the Optical Arbiter. Thus, if the Class I man noted above lost 'half an eye' and were convalescent for eight weeks, he would receive a "Solatium" of £78...."

ABSTRACTS

I.—ANATOMY


In the 1929 volume of this Journal, on page 137, will be found an abstract of an article by Koby and Juillerat which deals with the calculation of the thickness of the living cornea as examined by the slit-lamp. In this article Koby pronounced the thickness of the centre of the cornea to be around the figure 0'58 millimetre.

The present article deals with the same subject as studied by a different method, namely the employment by Fincham of his biomicroscope. Fincham's figures for the centre of the cornea are as follows:—

The most frequent value is 0'55 millimetre.

The arithmetical mean is 0'53 millimetre.

Koby's figures were respectively 0'58 and 0'59 millimetre.

Koby considers that these figures correspond fairly well considering that the methods are different; and considers also that they are nearer the mark than the anatomists, figures of 1 millimetre.
At the end of his abstract above referred to the reviewer remarked: "The practical result seems to be that when dealing surgically with the cornea, at any rate with its centre, we have only something more than half the thickness to work with that we have hitherto assumed to exist, for is it not usual to say that the cornea is 'about' a millimetre thick?"

ERNEST THOMSON.

II.—CONJUNCTIVA

Nichelati (Salò, Brescia).—Two cases of infection of the conjunctiva by larvae of Oestrus Ovis. (Due Altri Casi, di Miasì Congiuntivale da Larve di Oestrus Ovis). Ann. di Ottal., November, 1930.

The outstanding feature of these cases is the rapidity with which intense irritation of the conjunctiva comes on after a blow from an insect on the eye. Burning, with a copious lacrimation follows immediately. Careful examination of the conjunctiva will show the cause to be one or more small rapidly moving larvae which hold tenaciously to the conjunctiva.

In the cases here reported, the larvae agreed closely with those of Oestrus Ovis in appearance. They have a number of chitinous hooks at the anterior extremity with which they hold to the eye and cause the irritation.

Oestrus Ovis is often viviparous, and the brief interval between the attack of the fly and the onset of symptoms, seems to prove that in these cases the living larva was deposited.

Nichelati suggests that this fly is probably the real cause in many instances in which other diptera have been accused. The similarity of the larvae makes accurate distinction difficult.

HAROLD GRIMSDALE.

III.—OPERATIONS


(1) Verderame recounts the various methods of tattooing the cornea since the era of Galen, admitting that there is a gap in the literature between the time of Galen and the year 1861. Galen's
method was to touch the leucoma with the point of a hot stylet and then to apply a mixture of gall-nut and pomegranate bark. In the year 1861 Riva tried Galen’s method in one case, with results which discouraged him from trying it again. Then came the period which commenced with de Wecker who introduced the use of Chinese ink. This was followed by the employment of various kinds of soot, and even of choroidal pigment. All these methods were based upon the introduction mechanically of ready prepared colouring matters into the corneal layers. In the year 1925 Knapp, of Bâle, introduced the method of chemical tattooing, the colouration being obtained in the tissue itself by means of a chemical reaction between chloride of gold and a reducing agent such as tannin. The method was open to the objection that the result was a brown or a greyish black tint rather than the required black of the pupil. In 1928 Krautbauer succeeded in obtaining a perfect black by the reaction between platinum chloride and hydrate of hydrazine. Other operators employed the method, Verderame among them. Verderame treated four cases, all with a successful result. Full details are given of these four cases and a note is included of the operative technique. These details must here be abbreviated:—

(1) Cocaine and adrenaline. (2) Lavage with sterile distilled water. (3) Delimitation of the operative zone with a trephine. (4) Epithelial curettage of the zone. No lavage. (5) Light application by means of a small cotton swab on a glass rod of 2 or 3 per cent. solution of platinum chloride for 1½ or 2 minutes. (6) Immediately after this the drop by drop instillation of a 2 per cent. solution of hydrate of hydrazine for 20 to 25 seconds (8 to 10 drops in all). (7) As soon as the tattooed zone is perfectly black, immediate irrigation with sterile distilled water to remove the surplus reducing agent. (8) Lavage of the cul-de-sac with normal saline. (9) Boric vaseline into the cul-de-sac. (10) Binocular dressing for 48 hours, followed by uni-ocular until the corneal epithelium is re-formed.

Verderame is greatly pleased with the technical results of Krautbauer’s operation and with the simplicity of the technique. The following precautions are necessary*:—(1) The platinum salt should be prescribed “platinum chloratum siccum Orig. Merck.” One must avoid “platinum chloratum—chlorure Merck” which is not soluble in water. (2) The hydrate of hydrazine should not be employed more than four weeks after its preparation.

* No. 1. It would be very advisable for British surgeons to ascertain the exact chemical formulae corresponding to the words in inverted commas.

**Ernest Thomson.**

(2) Graf draws attention to the frequency with which the lens capsule is injured in doing iridectomy for glaucoma. On microscopic examination there was found capsule together with the excised iris in four out of 22 cases. In one of these four a complete cataract developed. In 32 control cases of iridectomy for cataract, capsule was present in three cases, in all of which the anterior chamber was shallow. It is by such accidents that the occasional maturation from preliminary iridectomy can be explained. The author implicates the toothed iris forceps in the damage to the capsule.

Arnold Sorsby.

(3) Bunnell, Sterling (San Francisco). — Vertical skin-grafts for reconstruction of eyebrows. Surgery, Gynecology and Obstetrics, August, 1931.

(3) It Wolfe grafts of the hair-bearing area of the scalp be used for reconstruction of eyebrows, the result is unsatisfactory, because the graft has to be of such thickness that necrosis sets in before healing is complete. Bunnell has therefore devised a method of implanting strips of hair-bearing skin sufficiently thin to become vascularized before necrosis sets in. The operation is done in the following manner:—Three Bard-Parker scalpel blades, with two strips of sheet metal, each 1.5 mm. thick between them, are clamped together by two Mayo haemostats. An area of scalp in the mid occipital region is shaved and painted with iodine. One vertical stroke of the tri-bladed scalpel down the mid line of the scalp results in the production of two slices of hair-bearing skin each 1.5 mm. wide. These are implanted into a deep incision made along the line of each eyebrow and secured with sutures. The upper end of each graft is placed medially so that the hairs point laterally. The operation can be repeated within a month, and after three or four such procedures, eyebrows of sufficient thickness can be produced.

F. A. W.-N.


(4) Walker is of opinion that there are two main causes for the variations in the results of trephining: (1) pressure and unnecessary injury to the iris, zonule and ciliary region; (2) implantation of foreign substances (grit, grinding powder, etc.) from the inside of the trephine. He therefore suggests two modifications in the
operation. The first is the use of a trephine with two windows cut in it 1.5 mm. from the cutting edge. The second is the insertion of a stitch into the button of sclero-cornea, the ends of the stitch being drawn out through one of the windows in the trephine. The advantages claimed for these procedures are as follows: The windows allow the instrument maker to give a clean bright surface to the inside of the trephine, and the surgeon to verify its cleanliness by inspection—the slit-lamp is recommended for this purpose. They also allow the surgeon at the time of operation to see exactly what is happening. If, for example, the iris is seen to bulge up into the front portion of the wound, injury to this membrane can at once be avoided by tilting the trephine backwards so allowing a clean disc to be cut out. The stitch allows the button of corneo-sclera to be drawn up against the cutting edge of the trephine thus avoiding undue pressure on the ocular contents, it also prevents loss of the disc into the anterior chamber, and allows of very delicate manipulation when one or other edge requires to be more deeply cut. The practical outcome is that since adopting these precautions, the author has had no cases of post-operative iritis.

F. A. W-N.

IV.—MISCELLANEOUS


(1) Gourfein reminds us that the eye is in a singular position with regard to immunity. Antibodies in the blood serum do not always confer immunity upon the eye even when the whole organism is immunised. Axenfeld, for example, immunised rabbits against the pneumococcus. In these rabbits an intravenous injection of pneumococci, many times the fatal dose, had no result; yet a small dose injected into the vitreous brought about panophthalmitis. Gourfein carried out a series of experiments in the same direction but this time with the object of obtaining local immunisation by local instillation or injection. He gives a full account of eight of these experiments, all on rabbits, directed against the bacillus of Koch, the staphylococcus aureus and the streptococcus. These experiments were carried out in 1925 and the results were negative. “Le vraie methode pour obtenir l'immunisation locale de l’oeil est encore à trouver.”

Ernest Thomson.
2 Lebensohn, James E. (Chicago).—Car sickness. Arch. of Ophth., September, 1930.

(2) Lebensohn considers that labyrinthine stimulation is an important factor in this disease although it may be predisposed to by uncorrected errors of refraction or of muscle balance. Some interesting experimental work was done by swallowing a stomach balloon and connecting it with a water manometer which recorded on to a revolving drum. Induction of ocular nystagmus by following moving objects caused an increase in gastric tone and motility but no nausea. Irrigation of the auditory meatus with cold water caused an immediate rise of gastric tone, similar to that obtained by irrigating the skin of the auricle, and therefore not labyrinthine in origin. Later, however, the labyrinth comes into play and there is a loss of gastric tone, depending on the degree of nausea. The author has shown in a previous paper that asthenopia is a gastric depressant. It follows, therefore, that asthenopic individuals will have a lowered threshold for the production of nausea.

F. A. W. N.


(3) Most ophthalmic surgeons are now familiar with morbid conditions of the eye caused by focal sepsis in the oral cavity, the tonsils, the alimentary canal and the prostate. An added terror has been found by Hirschman in an inflammatory condition of the crypts of Morgagni, which are situated at the junction of the anal canal and the rectum. He instances the case of the head of a large manufacturing firm who had been troubled with pain over the right eye for two years. This had been treated unsuccessfully by physicians, osteopaths and anybody who would offer him relief. He had had sinus treatment and both tonsils had been removed. On account of some rectal irritation he was referred to Hirschman for examination. Marked cryptitis with accompanying enlargement of the papillae was discovered. The removal of the crypts and papillae under local anaesthesia was accompanied by the first relief from the neuralgic pains that the patient had received for two years. During a period of two years after the operation he has had no return of his former disability.

A. F. MacCallan.


(4) van Duyse was invited by the Société française d’Ophthalmologie to prepare the annual Rapport for 1931, upon “Heredity in Ophthalmology.” He presented a report noticeable alike for its
comprehensiveness and clarity: the discussion which ensued evidenced the interest of ophthalmologists in this subject. In the article under review van Duyse returns to the consideration of some of the problems with which this subject is liberally supplied. "For the basis of my researches, I took the laws of heredity scientifically established. The science of heredity is dominated by two conceptions:—that of heredity in the biological sense, which concerns the transmission of characters from parent to child, . . . like father, like son; and that of variability, in which lies the explanation of the differences between parents and their immediate offspring."

"What are the foundations of these accepted views?"

This question van Duyse now deals with at considerable length, employing calculations with illustrative diagrams from the vegetable kingdom, in which the results in succeeding generations are more definite and can be more certainly foretold than in the animal kingdom, and especially in the human species. This portion of his paper cannot be satisfactorily condensed.

In the vegetable kingdom where a pathological character is dominant, it is possible to foretell with approximate accuracy the percentage of individuals inheriting this character, providing the number of new members of the family is unlimited.

This is not so in the human species, in which other methods of calculation, such as those devised by Bateson, are applicable. When an inherited disorder is dominant, it is met with in all generations, but never in the offspring of unaffected individuals. When recessive it may skip several generations, and be found in the children of parents who are themselves free.

The author groups hereditary disorders of the eye as follows:—

(1) Disorders with continuous inheritance (Mendelian dominant type).

In this group he places essential night-blindness as typical, and includes certain forms of cataract, glaucoma, adult and juvenile, blue sclerotics, etc.

(2) Disorders with discontinuous inheritance (Mendelian recessive type). Here he places true albinism, pigmentary degeneration of the retina, familial idiotic amaurosis, infantile and juvenile hydrophthalmos, etc.

(3) Sex-limited diseases. As examples of this type he selects Daltonism, Leber's hereditary optic atrophy, etc.

Mendelian laws do not explain this mode of transmission of disease. For its elucidation van Duyse invokes the chromosomic hypothesis advanced by Morgan and his followers, whose experience was obtained from experiments with a fruit-fly (drosophila melanogaster) very prevalent in America.

J. B. Lawford.

This paper is the record of an extensive investigation. Teulières and Beauvieux desire that it should be considered "in some sort as a rehabilitation of the irido-corneal angle" which, conceived by Leber as an area of first-rate physiological importance, has been "cast from its pedestal in recent years, and relegated to the rank of an anatomical zone, indifferent to the functions and vitality of the eye." That this is no imaginary opinion is obvious from statements such as that expressed by Hamburger, in the Klin. Monatsbl. f. Augenheilk., "Schlemm's canal is assuredly not devoid of function, but its significance and its necessity are not greater than those of the fifth finger or fifth toe." The views of Leber and the Heidelberg school have been energetically defended and justified by Seidel, Leber's successor. In the 36 pages of this communication will be found an analytical study of the work and theories of various writers, the anatomical and clinical evidence and the results of experimental investigation obtained by Teulières and Beauvieux, and their judgments. It is abundantly illustrated by full-page plates, coloured and uncoloured, and by micro-photographs. A valuable bibliography containing 53 references is appended.

Owing to the length and fullness of detail, an adequate review within ordinary limits is not feasible. Those who consult the original will be repaid by an interesting and clearly expressed account of the subject under discussion.

J. B. Lawford.

BOOK NOTICE


In an original article on Congenital Hereditary Nystagmus, B. Bhaduri surveys briefly the literature of this disease, and describes a patient who came under his care suffering from this complaint. A pedigree of this patient showed that the grandfather on the maternal side suffered from nystagmus, and that the disease was transmitted through one of his daughters, who, although unaffected herself, had five sons, four of whom had nystagmus from birth.

The clinical notes in this journal contain accounts of a case of