J. H. Doggart, E. F. King; *Acting Honorary Secretary:* Frank W. Law.

The Treasurer's Report and Balance Sheet were adopted, and other business conducted. A vote of thanks to the President and Officers was carried with acclamation.

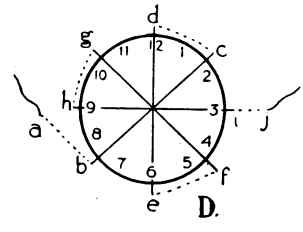
Considering the difficulties of the times, the Congress was adjudged extremely successful, and enjoyed by the eighty members who attended.

ABSTRACTS

MISCELLANEOUS

(1) **Castroviejo, R. (New York).—Keratoplasty. Comments on the technique of corneal transplantation. Source and preservation of donor's material. Report of new instruments.** *Amer. Jl. of Ophthal.*, Vol. XXIV, p. 139, 1941.

(1) **Castroviejo** compares the technique of circular penetrating partial keratoplasty by means of trephines 4·5, 5·5 and 6·5 mm. in diameter with his method of cutting a quadrilateral flap. He describes a method of securing the graft by a single corneal suture placed in the manner illustrated in the diagram below.



He discusses the difficulties and complications of autokeratoplasty, the transplant of clear cornea being taken from adjacent clear cornea and interchanged with the disc containing the corneal opacity in the same eye. The technique of cutting a single disc in these cases and rotating it so that the corneal opacity lies peripherally and the clear part of the cornea centrally has the disadvantage of necessitating the removal of a large disc with the sequelae of anterior synechiae, secondary glaucoma, vascularization and opacification of the transparent area.

The eyes of still-born infants, or those who die shortly after delivery and cadaver's eyes afford sources of donor material when fresh corneal tissue is unavailable. The latter is in the opinion of the author to be preferred. The best method of preservation of the

donor's eye which the author has found to date is in a moist chamber at 2°C. where the enucleated eye is placed immediately after removal.

The eyes of experimental animals examined by the binocular corneal loupe, the slit-lamp and corneal microscope and the ophthalmoscope every 12 hours up to 144 hours showed that at a temperature of 2°C. the anterior segment remained clear and healthy; 24 hours after death the cornea became dull, slightly turbid and 24 hours later lens changes occurred. At room temperature post-mortem changes set in earlier, 8 hours after death. These facts indicate the necessity for using donor material kept at 2°C. within 12 hours after death and 6—8 hours after death when it has been kept at room temperature. The fresher the material the more likely are there to be successful results.

The author considers that the substantia propria of a corneal transplant is not replaced by the tissues of the host.

This is so in the case of the corneal epithelium and endothelium. When a corneal graft remains transparent it retains and preserves its own cellular elements, but any damage to the stroma of the transplant that needs to be repaired by the tissue of the host is at the expense of permanent opacities.

The author describes four elaborate instruments designed to cut a shelving edged graft. These have a device for applying suction to the cornea, and in some the knife or knives are mechanically driven. They are all subject to certain inadequacies.

H. B. STALLARD.

(2) **Postelli and Seidenari (Bologna).—Electro-encephalography in health and disease. (Contributo all'applicazione clinica dell'elettroencefalografia: reperti encefalografici in alcune cerebro- e oftalmopatie).** *Riv. Oto.-Neuro.-Oftal.*, January-February, 1939.

(2) The occurrence of waves from the brain has been known for some time; it is known that these waves differ in health and disease. At present four forms of wave are recognised; they are called alpha, beta, gamma and delta; the first, alpha, are connected with vision; they have a frequency of 8 to 13 a second; the beta waves are connected with touch and have a frequency of 25 a second; the gamma waves are still faster, but are not understood. These all may be found in healthy people. The delta waves are pathological; their frequency is less than 8 a second.

The authors give tracings of a number of cases, some healthy and some in disease; in glaucoma they found a prevalence of slow waves on the side of the glaucoma; a similar result was found in a case of detachment of the retina.

HAROLD GRIMSDALE.

(3) **Martin, L. and Pennell, V. (Cambridge).—A case of exophthalmic ophthalmoplegia.** *Lancet*, Vol. I, p. 39, 1941.

(3) **Martin** and **Pennell** describe a case of exophthalmic ophthalmoplegia in a man, aged 52 years, suffering from moderate thyrotoxicosis in whom ophthalmoplegia with diplopia was an early sign followed later by slight exophthalmos, worse in the right than the left eye. This sequence of events is important for it questions Russell Brain's view that the ophthalmoplegia is largely dependent on exophthalmos.

Upward movement was defective in both eyes, particularly so in the right eye, and abduction was also poor in both eyes. In this case partial thyroidectomy did not increase the exophthalmos.

H. B. STALLARD.

(4) **Bucalossi (Genoa).—Appreciation of polychromatic stimuli (L'apprezzamento degli stimoli policromatici, etc.).** *Ann. d. Ottal.*, February, 1939.

(4) This paper is largely psychological. The author admits that the eye is a very useful organ which has remarkable power of recognising colours, but he points out that it is in some respects inferior to the ear; this latter is able to analyse sensations of sound into the various factors; the eye is incapable of separating the elements which make up compound colours. He holds that it would be no advantage for the eye to do this since it would make the recognition of shapes impossible.

HAROLD GRIMSDALE.

(5) **Schupfer (Florence).—The astigmatic effect of decentration of various types of lenses. (Sull effetto astigmatico da decentrazione di alcuni tipi di lenti da occhiali).** *Boll. d'Ocul.*, April, 1939.

(5) **Schupfer**, from personal clinical observations, suspected the production of astigmatism as the result of decentration of lenses; his researches have confirmed this, when the eye looks through a lens of any form obliquely, but has found that even when the eye looks straight it is considerable in lenses of "Ostwalt" form; it is very slight for meniscus lenses and unnoticeable for periscopic and bi-convex lenses.

HAROLD GRIMSDALE.

(6) **Pergola (Asmara in Eritrea).—A case of "Aleppo Boil" in the pre-lacrimal region. (Su di un caso di "bottone d'Oriente" della regione prelacrimale).** *Rass. Ital. d'Ottal.*, January-February, 1939.

(6) **Pergola** reports this case because of its rarity. The condition had not been diagnosed and the patient had been treated

by cauterisation so that the discovery of the parasite was difficult. The author thinks that the condition may be more common than is usually supposed on this account.

HAROLD GRIMSDALE.

(7) **Loewenstein, Arnold, and Steel, Janet (Glasgow).—Macular burning and ring scotoma.** *Glas. Med. Jl.*, March, 1941.

(7) **Loewenstein** and **Steel** record an interesting case in an intelligent boy, aged 11 years, who looked at the sun for a moment during play and found his sight blurred afterwards. Soon after, at the clinic, his sight was found to be 6/6 in the affected eye, against 6/4 in the other. The authors sum up their findings as follows:—"A boy with right-sided retino-choroiditis juxtapapillaris (Jensen) and its typical resulting comet-like scotoma suffered a macular burning after fixing the sun. The first effect is a slight oedematous swelling. As the vision, according to the statement of the patient and his mother, was intensely blurred after the injury, it seems probable that a central scotoma was present, but not proved.

About three weeks after the injury a sharp clear-cut red patch close under the foveal reflex is seen. Some weeks afterwards a second rather smaller red patch appears upwards and nasally. A third one, about fourteen days later, is less sharply defined and more greyish. In the meantime the red patches receive a thin pigmented frame. Vision of 6/6 against 6/4 in the normal eye remains. A ring scotoma—absolute and negative—is found at the first examination. It disappears in fourteen days, leaving a small absolute blue scotoma at the site of the ring scotoma in the temporal half of the field for a week. Then nothing but the almost unchanging comet-scotoma of the Jensen affection remains. Five months later the two accessory perifoveal patches disappeared and the primary one diminished in size."

The authors discuss previous cases recorded in the literature and the various theories which have been advanced to account for the condition.

Their paper is illustrated by a picture of the fundus, a chart of the right field showing the ring and comet-like scotomata and a diagram to show the positions of the macular patches.

R. R. J.

(8) **Veasey, Clarence A., Jr. (Spokane, Wash.).—Vitamin B in ophthalmology.** *Arch. of Ophthal.*, March, 1941.

(8) Knowledge about vitamins is advancing so rapidly that it is sometimes difficult for the ophthalmic surgeon to keep up with it. **Veasey's** paper is therefore particularly welcome in that it gives a useful account of the components of the vitamin B complex together with ten case reports showing the effects of these substances. At present four factors have been isolated, though at least three others

are presumed to exist. These four comprise thiamine, riboflavin, nicotinic acid, and pyridoxine. Thiamine or vitamin B_1, is a catalyst in the oxidation of carbohydrate, which in its absence is arrested at the pyruvic acid stage, a metabolite which is toxic to nerve tissue and causes peripheral neuritis, but not nerve degeneration. The neuritis is more likely to occur in the presence of noxious substance and thus thiamine deficiency predisposes to such forms of neuritis as those associated with alcoholism, diabetes and the toxaemia of pregnancy. Large doses of thiamine may be useful in tic douloureux and in allergic states. The minimum intake for the average adult is 1 mg. per day, while for optimum health about 5 mg. should be ingested. Doses of 500 mg. or more may be given without untoward symptoms. Riboflavin (vitamin B_2 or G) combines in the body with a protein to form a ferment which is concerned with all respiration ; lack of it may cause some forms of keratitis and the swelling of intumescent cataract. The daily requirement is 2—3 mg. Nicotinic acid is the pellagra preventing factor, but deficiency of it can also cause certain psychotic states and photosensitivity, leading to dermatitis from sunlight. The maintenance dose is over 200 mg. per week. Pyridoxine (vitamin B_4) has an unknown rôle in human nutrition though in rats its absence causes a specific dermatitis with loss of hair about the eyes.

In the eye various lesions are attributable to vitamin B deficiencies—oedema of the lids, alopecia and keratoconjunctivitis may be considered as due to riboflavin deficiency when associated with cataract. Styes and phlyctenular disease also fall under this heading and it may be significant that herpetic and interstitial keratitis are improved by riboflavin therapy. In the lens, although there is no convincing clinical evidence of association between riboflavin and cataract, in human beings, lens opacities have been produced in rats by a riboflavin-deficient diet. The optic nerve is rendered more sensitive to other poisons by vitamin B deficiency and cases have been recorded of the cure of tobacco-alcohol amblyopia by parenteral administration of thiamine hydrochloride.

In Nigeria, patients showing a syndrome of reduced vision with photophobia and other symptoms were cured by marmite and autoclaved yeast. Retro-bulbar neuritis may also be improved by these means. Extra-ocular muscle involvement may occur in pellagra, and superior polio-encephalitis may be due to avitaminosis B.

In conclusion, the author advises that administration of one component of the vitamin B complex should be supplemented by administration of the whole complex, that only biologically standardised preparations should be used and in considerable quantity, therapeutic doses being usually multiples of the optimum dose in ordinary life.

F. A. W-N.