reached a satisfactory standard." While we may regret that the General Medical Council have not deemed it expedient to adopt the carefully considered recommendations of the Council of British Ophthalmologists, still we welcome the distinct step in advance that they have taken. It now remains to be seen what regulations the various examining bodies will adopt to carry out the second part of the Council's recommendation. If proper means are adopted to ensure that students have attained a satisfactory standard of ophthalmic knowledge before qualification then the ideal of the Council of British Ophthalmologists will have been attained. We hold that this can best be done by having a practical and oral examination in ophthalmology as part of the final examination and that in the case of examining bodies dealing largely with internal students no other method can be satisfactory. We hope that all ophthalmic surgeons will use their influence to ensure that the General Medical Council's mild recommendation does not become a dead letter.

ABSTRACTS

I.—THE RESORPTION OF CATARACT

Verrey, Louis (Lausanne).—A contribution to the aetiology of the spontaneous resorption of cataract. (Contribution à l'étiologie de la résorption spontanée de la cataracte.) *La Clin. Ophtal.*, April, 1916.

Verrey relates at very great length the case of a man, aged 56 years, upon whom he operated for cataract. The capsule, which was very tough, contained an almost clear fluid on opening with the cystotome. The capsule was removed in the form of a sac, and was found to contain a minute nucleus, the size of a small pin-head. The patient was myopic, and presented evidences of recurrent attacks of iritis. An interesting point is that twenty-four years previously, the other eye had been operated upon by Gayet, who, from certain evidence obtained from what Gayet had told the patient, had found the conditions to be quite similar. The interest which the case awakened in the author, and the direction in which that interest lay, may be gathered from his concluding remarks:—

"The spontaneous resorption of cataract, which is always a very slow process, is usually preceded by inflammatory phenomena, iritic or otherwise. Intra-ocular infection would penetrate the capsule of the lens, and bring about a true "phakitis," whence would arise swelling of this organ, and, frequently, rise of intra-ocular pressure.

Then would come liquefaction of the lens fibres, more or less complete resorption of the nucleus itself, and, finally, in fortunate cases, rupture of the capsule, the retraction of the latter, and formation of a black pupil, with restitution of a larger or smaller percentage of vision, which would not, probably, be more than one-sixth of the normal. Will it be possible in the future to draw practical conclusions from all this? Shall we ever be able to obtain the spontaneous cure of cataract by measures which recall, up to a point, those employed by nature in reaching her ends? . . . "

ERNEST THOMSON.

II.—TABETIC OCULAR CRISIS

Michael, J. C.—Report of a case of tabetic ocular crisis. *Jl. Amer. Med. Association*, December 23, 1916.

The author's case was a male, aged 42 years, with typical tabetic symptoms of ten years' duration: double primary optic atrophy; under observation from March to June. In February he began to have attacks of sharp stabbing pains in left eye, coming on at irregular intervals, and lasting several seconds. During these attacks there were momentary flashes of light before the affected eye, redness of conjunctiva, and lacrimation. Some attacks were characterised by numbness and stiffness of the left side of the face, lasting for several minutes to several hours, accompanied by a burning sensation in the eyeball. Lacrimation and momentary pain and flashes of light were also noticed. Patient left the hospital at the end of June and died at home early in July.

Michael refers to a communication by Spiller in the same journal, March 18, 1916, in which he reviewed three cases previously reported, and cited one of his own.

J. B. LAWFORD.

III.—KERATITIS FROM POSTERIOR INFECTION

Fuchs, Ernst (Vienna).—Corneal affections due to infection from behind. (Erkrankung der Hornhaut durch Schädigung von hinten). *Arch. f. Ophthal.*, Vol. XCII, Part 2, 1916.

Fuchs in this paper gives a long and minute account of the microscopical anatomy of eyes in which the cornea has been affected as the result of various pathological processes in the anterior part of the eye, the disease reaching the cornea from behind. The object

of the paper is to attempt a more systematic classification of this type of corneal disease. Fuchs proposes the following scheme:

I. Acute changes.

(a) Diffuse, arranged in order of severity.

1. Ring abscess.

2. Alterations following necrosis of intraocular tumours. (In endophthalmitis, scleral rupture, corneal transplantation.)

3. Diffuse infiltration (experiments with thorium).

(b) Circumscribed (posterior infiltrate, ulcus internum).

II. Chronic changes.

(a) Diffuse, arranged in order from behind forwards.

(α) Posterior surface of the cornea.

1. Injury to endothelium.

2. Homogeneous ("glashäutige") deposition.

(β) Corneal stroma.

1. Deeper staining reaction of the posterior lamellae.

2. Proliferation of the corneal corpuscles in the posterior lamellae.

3. New vessel formation.

4. Swelling.

5. Hyaline stratification.

(γ) Anterior surface of the cornea.

1. Loosening of fibres under Bowman's membrane.

2. Pannus.

3. Lamellar stratifications. Result: sclerosis of the cornea, changes of the cornea following shrinking of the eyeball.

(b) Circumscribed.

(α) Posterior surface of the cornea.

1. Changes in the endothelium.

2. Stratification of organised exudate.

3. Stratification of homogeneous (glashäutiger) masses.

(β) Corneal stroma.

1. Proliferation of corneal corpuscles.

2. Swelling of the lamellae.

3. New tissue formation from Descemet's membrane. Result: formation of folds on posterior surface of the cornea.

4. Keratitis pustuliformis profunda.

(γ) Anterior surface of the cornea.

1. Loosening of fibres under Bowman's membrane.

2. Pannus.

3. Lamellar stratification.

4. Zonular opacity.

This scheme is only to be considered as provisional. About several of the conditions referred to there already exists a considerable amount of literature, such as ulcus internum, to which both Fuchs and Meller have contributed.

Fuchs therefore desires in his present paper to describe minutely

some of the affections which have so far not been adequately dealt with in pathological text-books. He begins by formulating some general conditions, the most important being the question of the permeability of the endothelium and Descemet's membrane. The endothelium may be killed, or after infiltration with pus cells raised and removed. The latter frequently occurs in the presence of pus in the anterior chamber. Whether immediate necrosis takes place or not depends on the virulence, that is the presence of active bacteria, in the pus. Descemet's membrane is no less permeable than the endothelium for molecules of material in solution. The degree of permeability depends on the size of the molecule, and is, therefore, higher for crystalloid substances such as atropin than for colloids like toxins. The passage of actual cells in large quantities through the intact membrane occurs. Fuchs instances a case of shrunken globe in which Descemet's membrane was thrown into folds, leaving gaps between it and the corneal parenchyma. In these gaps were numerous mononuclear cells, lymphocytes, and plasma cells which must have come from the inflamed iris. At no point could any defect of the membrane be made out. The cells had remained in the spaces and showed no tendency to infiltrate the corneal lamellae.

The rest of the paper is devoted to the description of various specimens that illustrate the changes he has adopted in the scheme given above. Two excellent plates and numerous text illustrations render the descriptions easy to follow. The great majority of the conditions described are practically confined to old degenerated eyes and are, therefore, of more importance from the point of the pathological anatomist than from that of the clinician.

E. E. H.

IV.—MISCELLANEOUS

(First Notice)

(1) **Vogt.—The human lens shagreen and the shagreen nodules. (Der menschliche Linsenchagrin und die Chagrinkugeln.)** *Klin. Monatsbl. f. Augenheilk.*, February-March, 1915, p. 194.

(1) In a previous paper **Vogt** showed that the shagreen surface of the human lens consists of a series of furrows and ridges arranged in the direction of the fibres of the anterior layers of the lens. Both surfaces of the anterior capsule are smooth, and the shagreen-like appearance depends mainly upon the lens fibres.

The best instrument for such observations is Zeiss's binocular corneal microscope. In 200 subjects the shagreen was found to

vary very much in texture, being least distinct in young children. Pathological changes in the shagreen are rare; in iritis with moderate exudate it remains unaltered. In a case of ring opacity of the lens, due to a blow on the eye, the shagreen was indefinite in the area of the ring, but became distinct on the disappearance of the opacity. The shagreen-nodules (*Chagrinkugeln*) are multiple vacuole-like formations which are seen in adults but not hitherto in children. They are round, 1/15 to 1/30 mm. in diameter, and occur in little groups of 3 to 10, arranged in a zone between the centre and the periphery of the anterior lens surface. They are more common in senile cataract than in the clear lens, and in the former may be irregularly distributed over the whole anterior surface of the lens. A noteworthy feature is the almost constant bilateral character of these changes.

The paper is illustrated by three very interesting and instructive drawings.

H. M. TRAQUAIR.

(2) **de Schweinitz, G. E. (Philadelphia).—Homonymous crescentic scotomas in association with ethmoiditis and tooth-root abscess.** *Ophthal. Record*, April, 1915.

(2) **de Schweinitz** describes a right homonymous crescentic central scotoma, with considerable restriction of the peripheral fields, in a man, 45 years of age. These symptoms were ascribed to a subacute posterior ethmoiditis, and abscess cavities at the roots of the incisor and bicuspid teeth. Ten days after extraction of the teeth involved, and with treatment of the ethmoidal lesion, the vision was almost normal, the fields were greatly improved, and scotomata were only detectable with a 1 mm. disc. The symptoms were ascribed to a lesion of the left optic tract, and possibly the crescentic scotomata represented portions of developing or subsiding annular scotomata.

J. JAMESON EVANS.

(3) **Kraupa, Ernest (Prague).—The pathology of Bell's phenomenon.** *Arch. of Ophthal.*, May, 1915.

(3) **Kraupa** deals with the pathology of Bell's phenomenon. The well-known movement of the eyeballs upward and outwards on closing the lids, was first described by Bell in connection with peripheral facial palsy in 1823, and considered as a physiological act is familiar to us all. A reversal of Bell's phenomenon, *i.e.*, a downward movement of the eye when the lids are closed, has been noticed in a certain number of pathological cases. The writer reports a case in which "a normal Bell's phenomenon changed to an inverted one, and after the diseased lids had been restored to a healthy state, reverted to its former normal condition." The other published cases of this phenomenon, in connection with disease,

are discussed, and the conclusion is arrived at that in dealing with Bell's phenomenon we have to deal with a higher reflex, whose seat is in the cerebral cortex. The importance of the phenomenon from the point of view of "localisation diagnosis" is insisted on. It is difficult to do justice to the communication in the course of a short abstract.

R. H. ELLIOT.

(4) **Langdon, Maxwell H. (Philadelphia).—Hereditary deficiency of the light-sense, in otherwise healthy eyes, with report of a case.** *Ann. of Ophthal.*, July, 1915.

(4) **Langdon** records the notes of a father and daughter, suffering from hereditary deficiency of the light-sense, in otherwise healthy eyes. He first insists that such cases are quite in a different category from those in which there is ophthalmoscopic evidence of disease; this fact was first recognised by von Graefe. Nettleship groups them into two distinct classes: (1) those occurring indifferently in either sex, transmitted by either sex, and presenting myopic or hypermetropic eyeballs, and (2) those occurring always in males, but transmitted by females, and associated with myopia alone. The present cases fall into the first category on each of the three counts above stated. The pedigrees of other similar cases are given and discussed. All the cases had uniformly good vision, and full fields in bright illumination, but a deficiency of the light-sense, which was congenital and stationary from birth onwards. Langdon discusses the seat of the trouble, and inclines to the view that the defect is cortical, and that the condition is similar to that which produces congenital amblyopia for form, and to that which produces the many variations of subnormal colour perception.

R. H. ELLIOT.

BOOK NOTICES

Revista Cubana de Oftalmologia. Vol. I, parts 1 and 2, Jan.-June, 1919. Habana (Cuba): Prado, 105. Subscription, $6, gold, per annum.

This quarterly publication, which is edited by Dr. Francisco M. Fernández, and of which Dr. Jesús M. Penichet is the secretary, is an exceedingly well produced number. The editor announces in his preface that eventually he hopes to publish monthly, but that for the present, to be on the safe side, the work will appear at three monthly intervals. The journal begins with a biographical section containing notices of that grand old man of Spanish Ophthalmology, Dr. J. Santos Fernández, of Dr. H. V. Würdemann, of Seattle,