

it might be. In regard to the transillumination, he had learned in this country that the eye of a really black negro could not be transilluminated.

In reply to a question Professor Fuchs said: That dystrophies were so extremely manifold and some of them so rare, that one man scarcely saw two cases alike, so that it was impossible to class them as a definite disease. It was hard to tell what was typical when one saw only single cases. Many of them were probably related to the keratitis of Groenouw, as the lattice keratitis and others, attacking often several members of the same family. There were other cases in which there was infiltration with fat or lime salts, and others in which the cause was unknown. In some cases it was said that the internal secretion was the cause, but there was no definite proof of this. Sometimes after a thyroidectomy opacity of the cornea followed. Similar cases had been observed in myxedema, but these cases were very rare and exceptional. It might be that in these cases some disturbance of internal secretions was the cause, but nothing definitely was known about this.

DR. ROBERT VON DER HEYDT asked Professor Fuchs if he had seen any of the corneal cases Haab had described as *buchstaben-keratitis* and considered as possibly tuberculous.

PROFESSOR FUCHS replied that he had seen a case, but it was not tuberculous. Some observers considered *keratitis nodosa* as tuberculous, but this was certainly wrong. He had examined some of the cases histologically and there was no trace of tuberculosis.

ROBERT VON DER HEYDT,
Corresponding Secretary.

SECTION ON OPHTHALMOLOGY, COLLEGE OF PHYSICIANS OF PHILADELPHIA.

March 16, 1922.

DR. McCLUNEY RADCLIFFE, Chairman.
Unusual Type of Cataract.

DR. WARREN S. REESE (by invitation) exhibited a male patient, aged

29 years, with bilateral cataract. The lens presents a 5 mm. circular opacity, occupying the pupillary area, and in the anterior cortex, thru which a fair fundus glare is obtainable. In the center of this opacity are numerous other, perfectly opaque, nodular opacities. These extend almost to the periphery of the large circular opacity.

Discussion. — DR. WILLIAM ZENTMAYER said the type of cataract shown by Dr. Reese is probably that pictured by Bach and also by Collins, and described by the former as a case of lamellar and central cataract. The arrangement of the denser opacities in the center of the nucleus resembled somewhat that of coralliform cataract, but they have a waxy rather than a crystalline appearance. It is probable that these opacities within the zonular region are due to accumulation of granular matter in the lines of separation between the different layers of the lens—the so-called "lens star."

DR. BURTON CHANCE said that he was greatly interested in Dr. Reese's case by reason of the fact that he discovered that the young man had been under his own observation a number of years ago. Indeed, he was one of five in a family presenting in each eye, the same form of cataract. These disciform cataracts are known in the literature as the "Coppock," from the name of a family among which Nettleship and Ogilvie found seven generations so affected. Chance's cases were reported at the meeting of the Ophthalmological Society in 1907. None of the family has been seen by Chance since then, but he immediately recognized the man's eyes. He would only add, that so far as he is able to recall to his memory the unusually accurate drawings by Miss Washington, the cataracts have not changed in size or density, nor the eyes in their refraction. It is of additional interest to learn that the young man was accepted for military service in 1918.

Localized Cataract With Unusual Fundus Changes.

DR. WARREN S. REESE (by invitation) exhibited a male, aged 28 years. Three years ago he was struck in the

left eye with a hand grenade fragment. He now presents no external evidence of injury. Thru the dilated pupil a localized opacity of the lens can be seen in the extreme nasal periphery. From this point a rather wide silvery band runs backward thru the vitreous and, as it reaches the posterior pole, expands into an area of choroiditis just up and in from the disc. In the lower nasal periphery there is a localized detachment of the retina. Notwithstanding the above changes, the patient's vision is improved to 15/20 with a -2.50 sph. $\ominus + 6.00$ cyl. axis 90° . A small foreign body has been localized by the X-ray, 6 mm. back of the center of the cornea in the horizontal plane, and 8.5 mm. to the nasal side.

Advancement and Transplantation for Paralysis of Superior Rectus.

DR. BURTON CHANCE presented a case of paralysis of the left superior rectus together with partial ptosis, believed to have been caused by infantile paralysis, in a young girl now sixteen years of age. A resection advancement of the superior rectus was made and slips from the lateral muscles were united to the advanced mass. The simple sutures advocated by Posey were employed. These have held securely, and marked upward movement has been obtained, with no interference with the lateral rotations.

A New Protractor Card.

DR. SIDNEY L. OLSHO (by invitation) showed a new protractor card for verifying the axes of the cylindrical and spherocylindrical lenses. (See p. 451.)

A New Trial Frame.

DR. SIDNEY L. OLSHO (by invitation) showed the mechanically perfected model of his trial frame, and described the method by which refraction is coordinated with spectacle and eyeglass fitting. (See p. 718.)

Coloboma of Disc and Retina.

DR. BURTON CHANCE presented a case of triangular coloboma of the temporal half of the disc and of the adjacent uveal tissues, in each eye of a middle-aged colored woman.

Artificial Tendons.

DR. BURTON CHANCE exhibited a case of angioma of the orbit, reported three or four years ago, in which the elevators of the globe had been involved in the vascular mass, and the young woman had never been able to rotate the eye upwards. Moreover, there was absence of check muscles and capsular tissues. It was conceived that strips of skin from the forehead might be united to the globe to serve as "check ligaments," if not as artificial tendinous structures. Accordingly, narrow strips were dissected from the superciliary region, turned on their bases and drawn thru tunnels thru the orbicular into the retrotarsal fornix, and united to the scleral tissues. These bands have held well, for over a year, and, by being on the stretch they tend to raise the lid, and have distinctly elevated the anteroposterior axis of the globe, greatly improving the girl's appearance as well as adding to her comfort by reason of the backward pull which they exert.

Pneumococcic Ulcers.

DR. WILLIAM ZENTMAYER exhibited a man who had been admitted to the Wills Hospital about four weeks previously with an extensive pneumococcic ulcer. Under the use of Shahan's thermophore and the use of ethylhydrocuprein, the ulcer healed without perforation. At present the anterior chamber is of normal depth and there is a scar covering two-thirds of the central part of the cornea, grayish in color. The patient was exhibited as showing the result of what might be termed the modern treatment of pneumococcic ulcers, and also to call attention to a possible danger in the use of ethylhydrocuprein.

He also referred to a woman, 37 years of age, with dacryocystitis, who had had injected into the sac thru the canaliculus several drops of a 1% solution of ethylhydrocuprein, besides having had the sac washed with mercurphen after the use of holocain. One hour later she complained of excruciating pain and exhibited an exfoliation of the epithelium of the cornea, over a sur-

face of 5 mm. in diameter. Fortunately there was no longer any discharge from the sac, as this had ceased after the second treatment. At first the thought was that the epithelium had been abraded either by the probe or as the result of the combination of chemicals used at one sitting. However, as Dr. Ball, of St. Louis, in a personal communication stated that he has seen this occur more than once, after the use of ethylhydrocuprein, and Dr. Bedell, of Albany, has seen such a result following the use of the drug in rabbits, it is more than likely that the ethylhydrocuprein was responsible. The solution used had been prepared a week previously for the treatment of the same condition in another patient (also cured) and was therefore not entirely fresh.

Discussion.—DR. BURTON CHANCE said that as he had somewhat reluctantly adopted use of ethylhydrocuprein, he had always been cautious in administering it. He had not seen such effects as those specified by Dr. Zentmayer and Dr. Ball, follow its use; indeed, in a recent case of lacrimal sac disease, quite like that detailed by Dr. Zentmayer, he had used it with the greatest freedom he had yet exercised, without untoward results. He is inclined to believe that the unexpected action upon the cornea arose because of chemical reactions produced by the mixture of the many other solutions employed. He further believes that in the use of valuable drugs containing specific active principles, harmful or objectionable effects are produced by the chemical changes brought about by the simultaneous mixing of a multiplicity of collyria.

Angioid Streaks in the Retina.

DR. WILLIAM ZENTMAYER exhibited a case of this condition in a patient whom he had first exhibited in 1909 and again in October, 1914. There are undoubted changes in the appearance of the streaks. They are much less conspicuous, indeed, some portions of them are scarcely visible. The macular region in the right eye is occupied by an oval, completely atrophic area, with some pigment at its lower border. In the left eye there are hemorrhages below the macula.

Vision when first seen was: Right eye 6/9, left eye 6/6. To-day it is: Right eye 5/15, left eye 1/200.

When he came in 1909 he had a dendritic ulcer of the cornea, and he again exhibits the same condition.

Discussion.—DR. BURTON CHANCE said that the origin of the angioid streaks has continued somewhat a matter of speculation. To those who had the opportunity to examine many cases of military injury to the globe, the bizarre proliferation of retinochoroidal pigment frequently seen must have been commented upon. He had himself seen but few cases of angioid streaks before the war, but during his army service the thought of the resemblance of war cases to these unusual ones, had been in his mind, for had they not the same form of retinochoroidal traumatism, accompanied by pigment proliferation? And, might they not lead to similar formations as in the streaking depicted in Dr. Zentmayer's case? In each type there is the history of contusion or concussion, extravasation and development of connective tissue, and profuse wandering of pigmentary elements.

A Case of Divergence Paralysis.

DR. L. W. DEICHLER (by invitation) reported a case of divergence paralysis. (See p. 723.)

Discussion.—DR. WM. ZENTMAYER said he was surprised at the statement made by Dr. Deichler that he had found but one other case in literature. Several cases have been reported by Duane and one case by himself at The College of Physicians several years ago, and recently he had given the notes of a case seen in consultation with Dr. Langdon where this condition was a complication of encephalitis lethargica. He had seen two other cases, one in a physician and one in the son of a physician.

Melanosarcoma of the Choroid with Metastasis at a Trephined Area.

DR. GEORGE H. CROSS reported the case of Mrs. H. D., aged 65, white, American, married. First seen October 20th, 1921, complaining of recurrent attacks of sharp pain in the right eye.

The father died of cancer of the nose, mouth, and throat at the Jefferson Hospital. A brother died at the age of 35, of cancer of the head at the Jefferson Hospital. Another brother operated ten years ago at Johns Hopkins Hospital had the abdomen opened and sewed up, nothing being removed. He is still living but unable to do heavy work.

History of present illness. July, 1920, after several attacks of pain in O. D., consulted an oculist. Under treatment the pain subsided but recurred at intervals. In February, 1921, a corneoscleral trephining was done, with no relief from the periodic attacks of pain. There was no vision in the painful eye, the tension was soft, the pupillary space was filled with a yellowish exudate over the lens, and a slight elevation at the trephined area. She was advised to have the eye enucleated, which was performed October 28th. Upon removal of the globe there was observed a spherical mass about 8 mm. in diameter around the nerve at its exit from the globe. The specimen was referred to Dr. Case at the Laboratory of the Graduate School of the University. Upon gross examination, there was found a grayish tumor, thru which numerous dark streaks were observed, evidently a choroidal growth, on cut section measuring $3\frac{1}{2} \times 9$ mm. with a posterior extension outside the globe and a metastatic growth at the site of the trephine scar. The lens is drawn toward the site of the trephine scar.

As the tumor is of interest only on account of its metastasis to the trephine scar, no attempt will be made to give a complete description of it. The microscopic examination of the specimen reveals it to be a melanosarcoma of the choroid extending forward along the choroid and backward along the optic nerve. The metastatic growth appears as a separate distinct mass at the site of the trephine scar, not connected with the forward extension of the tumor.

Discussion.—DR. S. LEWIS ZIEGLER stated that Dr. Cross' case of sarcoma had many interesting features but metastasis had occurred so early that

radium applied in the socket would not have influenced the result.

He further wished to state that the interesting case of supraorbital sarcoma which he had exhibited in January as cured for more than two years, had recently been attacked with grippe which was followed by hemiplegia, convulsions and death. He had not learned further details except that there was no sign of recurrence, and vision in O. S. had improved to 10/200.

DR. WM. ZENTMAYER said that of course it is not always possible to diagnose intraocular growth in the presence of acute glaucoma. If the operation is done with the supposition that the glaucoma is primary, the danger of local metastasis is increased by the operation. He recalled one case in which he found that orbital metastasis had resulted from a sclerotomy done under the supposition that the detached retina was a serous one, but which proved to be secondary to sarcoma.

Specimen From Coralliform Cataract.

DR. WM. ZENTMAYER exhibited a specimen showing crystals from a case of coralliform cataract, the clinical and operative history of which was reported previously.

The specimen had been prepared by Dr. Verhoeff, who states that the fact that the crystals have the same morphology, stain the same way in eosin and carbol-fuchsin, and give the same identical reaction for protein with Millon's reagent, proves them to be identical with those which he described in a case reported two years before the American Ophthalmological Society, and which he determined to be of protein nature.

CHARLES R. HEED, M.D.,
Clerk.

OMAHA AND COUNCIL BLUFFS OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SOCIETY.

February Meeting, 1922.

Binocular Injuries by Glass.

DR. J. M. BANISTER reported serious wounding of both eyeballs by glass