ABSTRACTS

I.—OPHTHALMOLOGY AND GENERAL MEDICINE

(1) Dunn, John (Virginia).—Ocular inflammations the result of distant focal infection. *Amer. Jl. of Ophthal.*, June, 1923.

(1) Dunn gives particulars of a series of ten cases in which there was complete subsidence of ocular inflammation following the removal of a focal infection. He states that all forms of iritis, except the traumatic, are of infectious origin; and that with the exception of the tuberculous and venereal types the infection will be found in the vast majority of cases in the mucous membrane of the upper air tract. This includes the sinuses, aural and dental regions. In his first case a severe acute iritis cleared up 48 hours after removal of small but infected tonsils. In his second, acute iritis developed in a congenital syphilitic aged 47 years, and cleared up 48 hours after removal of a tooth with apical abscess. In his third, severe irido-cyclitis developed in a woman aged 23 years with a marked secondary syphilitic eruption. Salvarsan and mercury had no effect but recovery began 48 hours after removal of large infected tonsils. In his fourth, a man aged 36 years, the right eye was blind from old uveitis and the same disease occurred in the left. Extraction of all the teeth, and double tonsillectomy had no effect but within two months of removal of the blind eye, the left eye was normal with vision of 6/6. In his fifth, a similar case, some improvement was manifest after removal of the tonsils, but a recrudescence occurred, and the condition was not finally cured until removal of the old blind eye. The sixth case sustained a bad corneal abrasion from a piece of pine bark. Local treatment for a month was of no avail; an old aching tooth was then removed and the abrasion healed at once. In the seventh, a subacute conjunctivitis in the outer part of the lid failed to yield to ordinary measures but disappeared promptly on removal of infected tonsils. The eighth was a case of chronic bilateral conjunctivitis lasting for fifteen years, with "fleshy ectropion" and displacement of the canaliculi. Local treatment was unavailing but removal of diseased tonsils brought about a complete cure.

The ninth was a woman, aged 50 years, with high blood pressure. The right fundus showed changes like those in renal retinitis, the left fundus could not be seen owing to the haze in the vitreous. Vision improved 24 hours after removal of badly infected tonsils, and within a month she could read the newspaper with her left eye.
In the tenth case, intense clouding of the vitreous cleared up rapidly after removal of infected tonsils.

F. A. WILLIAMSON-NOBLE.

(2) Dunn, Percy (London).—The toxaemic aspect of ocular Disease. Lancet, April 7, 1923.

(2) Dunn's theme is that obscure ocular diseases such as chronic irido-cyclitis "known under the name of K.P.,” sympathetic ophthalmitis, and interstitial keratitis in children, even when the children are known to be syphilitic, are due to toxaemia and hypothyroidism. One gathers that Dunn considers the main source of toxaemia to be intestinal. "The toxaemia is subject to control by thyroid therapy, more or less. But in the case of the toxaemia arising from intestinal stasis the most scientific method of treatment must obviously be the sterilization of the putrefactive organisms in the intestine.” The new benzene derivative dimethylmethoxyphenol is referred to in this connection. The author suggests that a normally saprophytic organism, the colon bacillus, may, in the presence of intestinal stasis, become pathogenic. Dealing with sympathetic ophthalmitis he says, “the inference is reasonable that were an organism such as we have supposed in an injured eye to become pathogenic owing to this toxaemia, its special toxin might be productive of the acute irido-plastic cyclitis in the wounded organ, to be followed subsequently, in the absence of due prophylactic measures, by the involvement of the sound one.” Again, interstitial keratitis in children is secondary to an acute cyclitis. Dunn regards it as mainly a toxaemic manifestation and considers that this is supported by the results of his treatment of such cases, namely, rest in bed; generous feeding; "three grains of thyroid gland” twice daily, with atropin and fomentations.

It may be remarked that while Dunn’s article is interesting and suggestive it does not appear to contain anything in the shape of proof of his views. Regarding chronic irido-cyclitis, he refers to the "favourable influence upon the course of the disease which thyroid treatment ensures," but does not give any details of any case of this most intractable disease which he has treated with thyroid. So also with regard to the theory of toxaemia in sympathetic disease, the theory is unsupported by even one case. No doubt such absence of cases treated is intentional, since the article appears in a journal mainly for the general practitioner, but the reviewer would suggest fuller publication in a specialist journal.

ERNEST THOMSON.
Trichinosis with predominant symptoms referable to eyes and frontal sinuses. Amer. Jl. of Ophthal., July, 1924.

Thomas and Cooper's case was a male aged 35 years, complaining of frontal headache and oedema of the eyelids, with a history of feverish attacks and sore joints and muscles during the preceding three weeks. There was oedema of the lids of both eyes with chemosis of the conjunctiva. Vision and fundi were normal. The headache became worse, and the oedema of the lids of both eyes increased to such an extent that it was difficult to separate them, and they were tender to touch. Temperature was 103°F. An X-Ray photograph of the sinuses showed appearances suggesting acute catarrh, with distinct opacity of the right sphenoidal sinus. The latter was irrigated with decided relief to the patient—it was noted, however, that this improvement occurred soon after a free bowel movement induced by a large dose of salts, also there was no pus in the sphenoidal washings. A blood count showed 30 per cent. eosinophiles, and a history was then elicited of the patient having eaten corned pork a month previously. Treatment was given for trichinosis, and in a little over a month he was able to walk about, though still complaining of pain in the leg muscles and sweats every three or four nights. A piece of excised gastrocnemius showed numerous encysted trichinae.

A short summary is given of the literature and the following points may be noted: The three cardinal signs of trichinosis are oedema of the lids, eosinophilia and muscular pain and swelling. Four out of six cases sought advice on account of eye symptoms. One case has been reported with optic neuritis and numerous retinal haemorrhages in both eyes. The incubation period is two weeks; trichinae have not been found in the stools. The differential diagnosis is from paranasal sinusitis, orbital abscess, lacrimal adenitis, rheumatism, influenza, typhoid and malaria.

REFERENCES

F. A. WILLIAMSON-NOBLE.


Franklin and Cordes describe a case of lupus occurring first of all at the age of 13 years in a girl; at this time the condition was confined to the skin of the face and the eye was not involved.
The condition improved considerably under treatment and the girl was discharged and told to return for further treatment in a few months; she did not return until after a lapse of nine years; the eye was now blind, the lids extensively adherent to the globe, the cornea flattened and quite opaque and no details of the interior of the eye could be made out; on account of the girl's unhappy state the eye was excised.

The microscopical examination showed the corneal epithelium growing downwards into the parenchyma of the cornea and resembling the true dermis; there was a round-celled infiltration of the whole of the cornea which was perforated near the middle where an anterior synchia was present; an episcleral nodule was found containing epithelioid cells and a well-formed giant cell. The authors comment on the rarity in America of lupus vulgaris invading the ocular tissues, and state that this disease is much more frequently met with in Europe; they are of opinion that had the girl returned when she was told to do so, further treatment might have prevented the marked destructive changes from developing to so high a degree. A short bibliography is appended.

R.R.J.


(6) Judd Beach reports two cases in which oedema of the lids was a conspicuous sign. The first was a woman, aged 22 years, who complained of swelling of the lids and face of a few days' duration. There was symmetrical swelling of the lower lids and cheeks, the parotids being unaffected, and tenderness absent. Temperature was 99° F. and pulse 92. The urine was normal, the nose and sinuses were clear, and Widal's test negative. General examination a few days later revealed an enlarged spleen. A second Widal was done on the tenth day, which though negative to typhoid was positive to paratyphoid. There were no rose spots, and the disease cleared by lysis in a month. An identical attack of fever ushered in by swelling of the face had occurred just previously in the same household. The second case was a girl, aged 13 years, presenting a somewhat similar appearance. There was no chemosis, and Wassermann test was negative and urine normal. Recurrent attacks had extended over a period of seven to eight years. One particular attack followed exposure to cold wind, the temperature rose to 104° F., and there was enormous oedema of the right eyelids, the left side of the nose being blocked by swelling of the middle turbinate. A culture gave staphylococcus aureus. After a long discussion of this and similar cases the author concludes that the oedema was due to "an abnormal weakness of the defence mechanism against some one of the
common skin cocci, so profound that the tissues are unable to rid themselves of the infection."

F. A. WILLIAMSON-NOBLE.

(6) McMillan, Lewis (Glasgow).—The association of failure of accommodation with sore throat.—Lancet, May 27, 1922.

(6) McMillan has seen two cases of paralysis of accommodation following sore throat which he does not consider to have been diphtheritic. In one case the paralysis followed a severe attack of tonsillitis. No swab had been taken, but the doctor in attendance was positive as to the condition being tonsillitis and not diphtheria. In the other case there had been a severe sore throat and a swab was declared negative for diphtheria by the sanitary authority. Both cases recovered. McMillan does not dogmatize but brings the cases forward in order to elicit attention to the possibility of non-diphtheritic sore throat leading to paralysis of accommodation.

ERNEST THOMSON.


(7) Under the inaccurate term of ‘Abduction Phenomenon’ Behr describes a contraction of the pupil when the subject gazes sideways. He had occasion to observe this phenomenon in several pathological cases. Other authors, Graefe, Adamük, Weiss, etc., have also noted this curious reaction. Blatt first describes two cases where the phenomenon was to be observed, one a case of disseminated sclerosis, the other of syphilis. He thereupon studied the question in healthy individuals, 2,000 in number, whose ages varied between seven and forty years, and who were all examined by daylight. Behr’s reaction was noted in four cases. Once it was present on both sides, three times on one side alone. The other reactions were absolutely normal in all cases examined.

V. St. JOHN.

(8) Girou. —Estimation of diphtheritic intoxication by the oculo-cardiac reflex. (L’imprégnation diphtherique dosée par le réflexe oculo-cardiaque.) Rev. de laryngologie, d’otologie, et de rhinologie, June 30, 1924.

(8) Girou reports upon his examination of the oculo-cardiac reflex in thirty cases of diphtheria. In nineteen cases he found that the reflex was of the reverse type, that is to say, pressure upon the eyes increased the pulse rate instead of diminishing it; in seven cases the reflex was abolished, and in four cases it was normal. He concluded that the reflex is normal when the attack of diphtheria is slight, that it becomes reversed in type as the
disease advances, and is finally abolished as the attack becomes very severe, the disappearance of the reflex constituting a veritable cri d'alarme. The value of studying this reflex in cases of diphtheria is two-fold; it assists one to arrive at a correct prognosis, and enables one better to regulate the amount of anti-diphtheritic serum to be administered.

J. N. Tennen.

(9) Brelet.—Inequality of the pupils and the oculo-cardiac reflex in pulmonary tuberculosis. (L'inégalité pupillaire et le reflexe oculo-cardiaque dans la tuberculose pulmonaire.) Gaz. des Hôpitaux, August 19, 1924.

(9) Brelet draws attention to a recent article by M. W. Jullien on the inequality of the pupils in pulmonary tuberculosis. In an examination of 61 cases of unilateral pulmonary tuberculosis Jullien found the pupils unequal in 26 per cent. of cases. The inequality of the pupils is usually due to the sympathetic nerve becoming involved in apical pleurisy; less commonly it is due to a lesion not at the apex but at the base; in these cases probably the irritation is transmitted from the pulmonary nerve plexus to the trunk of the sympathetic. Inequality of the pupils is not peculiar, however, to tuberculosis; it may be caused by bronchial dilatation, hydatid cyst, tumour, etc., and further, every case of apical tuberculosis does not involve the sympathetic nerve.

According to Brelet information of more value in tuberculous cases can be obtained from a study of the oculo-cardiac reflex. In normal subjects pressure upon the eyes produces a slowing of the heart rate of from four to ten beats per minute. After studying this reflex in 45 tuberculous subjects, Perrin and Yovanovitch found it normal in ten cases, exaggerated in 22 cases, abolished in ten cases and reversed in three cases. These workers concluded that the reflex is normal when the disease is not far advanced, that it becomes exaggerated as the disease increases its hold, and that it is abolished in chronic cases, probably because of the prolonged action of the toxin upon the vagus centres. A study of this reflex would thus seem to be of some prognostic value in cases of pulmonary tuberculosis.

J. N. Tennen.

(10) Caiado, B. R. (São Paulo).—Contribution to the study of pulsating exophthalmos and its surgical treatment in Brazil. (Contribuição ao estudo do Exofthalmos Pulsatill, e seu Tratamento Cirúrgico no Brasil.) São Paulo, 1924.

(10) This is Caiado's thesis for the degree of Doctor of Medicine and Surgery of his Faculty. It forms a well-printed pamphlet of 85 pages and is illustrated with ten plates.
The first 31 pages deal with the anatomy of the cavernous sinus, the pathology, symptomatology, diagnosis and treatment of the condition; by far the larger part of the thesis is devoted to the account of the seven cases upon which the work has been based. Of the cases all but one were traumatic in origin, the second case was idiopathic. All were treated surgically, ligature of the common carotid on the affected side being performed; in one of the cases both carotids were tied with good result. The results certainly were very good. In one case the lids had to be stitched together on account of corneal ulceration, and this man was left with a very defective eye on the affected side. In the idiopathic case one of the eyes had been removed on account of pain before the patient came under the author's observation. Very little attempt is made at a bibliography, but the classical cases of Benjamin Travers in 1809 and of Nelaton in 1855 find mention.

R.R.J.

II.—DEVELOPMENT

(1) Versari, Prof. Richard.—The facts of the development and the regression of the “tunica vasculosa lentis” and the morphology of the blood vessels in the ciliary processes and in the iris of the human eye. (Le fasi di sviluppo e di regresso della “tunica vasculosa lentis” e la morfogenesi dei vasi sanguiferi nei processi ciliari e nell’iride dell’occhio dell’uomo.) Ricerche di Morfologia, Vol. III, Fasc. 2 and 3.

(1) This monograph on the development of the tunica vasculosa lentis, and the vessels of the ciliary processes and iris of the human eye, is easily the most detailed and exhaustive work that has yet appeared on the subject. This one would expect, since Professor Versari has so often elucidated, by means of his beautiful injection methods, problems connected with this subject, such as the origin of the retinal arteries and the absence of a membrana vasculosa retinæ in man.

The work is divided into four parts, with a full summary at the end, and contains some excellent coloured plates. Part 1 deals with the middle and posterior portions of the tunica vasculosa lentis, Part 2 with the pupillary membrane, Part 3 with the ciliary processes, and Part 4 with the iris. A good bibliography is given, and there is exhaustive discussion and criticism of the work of other observers.

The main controversies have centred round the origin of the hyaloid artery, and the path of the blood flowing in it. Versari showed as early as 1900 that the hyaloid artery was a branch of
the arteria ophthalmica interna, or of the nasal long ciliary branch of this, and not, as was sometimes thought, of the annular vessel at the margin of the cup. This annular vessel, named by Fuchs "annular artery," but held by Versari to be venous in nature, since it receives blood carried from the arteria ophthalmica interna, via the hyaloid artery, is still the subject of controversy. Versari considers it to be formed of the most anterior loops of the general choroidal plexus which covers the whole outer surface of the optic cup in embryos of 10mm., and to be venous in origin. He describes the hyaloid artery entering the eye through the posterior end of the choroidal fissure and breaking up into three sets of branches. These are: 1, the vasa hyaloidea propria; 2, another set to the vitreous body; and 3, a central trunk dividing into three at the back of the lens and forming the capsula vasculosa posterior. The drainage of the blood so brought to the eye is into the choroid via the annular vessel, by means of capillaries passing in the first place through the anterior end of the choroidal fissure, and later leaving the eye between the equator of the lens and the margin of the optic cup. These marginal vessels form a complete ring round the lens; they are arranged in a palisade-like manner, and constitute the middle or capsulo-pupillary portion of the tunica vasculosa lentis. This arrangement is well seen in the 10-16mm. stages. Atrophy of the vasa hyaloidea propria begins at 63mm. As the lens grows the vessels of the posterior vascular capsule, which at first are very convoluted and form an irregular plexus with lacunae, straighten out, get thinner, and finally atrophy completely.

The anterior portion of the tunica vasculosa lentis (pupillary membrane) first appears, according to Versari, at 20-24mm. The blood is brought to the membrane by the long ciliary arteries. These bifurcate, the fork being wider on the temporal side, and then give branches to the pupillary membrane. Most of these form loops towards the centre of the pupil; some of them run right across. The blood is drained from them into the annular vein, and so into the choroid. At about 6 cm. the annular vein begins to disappear, and becomes indistinguishable from the rest of the choroid, while a new annular vessel, an artery, develops slightly behind it by anastomosis of branches connecting the bifurcations of the long ciliary and anterior ciliary arteries. This new vessel is the future major circle of the iris. Opinion differs with regard to the disappearance of the first annular vessel, Fuchs, Seefelder and Speciale-Cirincione maintaining that it communicates with the long ciliaries and is itself the anastomotic channel which becomes the major circle.

The ciliary processes begin as single veins which appear slightly raised above the level of the rest of the choroid. These vessels come from the first and second arcades of the network and empty
behind into a choroidal vein. They become more raised and communicate by lateral branches with the choroid, so that each resembles a little comb. There are anastomotic channels connecting the heads of the processes. Up to the end of the fifth month the processes are entirely venous; then small branches from the major circle grow into them.

The vessels of the developing iris can be divided at the seventh month into four sets: (1) Superficial, large vessels going to the pupillary membrane; (2) veins and arteries of the middle stratum of the stroma; (3) the intersphincteric plexus, and (4) plexus between the pigment epithelium and the sphincter. Versari confirms the observations of Brücke, Faber and Leber, that arteries appear to run directly into veins without the intervention of capillaries. He also emphasizes the fact, noted by Kruckmann and Leber, that the small circle of the iris is in reality a plexus composed of veins as well as arteries, and suggests that it be renamed the "small vascular circle." It is a pity that Versari did not give more particulars of the forward growth of the iris as a whole, since many points, e.g., the secondary growth of the ectodermal iris and the separation of the pupillary membrane from its tip, the presence of the ridge in the position of the small circle, and the formation of the sub-sphincteric plexus, can only be understood by considering the development of mesodermal and ectodermal portions together.

IDA C. MANN.


(2) In the course of a detailed account of two cases of persistence of the hyaloid canal, Trantas, of Constantinople, mentions a method of examination of the ocular media which he has practised and described, though he does not say where, a method which is probably not well known. It consists simply in rendering the disc anaemic during ophthalmoscopic examination, by digital pressure upon the eyeball. On the assumption that the method is not in general use it seems advisable to acquaint readers with it by quoting the author's words. "When the globe is compressed by digital pressure so as to make the disc anaemic, the details of lesions of the vitreous appear sharper if one looks in the direction of the disc. There are many cases where, without this pressure, very fine opacities of the vitreous or lens remain unseen. There are cases of specific chorio-retinitis which, without this method, may be mistaken for neuro-retinitis, or in which one may remain in doubt whether there really is a lesion or not." The truth of this observation will be apparent to all readers. "This
MALIGNANT DISEASE

method of exploration, it may be said, has served me in several other circumstances, for instance, in dimness of the vitreous in myopia due to microscopic dots, when the opacities occur as the smallest possible stationary points without vitreous softening. Again, and more especially, when there are minute stationary lesions in the immediate post-lental part of the vitreous, one is unable to make a differential diagnosis between lenticular opacities, vitreous opacities, or both. Digital pressure towards the equator of the globe while the opacities are explored with the ophthalmoscope settles the question, for, if the lesions are of the vitreous, the opacities recede under the pressure; lenticular opacities remaining fixed. This differential diagnosis is of great practical interest since the prognosis is quite different in the two conditions."

Most readers will probably agree that the hint here conveyed, in quite a casual fashion in the course of an article, is worthy of being picked out from its surroundings and the method applied to the very many cases in which it may solve a difficulty in diagnosis.

ERNEST THOMSON.

III.—MALIGNANT DISEASE


(1) Delord's case is one of considerable clinical and pathological interest. On January 12, 1922, a small boy of three and a half years was admitted to hospital for a swelling of the right temporal region and inability to swallow solids. The history showed that three months before he had had for fifteen days some degree of photophobia without any apparent cause, then two months later the mother noticed that the child took up the peculiar attitude of going about with the head inclined to the right side; no fever; no vomiting, but soon persistent headaches started. About December 18, some swelling of the right temporal region was noted, then the right eye became prominent and continued to be so more and more, and the mouth began to be kept more and more open; there was no ear or nose discharge. On examination, there was conspicuous forward proptosis of right eye with chemosis below and much diminished movements, corneal ulcer below from exposure; corneal sensation was normal with some pain on pressing eyeball back; pupillary reflex rather sluggish, vision much reduced; left eye normal. In the right temporal area there was localized oedema with pseudo-fluctuation deep-in. The child was quite conscious and keen. There was considerable oedema of hard and soft palates, and the temperature
was 38° C. No mastoid tenderness was present, and radiography of the head and face showed no diseased bone. Urine had no albumen nor sugar and the Bordet-Wassermann reaction was negative in the blood, as well as in the cerebro-spinal fluid, which was under high pressure and contained less than 0.22 of albumen, 0.45 of glucose, and cells 1.5 per c.mm. Nervous system examination showed no palsy, no anaesthesia, no hyperaesthesia; knee-jerks present. Before long the right eye became more proptosed and fixed, with total ulceration of cornea and defect of sensation. On January 18, left eye began to become proptosed, no oedema of papilla, and later corneal ulceration developed. Left temporal region became swollen and oedematous, with general face swelling, and for eight days the upper limbs and trunk retained for long any abnormal attitude they were placed in. Soft oedema of palate was very conspicuous showing two lateral swellings with a median furrow. Head was somewhat enlarged; three or four glands, size of a large cherry, were present in each submaxillary area. The child gradually sank and died on January 27.

Discussing the diagnosis Delord could not get away from one of cavernous sinus thrombus, first right then left. Autopsy, however, showed the longitudinal sinus engorged, with thrombosis behind, lateral sinuses dilated but not thrombosed, no thrombosis in either cavernous sinus or in the ophthalmic veins, but at the base of the skull almost symmetrical nodules of the dura mater were found in front of the cavernous sinuses, the left one being adherent to brain. A hard tumour of the mesentery was found, whose cut surface showed small spaces with blackish contents, while the kidneys were thrice their normal size from tumour formation of a similar appearance. Sections of the mesenteric tumour showed fibrous bands dividing the mass into irregular areas of a homogeneous granular substance like lymphoid tissue but with necrotic and other areas with haematogenous pigmentation. Under the high power the lymphocyte-like elements forming the bulk of the tumour only faintly recalled the lymphocytes of the normal follicular organ; their nuclei were larger, more clear, at times irregular, and the disposition of their chromatic elements was in a number of them frankly atypical. Sections of the dura mater and kidney tumours showed exactly the same appearances as the mesenteric and it is concluded that the case was one of a malignant tumour of a lymphoid nature (atypical lymphocytoma).

It is well known that it is almost impossible to differentiate between true tumour formation and the enlargements seen in the leucocytthaemias, as Beattie and Dickson state, and this is all the more reason for regretting that in the present case no notes are given of blood, spleen, bone-marrow, and eyeball.

W. C. SOUTER.

Koby relates the case of an infant first seen at the age of sixteen months, who presented a neoplasm which extended from the limbus towards the cul-de-sac on the temporal side. It was elevated at the most 3 or 4 millimetres, was yellowish-red and but little vascularized, and had the consistence of a lipoma. A portion was excised and was found to be a sarcoma with polymorphs and giant cells of Langerhans. The whole neoplasm was as far as possible excised, and the diagnosis was confirmed. The child was brought back in a few months with an extensive thickened cicatrix, examination of a portion of which revealed that the neoplasm had not been cured. Owing to the superficial extent of the neoplasm operation did not seem to offer a satisfactory prospect. X-rays were tried but had to be abandoned on account of difficulties in the application. Radium was then resorted to under general anaesthesia. Seven applications at 8-day intervals. The preparation employed contained five milligrammes of bromide of radium. It was applied directly to the temporal part of the globe. The first application was for 30 minutes, the remainder for 60 minutes, that is $6\frac{1}{2}$ hours altogether. After this treatment gradual flattening took place and the neoplasm did not recur up to September, 1923, when last seen. There was, however, a considerable cicatricial ptosis.

Ernest Thomson.


The chief interest of the case of perithelioma related by Boulans is that it developed in a young man of 23 years from a pre-existing small congenital naevus of the conjunctiva. The tumour, coming under observation at an early period of its development, was easily removed by a single snip of the scissors. The remainder of the paper is taken up with the histological details of such tumours and with the clinical details of their appearance, the differential diagnosis, and the prognosis and treatment. The diagnosis is often difficult without a histological examination. The prognosis varies according to the presence or absence of deep adhesion and according to the situation, whether on the limbus or not. The treatment is purely surgical and varies, according to circumstances, from simple ablation of the tumour on the one hand to exenteration of the orbit on the other.

Ernest Thomson.

A rare case of carcinoma in a girl of 17 years is reported by Fietta. The nature of the disease was not proved until it was too late for operative treatment, and the girl died at home without an autopsy being performed. Details of the exact sites and origin of the tumour are therefore wanting but it is supposed to have started in the maxillary sinus, extended deeply towards the cranial cavity and secondarily invaded the orbit and sphenoidal fissure.

Ernest Thomson.

Dr. Knight, who is a Fellow in Ophthalmology of the Mayo Foundation, adduces evidence in favour of the view that melanotic sarcomata of the choroid are ectodermal in origin. She says in her summary:

"Wherever studied, melanin has been produced by ectodermal cells. In the fetus, the pigment granules in the eye are produced by the pigmented epithelium of the retina, which develops from the ectoderm. The choroid is of mesodermal origin, and the cells of the choroid do not produce pigment. Fibroblasts have been seen to phagocytose pigment granules in vitro. We may assume, therefore, that the chromatophores of the choroid are mesoblastic cells that have engulfed melanin. They merely carry pigment, which ectodermal cells have produced. Therefore, tumours capable of producing pigment arising in the eye should be called melano-epitheliomas. Melanin is a product of well differentiated cells, and, therefore, is not produced by rapidly growing cells, which accounts for the lack of it in rapidly growing tumours of the eye. The cells in the slower growing melano-epitheliomas develop the characteristics of epithelial cells and produce abundant melanin."

A. F. MacCallan.


Johnson states that most cases when first seen are obviously limited to the tissue of origin and that perforation of the globe is a comparatively rare and late occurrence. That the limbus is the commonest site of origin is explained by the following considerations:
MALIGNANT DISEASE

1. Epithelial transformation occurs at this point.
2. There is a liberal blood supply.
3. There are normally some down-growing processes of epithelium in this situation.

There are two main types of growth:
1. Acanthoma, consisting of adult squamous cells showing cornification and pearl formation subdivided into:
   (a) A slow growing variety, at first papillomatous.
   (b) A variety showing rapid growth, early ulceration, no papillomatous stage, prompt recurrence after removal and a tendency to the formation of metastases. The cells of some of these growths are so atypical as to resemble sarcoma cells.
2. Basal cell carcinoma which is rare and recurs less frequently after excision.

Reports are given of seven cases, the ages varying from 13 to 84 years. Treatment was at first carried out with filtered radium, which was thought to give rise to lens opacities. Later, small glass bulbs containing emanation only were used, unfiltered, and gave better results. Dosage was regulated by the requirements of the case—as a rule 250 millicurie minutes brought about complete regression in a tumour 3 millimetres thick over an area of 0.7 centimetres. Four areas were treated at a time and three weeks allowed to elapse before completing the radiation. Regression was complete in four weeks.

The results in the seven cases quoted are remarkable. In six of them there was complete regression with no sign of recurrence for periods up to six years. In one case, however, the patient did not come up to her full course, but went to another hospital where the eye was excised, with the result that an orbital recurrence followed, which was treated by exenteration followed by radiation.

A description of the bulb method is to be found in the American Journal of Roentgenology, Vol. IX, No. 1, Jan., 1922. Its advantages are:

1. Very accurate application with a short exposure period.
2. The rays being unfiltered, soft beams give the desired superficial effect before a harmful quantity of hard rays enters the orbit.

F. A. WILLIAMSON-NOBLE.
IV.—COLOUR PERCEPTION

(1) Verrey, Arnold (Lausanne).—The examination of colour perception and our federal authorities. (L'examen de la perception colorée et nos administrations fédérales.) Rev. Gén. d'Ophtal., September, 1923.

(1) Verrey deals with the use of the anomaloscope of Nagel in the examination of candidates for employment in, and of those actually employed in, the service of the Swiss Railways, especially the railways of the First Arrondissement. He considers this instrument the best for the purpose and deals with a number of criticisms which have been made in regard to it. The value of the anomaloscope in the detection of the different forms of colour defect is discussed and illustrated. Tables are appended showing the relation between the errors made in the detection of actual signals and the defects found by the instrument. The article should be read by those interested in or engaged upon railway work. They will, however, find no mention of British practice.

ERNEST THOMSON.


(2) Taylor has noticed a want of expression in the faces of colour-blind men; also that the voice is wanting in emotional quality. He states that he has never met with a colour-blind man who was also tone deaf. This must be merely chance as the reviewer examined such a case very recently.

A. F. MACCALLAN.


(3) Ferree and Rand summarizing their investigations state that:

1. The sensitivity to a given colour falls off at different rates towards the periphery in the different meridians. Hence a decrease in the intensity of the stimulus light causes the field to contract by different amounts in the different meridians or to change its shape.

2. Over some regions in the periphery of the retina the sensitivity to red is greater than to blue and at others in the same meridian the reverse of this is true. Here again it is obvious that a change in intensity of the light value of the stimuli is sufficient in itself to cause alteration in the order of ranking of the fields as to breadth.
Later in the paper it is shown that the variation in the daylight illumination of a well-lighted room is quite sufficient to effect this change. For example, decrease of the illumination from 51 to 3-foot candles narrowed the limits for red by amounts ranging in the different meridians from 11 to 37 degrees; for blue from 13 to 37 degrees; and for green from 10 to 19 degrees. Determination of the illumination of the perimeter arm in a well-lighted room on a bright winter's day gave the following values: At 1 p.m., 51-foot candles; at 2.30 p.m., 17-foot candles; at 3.45 p.m., 7-foot candles; and at 4.15 p.m. 3-foot candles. Hence if colour fields are to have any comparative value, they must be taken under standard conditions as to intensity of light and saturation of colour. Thus with a low intensity of spectral light, the fields, in order from the widest to narrowest are red, yellow, blue and green. When, however, the four colours are made equal in energy to the blue in the preceding experiment, the limits for red, yellow and blue interlace.

Care was taken to eliminate as far as possible other extraneous factors. Thus (a) the light was examined at the analyzing slit for impurities which when found were absorbed by thin gelatine filters; (b) the determinations were made with the pre-exposure and surrounding field of the same brightness as the stimulus colour at the limits and sensitivity; (c) the amount of light entering the eye was made independent of the size of the pupil.

F. A. WILLIAMSON-NOBLE.

V.—STRABISMUS


It is extremely difficult to give a useful synopsis of Inman's interesting article. Every ophthalmic surgeon will do well to read it for himself. "The nature and origin of concomitant squint have been explained in physiological terms, but its capricious incidence indicates that further factors must be involved beyond the known physiological ones. Its mode of onset and variability in states of fear or other excitement suggest that whatever may be the influence of an error of refraction, some other factor must be at work determining the breakdown of the binocular function; but the difficulties of direct investigation of the child's mind appeared insurmountable, and for some time after my attention was drawn to such a possibility I had to content myself with observations confirming the suspicion that the deformity was
dependent upon mental states. Soon it was noticed that several squinting patients were left-handed, and further investigation elicited the fact that even when not left-handed themselves a large proportion of the children had left-handed relatives. From this point it was natural to turn to the incidence of stammering, which for many years has been considered a congener of left-handedness, and I discovered that a family history of stammering could often be obtained.” That is the author’s opening paragraph and contains his text. Here is the concluding paragraph: “The moral of the story seems to be two-fold: first, that these conditions (i.e., squint, left-handedness and stammer) hitherto regarded as separate and unrelated, appear to be determined by defects in the personality as a whole, and secondly, that the emotional difficulties of the child in meeting social demands have an importance which has till now been hidden from all save the psychoanalyst.” Between these two quotations, which seem to indicate that the author minimizes the influence of refraction error as a cause of squint, there is a large number of most interesting experiences of left-handedness and stammering in the patient or his family in which these conditions were associated with squint. The author deals with the emotional factor in stammering and squinting, and has found abundant evidence that emotion may determine both the incidence and extent of the ocular deviation. There is nothing new in this since parents have been telling us for years that the squint appeared in the child as the result of emotional or nervous shock of some kind or other. It is probable that few ophthalmologists will dispute the reality of the influence of emotion in the causation of squint, but, after all, squint is essentially (though of course not invariably) associated with ametropia and ametropia is an anatomical defect of the ocular form. Shock or emotion does not usually produce squint in emmetropic eyes but these are factors in the causation of squint when the natural stimulus to fusion is lowered by the indistinctness of one retinal image. Those who seek to associate squint with left-handedness, stammer, tuberculosis or any other condition must, it seems to the reviewer, be prepared to admit that ametropia is the essential factor and that the association is therefore anatomical rather than psychological. That squint may be hereditary no one can doubt, but the reviewer suggests that what is hereditary is the shape of the eye. Emotion or shock may be the determining cause of the squint, probably generally is the determining cause, but the underlying cause is the ametropia. Inman says: “I have been able to collect 1,000 cases of squint, very few of which have failed to reveal the existence of left-handedness or stammering in some near relative, and it is hoped that the typical instances quoted will be of sufficient significance to justify the absence of statistical
proof of the association." It is just here that the author fails, and one can but associate oneself with the leader-writer in the *Lancet* when he writes as follows: "The suggestion of a pre-dominant emotional factor opens up such possibilities, not merely of clinical benefits but also of wider understanding of general principles, that Dr. Inman's evidence should be closely examined. His attempt to establish the relationship of the three conditions should be capable of statistical examination, but it is obvious that controls on a large scale are necessary. We must count the misses as well as the hits, a precaution too often not observed by that increasingly numerous body of writers who found their judgments on the comparison of figures." Will Dr. Inman continue his most interesting study by inquiring into the family and personal history as regards left-handedness and stammering in 1,000 refractions of children who do not squint?

**Ernest Thomson.**

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**VI. —MISCELLANEOUS**


The *Scientific American* has recently published the report of a committee which investigated the so-called Electronic Reaction of Abrams, and it may be useful to ophthalmologists to be able to quote its findings to patients, or friends, who extol or wish for information about E. R. A.

The investigation which this magazine instituted was carried out by a committee composed of the following men: Austin C. Lescarboura, managing editor of *The Scientific American*, a member of the American Institute of Electrical Engineers, and a specialist in electrical and radio work, acted as secretary for the committee, did the major part of the investigating work and prepared the articles that appeared; J. Malcolm Bird, one of the Associate editors of *The Scientific American* and for some years a teacher of mathematics at Columbia University; Robert C. Post, a civil engineer and a member of a well-known firm of structural steel engineers and contractors; Dr. Walter C. Alvarez, well-known as Associate Professor of Research Medicine in the University of California and a man who had done considerable research work; Dr. William H. Park, Director of the Bureau of Laboratories of the New York Health Department and consulting Bacteriologist both for the New York State Department of Health and also for the United States Quarantine Service.
This committee spent more than a year in examining the so-called "electronic reactions" and their application in diagnostic and therapeutic work. It studied the technique in detail; attended numerous demonstrations and the members submitted themselves to Abrams' diagnosis in order to learn how the latter appeared from the patient's point of view. The committee procured the genuine Abrams' apparatus for first-hand study and experimentation; it made tests with a number of Abrams' disciples for the purpose of determining the accuracy of the so-called reactions and, in short, it kept in touch with the "electronists" from its high priest Albert Abrams until the time of his death down to the most obscure "E.R.A." practitioner.

Nor was this all. The committee studied alleged cures, maintained a voluminous correspondence with those who claimed to have been benefited by the "electronic treatment" and in fact, carried on the very kind of investigation that Abrams himself asked for—but never expected or desired to get.

And the results of this exhaustive investigation is expressed in the opening paragraph of The Scientific American's latest and final article:

"The so-called electronic reactions of Abrams do not exist—at least objectively. They are merely products of the Abrams practitioner's mind. The so-called reactions are without diagnostic value. And the Abrams' oscilloclast, intending to restore the proper electronic conditions in the diseased or ailing body, is barren of real therapeutic value. The entire Abrams' electronic technique is not worthy of serious attention in any of its numerous variations. At best, it is all an illusion. At worst, it is a colossal fraud."

A. F. MacCallan.

BOOK NOTICES


This is the second volume of a series of monographs by the same author. Its general arrangement is very similar to that of the preceding volume "La Calotte Corneé-sclérale," a notice of which appeared in this journal in December, 1923. A third volume on the Crystalline Lens is announced as in preparation.

The irido-ciliary diaphragm is held to include all that part of the uveal tract anterior to the ora serrata, and is dealt with under the three headings: anatomy, physiology, pathology. The