and £1,000,000 indirectly, and asks: "does oscillation cause the neurosis or does the latter induce the oscillation? Is oscillation merely a physical eccentricity, or is it an essential part of the whole abnormal state? An answer to these questions may save the country so much money that pressure should be brought upon the Committee to clear up the mystery."

In an editorial the Lancet of the same date deals at some length with Mr. Inman's letter and concludes thus: "The complexity of the problem of miners' nystagmus is indefinitely increased if it must be investigated anew from the psychological aspect. Yet if this aspect possesses the significance that Mr. Inman suggests, there is every reason for the fullest inquiry, both on economic grounds and on account of the clinical importance of the principles involved."

Thus there would appear to be a disease, miners' nystagmus, the nature of which, as far as the eyes are concerned, we, as ophthalmic surgeons, can appreciate, accurately measure and record; there is another disease, miners' psychoneurosis, of which we, as ophthalmic surgeons, have no special knowledge. As far as the evidence of the Report goes the one may exist without the other and what, if any, is the connection between them has still to be worked out by the psycho-pathologists.

ABSTRACTS

I.—GLAUCOMA

(1) Gifford, Harold (Omaha).—Glaucoma from the absorption of senile cataract, Amer. Jl. of Ophthal., Feb., 1918.

(1) Gifford holds that the spontaneous cure of senile cataract is by no means so rare as is commonly supposed. He has himself seen ten cases in which practically complete absorption of the cortex has occurred. The following statement seems to crystallize what must have been a fluid kind of notion at the back of the brain of many an ophthalmic surgeon:—"This tendency for senile cataracts to undergo spontaneous absorption is so common that I think it may safely be said that while every one would develop a senile cataract if he lived long enough; so also would every one obtain a spontaneous cure if life were sufficiently prolonged." But nature's cure does not give a good percentage of visual results. Glaucoma is frequent. Such glaucoma has been supposed by some to be the cause of the absorption of the lens. Gifford holds otherwise, and refers to a number of his case histories in support of
the following conclusion:—"The occurrence of glaucoma coincident with the absorption of hypermature cataract cortex in eyes otherwise healthy, together with the long continued absence of glaucoma from the fellow eye, makes it probable that the glaucoma which has been observed in connection with the spontaneous absorption of senile cataract is the effect, not the cause of such absorption."

ERNEST THOMSON.


(2) Bourdeaux relates the history of an interesting case of acute glaucoma in a woman of 47 years who had already lost the sight of one eye after an iridectomy and who, after five years, developed an acute glaucoma in the remaining eye. She was highly myopic as evidenced at the time by her glasses and afterwards by the fact that there was 18D of myopia left after removal of the lens. At the time when she came under observation the lens was partially dislocated forwards so that its edge at one part appeared in the anterior chamber. One can imagine that this was a difficult problem to face. Bourdeaux made an equatorial puncture to relieve the condition, and, two days later, proceeded to his operation proper. Under cocain anaesthesia he made a wide incision with conjunctival flap, though it was difficult to avoid the lens. He then hooked the lens with Kalt's forceps, drew it out in its capsule and performed a large iridectomy without any loss of vitreous. The patient who, not less than the surgeon, is to be congratulated, left hospital in ten days and secured vision with glasses equal to 6/10ths. Ophthalmoscopically there was a highly myopic fundus and the disc was pale and excavated in the temporal segment. The writer speculates on the sequence of events but comes to no firm conclusion.

ERNEST THOMSON.

(3) Aboudy.—The relation between syphilis and glaucoma. (Relation entre syphilis et glaucome.) La Clin. Ophth., September, 1919.

(3) Aboudy has satisfied himself that a certain number of cases of glaucoma are brought about by blockage of the excretory channels by choroidal inflammatory products in cases of syphilitic choroiditis. From what the author says it appears to be his opinion that in such cases the tension should be reduced as much as possible by non-operative means and that then a regular course of repeated intravenous injections of cyanide of mercury should be commenced. In one case Abadie (Abadie of Paris, not Aboudy the writer), carried
out such injections of 1 per cent. cyanide amounting to 60 injections per annum for four years. Previous to this treatment there had been several "crises" in spite of iridectomy, whereas, after the cyanide treatment, there has been no attack since 1916. Two other cases of this type are related in which the cyanide treatment stopped the glaucomatous process. The article is quite suggestive, though one would anticipate that the average patient would be found unwilling to submit to such severe treatment.

ERNEST THOMSON.

(4) Karelus, Casimir (Cracow).—The value of the criss-cross posterior sclerotomy of Wicherkiewicz in cases of chronic glaucoma. (Valeur de la sclérotomie postérieure croisée d'après Wicherkiewicz, dans les cas de glaucome chronique.) Rev. Gén. d'Opht., July, 1921.

(4) The reviewer has translated the word croisée in the title as “criss-cross” because this expression seems best to express in English the description of the operation devised by Wicherkiewicz in 1908, and which seems to have been given the sufficiently explicit Latin name of “sclerotomia cruciata multiplex.” (Amer. Encyclop. of Ophthal.) Karelus here points out that while Wicherkiewicz took various opportunities at meetings of oculists to bring his operation to notice, he had very little material to deal with. Majewski, the present professor of ophthalmology at Cracow, has carried on his predecessor’s work so that the number of operations performed by this method is 150. Leaving out all details as to anaesthetics, the particular posterior area of sclera chosen, the making of the conjunctival flap, and the doings of the assistant, one may quote the essential details of the operation, which is, perhaps, not so well known as it should be. “The operator, keeping always to the meridional direction, makes four or five incisions into the sclera separated by an interval of 2 mm., and then other incisions perpendicular to the first. All of these incisions involve only three-fourths of the thickness of the sclera and form a sort of criss-cross pattern (Carrelage). Then the incisions are deepened, usually those in the middle, until the choroid appears at the bottom of the wound, and, with the point of a knife, the edges of this incision are separated. The conjunctival flap is sutured in position. Massage of the eye is employed in order to prevent consolidation of the wound. The author has never seen any complications with this operation. A large filtering cicatrix is produced which diminishes or completely abolishes retention of fluid in the posterior part of the eye. The pupil, which formerly perhaps did not contract, even under pilocarpin, now contracts of its own accord, sometimes even ad maximum.
This method was at first confined to cases of chronic glaucoma, but was afterwards extended to all forms up to the number of 150 cases altogether. Of these 150 cases 55 were cases of absolute glaucoma with no vision either before or after the operation. For the sake of brevity they may be omitted here and attention confined to the statistics which the author gives regarding the 95 others. The results are divided into three categories, namely: (I) In which there was lasting improvement in acuity and field. (II) In which progress of the disease was stopped, the acuity and field remaining the same. (III) In which the disease progressed in spite of the operation. The conditions operated upon are divided into simple glaucoma, chronic inflammatory glaucoma, and hydrophthalmos and buphthalmos. It seems to be worth while to reproduce the author's percentage table of these 95 cases in full.

Simple glaucoma:

1st group 87 per cent.
2nd " 10 "
3rd " 3 "

Chronic inflammatory glaucoma:

1st group 100 per cent.

Both above groups together:

1st group 87.7 per cent.
2nd " 8.8 "
3rd " 2.5 "

Hydrophthalmos and buphthalmos:

1st group 12.5 per cent.
2nd " 87.5 "

Total of the above:

1st group 75.8 per cent.
2nd " 22.1 "
3rd " 2.1 "

The author compares these figures with those of Römer who, in dealing with various methods of operating for simple glaucoma, had found that 33.7 per cent. retained their vision (but were not improved in vision), while 66.3 per cent. became worse. Further, the method of Wicherkiewicz presents no danger at all.

Ernest Thomson.

Galetski-Olin has analysed Prof. V. Grönholm's fistulization operations for the last fourteen years, 258 in number. The operative procedures adopted were iridencleisis as described by Holth, iridotasis as described by Borthen, Holth's limbal sclerectomy (Annal. d'Ocul., July, 1909), and a trephine operation of Prof. Grönholm's own devising in which the trephine acts on the guillotine principle. Statistics are given of the various results and the following conclusions drawn:

"From this account iridotasis appears to be the least difficult operation technically and also the least liable to post-operative complications. Further the pressure is most frequently normalized after iridotasis, in 90 per cent. of the cases, and central vision is best preserved after this operation. After Elliot's operation the pressure is rendered normal much as after iridotasis, but the technical difficulties are much greater and the liability to post-operative complications is more marked. The visual results also are not quite so good.

Sclerectomy is a more severe operation and is followed in many cases by post-operative complications. Its effect on vision and pressure is less certain than is that of trephining.

Since the number of cases investigated after iridencleisis is very small, the results of this operation can only be judged with difficulty. Pressure was only normalized in half the cases, the vision however was generally preserved. As regards technique this operation belongs to the most difficult type, and post-operative complications are numerous."

The author points out that the risk of a progressive staphyloma in iridotasis can be prevented by cutting off the dome of the piece of iris that has been drawn out as recommended by Borthen in a later paper.

E.E.H.


Levinsohn considers that the study of the pathogenesis of glaucoma can best be arranged by subdivision into four main headings. (1) The proper pathogenetic. (2) The predisposing. (3) The releasing. (4) The underlying (die unterstützenden Momente).

With regard to the first question he attaches great importance to the flooding of the anterior exits of fluid by destroyed cell bodies.
from the posterior pigment epithelium as described by him in a previous paper (Arch. f. Augenheilk., Vol. LXII, p. 131), and confirmed by Köppe in his book on the microscopy of the living eye. He also draws attention to the bleaching of the iris so often observed in chronic glaucoma, of which he gives illustrative cases, as a probable source of the obstructing pigment cells. Hypertrophy of the ciliary body and all those affections which may cause destruction of the iris pigment such as diabetes, syphilis and heterochromia iridis should act as predisposing causes. The fact that they rarely do so is explained by Levinsohn on the supposition that the pigment is dissolved in so fine a state that it readily passes the exit channels.

In dealing with the question of the starting mechanism of the disease in a predisposed eye Levinsohn attaches considerable importance to the psychic factor on account of its influence in raising the blood pressure and dilating the pupil.

The fourth heading, the favouring factors, include all conditions that hinder the exit of fluid from the eye. Local blood conditions have more influence than any variations of the general blood pressure, as the latter is readily compensated. On the other hand the salt content of the blood is of great importance, a strong salt concentration having considerable effect on the intraocular pressure on account of its power of abstracting water from the eye. It is also not impossible that the hypophysis may have some action on the intraocular pressure.

E. E. H.


(7) The principal point in Snell’s paper is the contention “that the congenital type of glaucoma (buphthalmos) should not be confused with the juvenile or the latter with the senile.” He lays stress on heredity as “a direct aetiological factor in juvenile glaucoma” and contrasts this with the condition found in the infantile type where direct inheritance is rare; but may we not consider it a factor in this argument that the buphthalmic are, for a variety of reasons, at a disadvantage in reproducing their species? Again, he lays stress on the smallness of the cornea in many cases of juvenile glaucoma in contrast with the large eyes of buphthalmos. The subject is a very difficult one and arguments can be adduced on both sides, but the view is widely prevalent that the large globe of the congenital cases and of others which are first noted in the early years of life are to be explained by the distensibility of the prenatal and of the very young eye. Snell’s paper is a very interesting one, and the reviewer has re-read it many times to discover whether, in the
light of its statements, he can find reason to modify his view, which Snell appears to think unorthodox and misleading, that glaucoma whether met with before birth, in early youth, or in age is essentially all one. He regrets that he is unable to do so. At one pole of life we are dealing with defects of congenital origin, which must at a comparatively early age manifest themselves by glaucomatous symptoms, whilst at the other pole lie a number of cases, the great majority of which are eventually dependent for their genesis on the degenerative and other processes associated with advancing age. Running through the whole is the great factor of the departure of the eye from its anatomical ideal. This, at least, is how the case presents itself still to his mind. Others will hold different opinions.

The case reports of two families are given by Snell at some length, and are deserving of detailed study. As an outcome of his experience in these cases the author of the paper has come to the conclusion that iridectomy is of little value "and that there is a greater promise of permanently reducing tension by obtaining some form of filtrating cicatrix." He adds, "I believe that the Elliott operation should be the operation of choice in these cases." No one with large experience of buphthalmos has yet claimed for any method of operating a large proportion of success, but the reviewer has under his observation cases in which trephining has stopped the deterioration of sight and caused sufficient improvement to enable children to be educated and to grow up useful members of society. He can therefore endorse what Snell has said on this subject. With regard to iridectomy, our knowledge of the pathology of buphthalmos makes it obvious that nothing less than the production of a vicarious channel for the escape of intraocular fluid can be of any avail. Of what use is it then to remove a portion of the iris? In this most of us will agree with Snell.

R. H. ELLIOT.


(8) Goldenburg has practised this operation for very nearly five years, and finds that he gets more gratifying results with it than with any other operation that he has tried in the past. For the last three years he has adopted this form of operation in every case in which it seemed possible to incarcerate the iris, but, as he points out, occasionally the iris is so atrophic that it is impossible to draw it into the wound and in such cases the operation is not indicated. In cases of acute congestive glaucoma he prefers to get the tension reduced and the eye reasonably quiet by the usual palliative measures before operating in this way. He has not, so
far, had to excise any of his eyes in which this operation had been performed, though one eye in a feeble old man was lost through haemorrhage into the anterior chamber, the tension remaining persistently raised over a considerable period of time after the operation; as this man had only perception of light and was a cripple, it is hardly fair to condemn an operation on the strength of this case.

Goldenburg's technique is as follows: The eye is prepared in the usual way, a hypodermic injection of morphin and atropin is given one hour before the operation, the eye is anaesthetised with 4 per cent. solution of cocain and a little adrenalin is instilled just before the section is made. A flap of conjunctiva is dissected from above down to the limbus as in the Elliot operation; at this stage, haemorrhage is quite free; holding the flap thus formed so as to permit the surgeon to get a view of the anterior chamber, a small keratome is passed in as near to the anterior surface of the iris as possible, making an incision in the globe of about 4 mm.; the point of the keratome is then tilted slightly downward, and as it is slowly withdrawn it is made to brush lightly the anterior surface of the iris, which will sometimes prolapse into the wound. The slower the escape of aqueous the better. A very thin-bladed single-toothed iris forceps is passed in and grasps the iris midway between the base and the edge of the pupil, and is then withdrawn just enough to keep the lips of the wound apart. It is well to force the iris into both ends of the wound as much as possible, so as to obviate the risk of its falling back into its former position. The iris is then lightly stroked away from the wound with a spatula and the conjunctival flap replaced with one or two points of suture. Atropin is instilled and the eye bandaged; the eye is dressed on the second day and atropin is again instilled. Sutures are removed on about the fifth day and atropin is continued until the eye is white.

R. R. J.


(9) Yoshida of Kyoto reports two cases where cyclo dialysis was followed by acute exacerbation of glaucoma. In six years, 22 cases of glaucoma were treated after Heine’s method, and of these cases two were observed in which acute glaucoma set in immediately after the operation. The first case occurred in a female of 50 years of age, the cyclo dialysis was performed early in the afternoon, and by six p.m. the patient was in an acute glaucomatous attack, with vomiting and pain. A classical iridectomy had to be performed in each eye; three years later the Heine eye had 6/36 vision and normal tension while the other eye was blind. The second case was in a female of 65 years of age, who had lost one eye from glaucoma
GLAUCOMA

some years before; cyclodialysis was followed, as in the first case, by an attack of acute glaucoma the same evening; iridectomy upwards was performed, and the case did well. The author has found records of five similar cases in the literature, Heine, two cases in 20 cases of cyclodialysis, Elschnig, one case, Weekers, one case and Komoto, one case. Of these five, two were cases of haemorrhagic glaucoma. Yoshida discusses the mode of action of the operation of cyclodialysis, summarizes the views of Heine, Krauss, Salus and Wernicke, and appends a bibliography useful to those who are interested in this particular operation.

R. R. J.


(10) This is a long paper giving the results of clinical examination of 100 glaucoma patients. There is no reference to the refraction of the patients’ eyes and no mention of any of the usual theories of the production of glaucoma. Some of the statements made will probably not meet with acceptance, e.g., “it is taken for granted by all authors of to-day that vascular changes form the anatomical basis for glaucoma.” Notwithstanding this, the paper contains some interesting observations.

The patients were examined with regard to the condition of heart, lungs, aorta (by X-ray), kidneys, blood pressure, and Wassermann reaction by competent observers. The findings were as follow:

1. 90 cases showed changes of the heart and vascular system.
2. 3 cases normal heart and vascular system, but a positive Wassermann.
3. 7 cases had normal heart and vascular system, and negative Wassermann.
4. 62 cases showed raised blood pressure—59 cases had chronic aortitis.
5. The commonest causes of the vascular changes were syphilis, alcoholism and old age.
6. Age incidence. Under 30 ... ... 1 case.
   31-40 ... ... 2 cases.
   41-50 ... ... 26 ”
   51-60 ... ... 30 ”
   61-70 ... ... 31 ”
   71-80 ... ... 9 ”
   81-90 ... ... 1 case.

Sex—35 men, 65 women.
7. Syphilis—46 proved cases, 11 suspected.
    Of the 29 cases under 50 years, 24 were syphilitic; a patient acquiring glaucoma under the age of 50 is probably infected with syphilis.
8. Arteriosclerosis. Of the 41 cases over 60 years, 24 were arteriosclerotic, and 13 syphilitic. Hence vascular disease belongs to the clinical picture of glaucoma, also it is to be recognized that change in the walls of the vessels in the eye is the principal and perhaps primary pathological condition in glaucoma.

The histological changes in general vascular disease and in disease of the vessels in the eye are the same; thus the same cause is responsible for the changes in the vascular walls, whether they occur in the vasa vasorum of the aorta or in the capillary network of the eye. There is, however, no connection between the rise of intraocular pressure and of blood pressure, and the incidence of the former depends on the localization of the pathological processes occurring in the vessels. Hence local treatment of the eye must be supplemented by suitable treatment of the coincident general disease.

F. A. WILLIAMSON-NOWLE.


(11) The treatment described by Vail for acute, subacute and secondary glaucoma follows conventional lines. With regard to what he terms the non-inflamatory type formerly known as glaucoma simplex, he makes these observations:—Operation gives a good prognosis only in those cases where "the ratio between plus tension and failing vision is predominantly towards the plus tension." Speculating on the cause of simple glaucoma, he is inclined to favour Fischer's theory. In consequence of sclerosis affecting the nutrient vessels of the eye there is not enough blood in the capillaries. Thus an abnormal accumulation of acids occurs, due to oxygen starvation, and the tissues of the eye (presumably the vitreous) swell, the iris is pushed forwards, and the filtration angle is closed.

Operation is advised if eserin fails to control the tension, vision and field. If possible, it should be performed before the periphery of the field in any part reaches 20° from the centre of fixation, because at least 5 per cent. of the remaining field is apt to be lost after the most successful operation. The operation is performed thus:—Sclero-corneal trephining by Elliot's method with a complete
iridectomy through the trephine hole "and then with blunt (? pointed) scissors the point of one blade entering the trephine opening, making a 3 mm. cut through the sclero-cornea parallel with the periphery of the cornea to the right, then re-entering the point of one blade of the scissors in the trephine hole making another 3 mm. cut through the sclero-cornea to the left." Twenty-one eyes have been treated in this way in the last two years, with immediate success in all, and only two ultimate failures. No miotics were used after operation.

F. A. WILLIAMSON-NOBLE.


(12) Weekers begins his paper with the sentence "In spite of the many attempts which have been made the internal treatment of glaucoma does not appear to have yielded any really useful results."

He then reviews some of the work which has been done in this direction and proceeds: "I have practised intravenous injections of hypertonic solutions in a certain number of cases of glaucoma, following the method adopted by Cushing in cerebral hypertension; this consists in injecting into the veins a sterile aqueous solution of NaCl, of 30 per cent. strength, in an average dose of 5 c.cm. These injections, which may be repeated, should be administered very slowly, at a rate not above 1 c.cm a minute. With this precaution the injections, which are free from danger, are unaccompanied by any inconvenience save in nervous patients who may complain of slight malaise and occasional sweating. In some cases I have counted the pulse and measured the arterial pressure before and after the injection and have failed to note any material effect upon the cardio-vascular system; occasionally there has been slight acceleration of the pulse rate and in other cases slight diminution. The diuretic effect of the treatment is very manifest."

Following these statements the author gives notes of cases subjected to this treatment, divided into three groups according to the nature of the glaucoma, acute, chronic, secondary. The paper terminates with the following conclusions:

"The results obtained by the injection of hypertonic solutions into the veins vary in the different clinical forms of glaucoma. The hypotonising action of this treatment is very pronounced in acute glaucoma. One or more injections administered as the sole treatment, without any local measures, lead to a notable reduction of ocular hypertension. This treatment therefore proves a valuable means of reducing tension in an eye attacked by glaucoma, preliminary to operative procedures."
The favourable effect of these injections on the glaucomatous condition is, however, very transient, lasting only a day or two. Even if repeated they fail to maintain the result first obtained. In spite of fresh injections the intra-ocular pressure rises to its former height and may even surpass it. The action of intravenous injections assists the action of miotics. The two measures should therefore be combined. In glaucoma of the haemorrhagic type and in absolute glaucoma intravenous injections as a rule have very little effect."

In chronic glaucoma and in the secondary forms the result of this treatment is very slight or fails entirely. In doses which are clinically employable intravenous injection of hypertonic solutions has little or no effect on eyes of which the tension, previous to the injection, is normal or below normal.

J. B. Lawford.

II.—ANAPHYLAXIS


(1) The experiments of von Szily and Luciani were undertaken with the object of verifying or controverting the results obtained by Dold and Rados. These observers found that it was possible, by injecting old tuberculin into one eye of a rabbit, to increase the reaction produced by a similar injection into the other eye, whereas the sensitiveness of the eyes was not affected or not so easily affected by subcutaneous injections.

Having first ascertained that a dilution of old tuberculin of 1:750 was the weakest that could normally cause perceptible irritation, when a dose of 0·1 cc. was injected into the corneal lamellae, they proceeded to sensitize rabbits by injecting them with old tuberculin subcutaneously, into the anterior chamber, and into the cornea. Numerous experiments were performed and are described in detail. The results were negative, as the dilution required to produce response remained the same whether the animal had been injected beforehand or not. There is, therefore, no sensitization of one eye from the other eye or of the eyes from a subcutaneous injection.
in respect of old tuberculin, nor is there any proof of the existence of an "inflammatory non-specific sensitivization of symmetrically placed organs." Inferences, based on the experiments of Dold and Rados with tuberculin and croton oil, in regard to sympathetically caused inflammations in symmetrical organs, especially sympathetic ophthalmia must still be regarded as unjustified.

H. M. TRAQUAIR.

(2) Löwenstein, Dr. A. (Prag).—On the appearance of an attack of parenchymatous keratitis (keratitis anaphylactica) and on the origin of pannus in granular ophthalmia. (Ueber anfallsweise auftretende Hornhautentzundung (Keratitis anaphylactica) und Ueber die Entstehung des Pannus im Verlaufe der Kornerkrankheit.) Arch. f. Ophtal., Vol. XCIV, Part iii, 1917.

(2) Löwenstein gives details of two cases of severe trachoma of long standing with pannus in which typical interstitial keratitis developed and ran a course similar to that of the ordinary variety due to inherited syphilis. In both patients tuberculin and Wassermann tests were negative. The age of both was 25 years.

He points out that Elschnig and others have already shown that in interstitial keratitis there is an antecedent infiltration of the vessels concerned in the nutrition of the cornea, and that Wagenmann and himself have succeeded in producing an affection of the cornea of an interstitial type in animals by division of the ciliary vessels. Anatomical examination has shown that in trachomatous processes, both in the stage of infiltration and of scarring, the blood and lymph stream is seriously interfered with. In addition to the plugging with granular material and Prowaczek bodies these eyes are frequently infected secondarily with Weeks' bacillus. Löwenstein concludes that the trachomatous process acts through inflammatory infiltration and secondary scar formation on the ocular connective tissue. As a result of antigen absorption, in consequence of the trophic disturbance, the corneal albumen becomes generally and locally sensitized to the corneal tissue and may lead to the outbreak of an attack of interstitial keratitis (anaphylactic). He considers that in the same way the ordinary interstitial keratitis of hereditary syphilis has its origin in a trophic disturbance. Then, if this form of the disease is an anaphylactic reaction, the antigen is not the spirochaeta pallida, but rather the corneal tissue disorganized from trophic disturbance.

E. E. H.
III.—CONGENITAL ABNORMALITIES


(1) Velter records a case of this rare congenital abnormality in a man of 28 years who declared that up to the age of 10 his left eye was completely blind, but that after that it developed a little sight. The eye was microphthalmic, but, apart from that, and the papillary coloboma, was normal. The papilla was occupied by a large circular coloboma as shown in a coloured plate that accompanies the paper. Vision was 1/40. The visual field was considerably contracted, especially above, and the blind spot was enlarged. The eye was practically emmetropic, and not, as in cases previously described, highly myopic.

E. E. H.


(2) Lutz summaries the findings in this case as follows:—It is in accordance with the majority of other publications (a) in the complete absence of the function of the abducens, without secondary deviation, and without diplopia; (b) in a certain weakness of abduction and convergence and (c) in the retraction of the eyeball when looking toward the healthy side. It differs from them (d) by the very marked enophthalmos in the primary condition and (e) in the radiographic findings, which are described.

R. H. Elliot.


(3) Shannon reports two cases of coloboma of the iris and choroid in sisters. The family consisted of five girls, of whom four, including the two mentioned above, showed similar abnormalities. The father of these patients was also affected. A cousin on the paternal side had coloboma of the iris and choroid in each eye. One of the father's brothers was affected with unilateral coloboma of the iris and microphthalmos. Of the seven cases, two were myopic, two had hypermetropic astigmatism, one had mixed astigmatism, and in two the nature of the refraction could not be determined.

S. S.
MISCELLANEOUS

IV.—MISCELLANEOUS


(1) Cantonnet describes a lamp arrangement (electric) with green and blue-green removable glass screens for the examination of the fundus by red-free light and, alternatively, by ordinary electric light. The apparatus has been designed to obviate the elaborateness of the original arrangement of Vogt by means of screens formed of solutions of copper sulphate, etc., in front of an arc lamp. The author refers to the articles on the advantages of red-free light by Darier (La Clin. Ophtal., September, 1919) and Koby (Rev. Gén. d’Ophtal., January, 1920), and summarizes as follows: “I merely call attention to the fact that this method of illumination makes no pretence of claiming ophthalmoscopy for itself, but that it perfects the examination by ordinary or yellow light. More especially, it renders visible in a striking way atrophic choroiditis (the atrophic areas appearing brilliant, white and fluorescent), the macular crackling (craquelé) in myopes, retinal haemorrhages, retinal detachment, and pigmentary degeneration of the retina. Lastly, it gives very interesting results in optic atrophy, for it indicates the disappearance of the optic fibres, which, in the normal state, are so well brought out by it.”

Ernest Thomson.


(2) Magitot has seen a large number of French soldiers suffering from a form of kerato-conjunctivitis which he finds to be associated with and dependent upon nasal lesions. The characteristics of the ocular disease are as follows:—It may be uni- or bilateral. If unilateral it is on the same side as the nasal lesions. There is no abnormal secretion. The conjunctiva is red and vascular over its entire extent including the superior cul-de-sac. Sometimes there is a swollen appearance recalling that of follicular conjunctivitis. There is usually medium vascularization around the cornea, with slight oedema and sometimes a swelling such as precedes a phlycten. On superficial examination the cornea appears normal, but with strong magnification there is a slightly milky appearance of the entire parenchyma, and careful observation discovers a large number of very small superficial ulcerations.
near the limbus. In a few cases there is a typical phlycten. The subjective symptoms are those of keratitis, photophobia, lacrimation definite but not excessive, blepharospasm, and reflex contraction of the pupil. Of 100 cases presenting these ocular symptoms which were examined by Dr. Niel, oto-rhino-laryngologist of Marseilles, 95 were found to have the following nasal lesions.

1. Acute rhinitis following coryza with or without hypertrophy of the turbinates, 30 per cent.
2. Atrophic rhinitis with or without ozoena 5 per cent.
3. Tertiary syphilis 7 per cent.
4. Maxillary or frontal sinusitis, acute or chronic, 13 per cent.
5. Polypi large enough to obstruct the lacrimo-nasal canal, 3 per cent.
6. Deviations of the septum with large spur obstructing the inferior meatus, 25 per cent.
7. Narrowing of the inferior meatus by application of the inferior turbinate against the lateral wall of the nasal fossa, 15 per cent.
8. Cicatricial lesions of the inferior meatus following resection of anterior portion of maxillary wall for cure of sinusitis, one case.

Treatment of the nasal lesions was consistently followed by improvement in the ocular condition without any special eye treatment. From bacteriological examinations made by Dr. Lemierre on a number of these cases the author concludes that the ocular symptoms are not due to extension through the lacrimal passages, and he considers that they are of nervous origin depending on the common innervation of the inferior meatus, conjunctiva and iris, the mucosa of the inferior meatus, and the anterior part of the septum, all being supplied by the nasal branch of the ophthalmic nerve. To test this theory he thoroughly cocainized the inferior meatus of a healthy subject and then touched it with 2 per cent. solution of nitrate of silver, with the result that, without producing any sensation of burning in the nose, it almost immediately caused slight hyperaemia of the limbus and bulbar conjunctiva.

W. C. SOUTER.


(3) In the period from December 1, 1914, to September 15, 1917, at the Ophthalmic Centre for the 15th Region, Poulard had to deal
with a large number of eye cases, and in the present paper he concerns himself with only serious eye wounds, all degrees of penetrating wounds from simple perforation by a fine chip to complete pulping of the eye by large masses of metal. Among these cases nearly half had been already enucleated for fear of sympathetic ophthalmia before arrival at his charge. Classification of eyes not enucleated:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destruction, pulping, by wound</td>
<td>76 cases</td>
</tr>
<tr>
<td>Intraocular foreign body still present</td>
<td>24 &quot;</td>
</tr>
<tr>
<td>Globe passing to atrophy but quiet</td>
<td>65 &quot;</td>
</tr>
<tr>
<td>Globe keeps its shape and stability—</td>
<td></td>
</tr>
<tr>
<td>(a) with poor vision</td>
<td>98</td>
</tr>
<tr>
<td>(b) with good vision and, generally, adherent leucoma</td>
<td>67</td>
</tr>
<tr>
<td>—</td>
<td>165 &quot;</td>
</tr>
<tr>
<td>Irido-cyclitis cases, anterior segment ablation performed, usually with curettage</td>
<td>119 &quot;</td>
</tr>
<tr>
<td>Total cases with penetrating wound</td>
<td>858 &quot;</td>
</tr>
<tr>
<td>Preventive enucleations</td>
<td>414 &quot;</td>
</tr>
<tr>
<td>Not enucleated</td>
<td>444 &quot;</td>
</tr>
</tbody>
</table>

In all these cases sympathetic ophthalmia has been found only once, and that was in a man (Lt. D.) who had had a preventive enucleation four months previously. The figures given are for cases that have been fully investigated, but if all cases were considered the numbers would be:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetrating wounds of globe</td>
<td>1,052 cases</td>
</tr>
<tr>
<td>Sympathetic ophthalmia</td>
<td>1 case</td>
</tr>
</tbody>
</table>

Poulard draws attention to the fact that Morax can record only 14 cases of serious sympathetic ophthalmia in a total number of cases of about 20,000—not so frequent a danger as is usually supposed.

W. C. SOUTER.


(4) In October, 1914, a youth, aged 15 years, developed double pneumonia and left empyema, from which he made a good recovery. In May, 1915, he suffered from an attack of acute nephritis. Later in the course of the month he was found to have albuminuric retinitis.
In September, 1922, the urine contained 6.5 grammes of albumen to the litre. In the same month the fundi were found to be normal. However, two days later he became unconscious and died. The most interesting points in the case are: (1) The disappearance of the retinitis, and (2) the return to health good enough to work for over six years.

S.S.

(5) Bichon, Dr. A. (Angers).—Bilateral and symmetrical abscess of the cornea in the course of pneumonia. (Abscés de la cornée bilateral et symétrique au cours d'une pneumonie.) Arch. d’Ophtal., Feb. 1921.

(5) Bichon’s patient was a man of 39 years of age who had an attack of right pneumonia. On the third day of the illness the right eye became painful and watered. Three days later the left eye was affected, but with much greater severity. The doctor, under whose care he was, treated the eyes with hot compresses and atropin. A month after the onset of the disease the patient was brought to see Bichon. The right eye then showed a moderate circumcorneal injection with corneal ulceration and a small intra-corneal abscess surrounded by diffuse infiltration; no hypopyon. The condition of the left eye was similar but much worse, and the intra-corneal abscess was widely spread through the corneal lamellae. The lacrimal passages were healthy. Bacteriological examination showed pneumococci associated with staphylococci and Weeks’ bacillus. In spite of energetic treatment the left eye gave way over a large area of the cornea and had to be excised. The right eye healed with a paracentral nebula and vision, after correction, of 3/10.

E. E. H.

(6) MacCallan, A. F., and Dolbey, Robert (Egypt).—A case of bilateral Exophthalmos caused by lymphatic oedema of the orbital tissues. Lancet, November, 1922.

(6) This patient’s exophthalmos was recognised as being of central origin. An extensive craniectomy was followed by death, and an autopsy was obtained. The whole pia-arachnoid was found to be much thickened, the base of the brain covered with firm adhesions, the optic tract enveloped with organised plastic lymph, and the frontal and parietal lobes, especially on the left side, much flattened. Yet at no time had there been any involvement of speech or hearing, though there had been complete loss of taste and of smell in the left nostril. The orbital tissues were very oedematous. The lateral ventricles and choroid plexuses were normal. There were nowhere signs of meningeal tubercle.
The conclusion arrived at was that this condition originated probably in an attack of cerebro-spinal fever some years previously which had cleared up and left a thickened pia-arachnoid which interfered with the return flow of lymph from the orbit.

ERNEST THOMSON.

V.—REMEDIES


(1) Lundsgaard maintains that practically all cases of primary tuberculosis of the conjunctiva are of endogenous origin. In twenty-five examples of the so-called primary cases he has never found tuberculosis elsewhere than in the eye. He has direct information from twelve of the patients who have been under treatment for periods varying from two to sixteen years, but, of course, this does not imply that they may not have small foci of disease in some other part of the body, for practically everybody has. Before they were treated by Finsen light all had ulcerating glands, although the results of auscultation were negative.

S.S.


(2) Joux concludes with Müller, Darier, van Lint, Amat, Pillat, and others that, without affecting sensibly the general state of the patient, gonococcal conjunctivitis is happily influenced as regards its duration, its evolution, and its consequences by injections of milk; these should be always associated with the classical treatment by silver (Pillat, Lindblad), and if of themselves they do not furnish a sterilisatio magna, they at least constitute a powerful adjuvant means of treatment of which the medical man can “and should” (Purtscher) avail himself in the treatment of this redoubtable affection. In order to be efficacious this treatment should be begun as early as possible, to allow of the rapid hatching of proteolytic ferments in the blood; in the contrary event we merely help the purulent loss of the eye, but only in a conjunctivitis of four days’ duration that has been neglected by the patient. It may be added that injections of milk have no action on ophthalmia neonatorum (gonococcal).

S.S.
(3) Jocqs, R.—Two cases of gonococcal conjunctivitis of which one was followed by iritis, treated and cured by injections of milk. (Deux cas de conjonctivite gonococcique dont un suivi d'iritis traités et guéris par les injections de lait.) La Clin. Ophtal., Sept., 1923.

(3) Jocqs recounts two cases of gonococcal conjunctivitis treated successfully by injections of milk. (1). A patient, aged sixteen years, suffering from gonorrhoea, with purulent ophthalmia of one eye, of six days' duration. Gonococci in conjunctival discharge. April 1.—5 c.c. of sterilized milk injected parenterally. April 3.—Improvement. A second injection given. April 5.—Condition much better. A third injection of milk made. On April 7 the bulbar conjunctiva was still much reddened, but the discharge was lessened. The injections were discontinued, but argyrol was used several times a day. On December 5 the patient came complaining of his eye, which, upon examination, was found to be affected with iritis. The pupil did not respond to atropin, and on December 16 milk was again injected, after which pain was reduced and mydriasis was better marked. On December 19 another injection was given, and still another on December 22. On January 8 the case was regarded as cured. (2). A patient, aged 24 years, suffered from gonorrhoea and intense conjunctivitis of both eyes, of some days’ duration. Ulceration of the cornea. 5 c.c. of milk injected, and argyrol applied to the eyes several times a day. Two days later improvement; a second injection made. Seven days after the first injection, although inflammatory appearances had almost disappeared, another injection was made. The patient was then looked upon as cured. The ulcerated cornea was cicatrized. Jocqs concludes that injections of milk constitute a “marvellous remedy” in the treatment of both gonococcal conjunctivitis and urethritis. As local treatment he recommends the free use of argyrol or protargol.

S.S.


(4) MacEnri reports three cases of hypopyon-keratitis treated by parenteral injections of milk. Briefly, Case 1 was in a man, aged 35 years, who had already lost one eye from a similar affection. The remaining eye showed an ulcer of the cornea, pus in the anterior chamber, and posterior synechiae. After failure of the usual remedies, 5 c.c. of milk were injected into the muscles of the flank, and this amount was gradually increased to
8 c.c. Six or seven hours after each injection the temperature rose, and there were rigors and malaise. After the second injection the eye gradually improved. At the end of three weeks the patient left hospital, the keratitis being then cured, but the sight was enfeebled in consequence of occlusion of the pupil. The second case occurred in a man of thirty years, who was at once treated by milk in addition to fomentations, dionin, and antiseptic ointment. In the third case, in a man of 28 years, injections of milk produced no good result. The condition, associated with a diplobacillus, was cured by zinc sulphate.

MacEnri has found that milk that was not too fresh (milk of the day before it is used) acts better than fresh milk.

S.S.


(5) **Dufour**, who has used subconjunctival injections for thirty years, relates the conclusions he has reached. (1). The injection is best made at a distance of from 10 to 15 mm. from the limbus, and not, as at first recommended, as far as possible from the corneal border. The nasal side, however, should be avoided, inasmuch as injection there is apt to produce marked and lasting chemosis. (2). Formerly a small quantity of a strong solution was used, but now the author injects a larger quantity of a weaker solution. Thus, 0.5 to 1.2 per cent. instead of 2 to 10 per cent. of sodium chloride; 1:5,000 to 1:10,000 sublimate in place of 1:2,000; 1:3,000 to 1:10,000 instead of 1:1,000 mercury cyanide. The longer the duration of the eye mischief, the weaker the dose employed. To mercurial solutions Dufour always adds 2 per cent. of sodium chloride, since he finds that mercurial salts act more rapidly and better when given in that way. (3). As a rule, it is useless to persevere if eight injections fail to better matters, an exception being detachment of the retina. (4). To lessen the pain attending or following injection, the liquid employed should be warmed to 36° or 38° C. One part of a 1 per cent. solution of acine may be added to three parts of mercury cyanide in sodium chloride. If sublimate must be used, novocain 1 or 2 per cent. should be injected five minutes before the medicament is applied. Aspirin, codein, or morphia may be used to prevent post-operative pain. (5). Dufour prefers to apply the remedy while the patient is in bed, and then to use cold compresses for ten minutes, and a bandage covering both eyes for two hours, and to keep the eye operated on covered for twenty-four hours, followed by semi-darkness and rest in bed for twelve hours.
When all is said and done, however, local and general means must not be neglected, as subconjunctival injection is merely an auxiliary method of treatment, although a very valuable one.

S. S.

BOOK NOTICES


This publication was merged with other publications to form the American Journal of Ophthalmology in 1918 (Vol. XIV). In order to meet with post office requirements volumes 15, 16, 17, and 18, which were issued in quarterly parts, were published under the name of Ophthalmic Literature. With the year 1923, the original form of an annual volume is resumed, under the original title. This volume brings the references up to those included in the current literature for December, 1922. On account of the reversion from quarterly to annual arrangement, the volume includes the literature of some subjects for a whole year, of others for only part of a year. The chapter on Comparative Ophthalmology covers the period since 1916.

It is very pleasing to welcome the return of the familiar old volume. The use of a larger sheet somewhat alters the shape, but in other respects the volume is more than worthy to go with its predecessors; we can suggest no higher praise.

In the general table of contents the various chapters are arranged as follows:

General methods of diagnosis; therapeutics; operations; physiologic optics; anomalies of refraction and accommodation; ocular movements; the conjunctiva; the cornea and sclera; anterior chamber and pupil; the uveal tract; sympathetic disease; glaucoma; the crystalline lens; the vitreous humour; the retina; toxic amblyopia; the optic nerve; visual tracts and centres; colour vision; defects and diseases of the eyeball; the lacrimal apparatus; diseases of the lids; diseases of the orbit; tumours; parasites; injuries of eyeball and adjacent parts; general pathology; general and extraocular diseases; comparative ophthalmology; hygiene and prophylaxis; ophthalmic sociology; history, education and