serve on its Ophthalmic Committee. This the Council agreed to do, and Messrs. Fisher, Mayou and Juler were nominated for this duty. The British Medical Association has established a scheme of clinics on lines which are not universally approved, and other schemes are being actively discussed. The subject is receiving the constant attention of the Executive Committee.

*Report on Ophthalmia Neonatorum.*—Copies of this report have been circulated and brought to the notice of the County and Borough Authorities which deal with Maternity and Child Welfare.

*Report on the "Refraction Hospitals."*—This report has been received and is under consideration by the Executive Committee.

The Council desires to thank the Council of the Royal Society of Medicine for the use of rooms for meetings, and the National Committee for the Prevention of Blindness (U.S.A.) for continuing to send copies of its publications.

As in former years, the expenses of the Council have been defrayed by contributions from its members.

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**ABSTRACTS**

**I.—RETINA**

(1) Dubois, Hélène (Lausanne).—*Traumatic detachment of the retina and operative treatment.* (Décollements rétiniens traumatiques et traitement opératoire.: *Ann. d'Ocul.*, Vol. CLXV, p. 81, 1929.

(1) Dubois quotes the references to some of Gonin's writings from 1921 onwards in which complete and lasting recovery from retinal detachment is possible by operation (closure of holes in the retina). She points out that Gonin refers only once to detachments other than spontaneous. Traumatic detachments due to haemorrhage or oedema may be of better prognosis than spontaneous detachments, but detachments due to retinal tears from a violent concussion injury or to a cicatricial contraction after a penetrating injury are in a different category. Operation on a traumatic detachment with a hole in the retina is reported as having been successful after a single application of the thermocautery which produced closure of the rent. In this case there were no vitreous bands. Other cases are described, which were treated at the ophthalmic hospital in Lausanne, in which operation was not successful in restoring the retina completely to its position owing
to adhesions and cicatricial bands following penetrating wounds. The following conclusions are drawn:

(1) Traumatic detachments with retinal tears at the ora serrata are capable of rapid and complete recovery as in cases of spontaneous detachment.

(2) Traumatic detachments from cicatricial contraction, the result of minute foreign bodies are also of good prognosis.

(3) When the retinal holes are due to the traction of bands following penetration by a large foreign body or of penetration by a pointed instrument, recovery is unlikely.

HUMPHREY NEAME.

(2) Lindner, K. (Vienna).—On the results obtained up to the present in the treatment of detached retina by Gonin’s method.


Lindner reports on the results obtained in his clinic during 1929 by the use of Gonin’s method of treatment of retinal detachment, which aims at curing the condition by sealing the hole in the retina by means of the cautery. In all 42 cases came under observation, in 29 of whom one or more holes could be seen; of these 29 only 25 came to operation, and Lindner reports cure for no less than 11, thus giving a percentage of 44. But actually the results that can be obtained are better, for out of 25 only 14 were recent cases, i.e., of no more than six weeks duration, and of these 14, no fewer than 9 were cured, a percentage of 64. The time factor is a most important condition of success, for cases of longer standing than six weeks give progressively poorer results; out of 7 cases, ranging in duration between six weeks and nine months, ‘only two were cured, one case being of seven months’ standing and the other of four. The remaining four cases in Lindner’s series were of a duration ranging between one and six years; operation was a failure in all these four.

The other condition of success is the localisation of the hole in the retina. Lindner is convinced that tears in the retina exist in every case; where they cannot be seen they either lie too far forward or are covered by a fold. Where the hole cannot be demonstrated, Lindner operates on the assumption that the hole is present in that part of the detachment which appears to have formed first, though it is not always possible to be sure on this point. Of the 11 cases (in the series of 42) in which he could not localise the hole, 8 were submitted to operation, and of these 2 were cured. In Lindner’s experience one may assume that no recurrence of the detachment
will take place, if it has not come back within three weeks after the operation, though he saw a recurrence in one case six weeks after an apparently successful operation. Altogether the author has 15 cases of cured detachment, 6 of whom have now been well for over six months.

Some points in the technique of the operation are briefly mentioned, and a special method used by the author for mapping out the localised hole is also touched upon; a reference to a fuller description being given (Arch. f. Ophthal., Vol. CXXXIII, p. 233).

Arnold Sorsby.


(3) Since 1925 Meller has been treating cases of retinal detachment by ignipuncture, but differing radically from the operation advocated by Gonin, in not attempting to seal any hole that may be present in the retina. He has had 59 patients; 41 eyes showed detachment and 50 ignipunctures were performed. Only five patients were cured, in three of whom the retina has now been re-attached and functioning for over four years, in one for two years, and in the remaining one for over a year. Of these five cases four were myopes, constituting a rather higher rate than was seen in the series as a whole, in which myopia was present in 56 per cent. of the cases.

Meller has not had much success with his attempts to seal the hole in the retina. That it is present, and that it is a primary cause of the detachment he does not doubt, but he points out the great difficulties in hitting on the hole with the cautery. Apart from the problem of finding the corresponding scleral point for any localised retinal hole, there is also the complicating factor, that the escape of subretinal fluid as a result of the scleral incision, prior to plunging in the cautery, must disturb the position of the hole. And yet the hole in the retina is apparently the primary cause of the detachment. Meller found a hole in 66 per cent. of those cases that came to him within four weeks of the onset of the detachment; this high percentage falls steadily with the greater duration of the lesion. In cases seen within two months it had declined to 57 per cent.; to 40 per cent. in cases of over two months and under six; and after the detachment has been present for six months a hole could be seen in only 28.5 per cent. If the hole were a secondary effect due to contraction and shrinking of the detached tissue, its frequency would increase and not decrease with the greater duration of the lesion. That holes are less frequent in cases of long
standing must not be taken to imply that healing takes place; there is no evidence for such a view. It is more likely that the hole becomes hidden by a fold, as was indeed demonstrated in a case of the author, where ignipuncture produced a flattening of the detachment and revealed a hole previously not seen. Whilst Meller does not exclude the existence of holes as secondary features due to shrinking, he sees further evidence as to the primary nature of holes in the facts that the premonitory symptoms of detachment are often associated with small vitreous and retinal haemorrhages, and also that when a detachment re-forms after ignipuncture, it can be seen to begin at the tear in the retina.

The closure of the hole would therefore seem to be an essential part of a successful operation, and Meller is indeed struck by the difference in the results he obtains when the hole is hit upon by the cautery. He discusses the different methods by which this could be achieved, such as using a large-pointed cautery, instead of the very fine one generally employed, or by guiding the point in different directions, or cautering for a longer period of time than the one second generally allowed. The disadvantages of a larger scar would appear to lie in the possibility of the scar itself acting as a cause of detachment, for even the minute scar due to a point cautery can cause radial folds around it, and lead to serious consequences. Yet two cases with large scars, one Lindner's and the other the author's, have done well. The author's case was one in which the large scar was accidental; it followed on a profuse haemorrhage in the vitreous, after ignipuncture. But whether the sealing of the hole is the primary cause of success in operation is still an open question. The most important contributory factor is probably the smoothing out and relaxation of the detached retina. This view would explain why Deutschmann gets successful results by a procedure exactly the contrary to Gonin's, for Deutschmann makes holes in the retina by one or more incisions. It is possible that a satisfactorily reposed retina will become re-attached and any hole present obliterated by adhesion to the underlying tissue. But on the whole Meller leans toward Gonin's view.

Meller also discusses the danger of profuse haemorrhage as a result of these operations, bleeding being less likely in employing cautery than in using the knife. One case of immediate bleeding did very well, the haemorrhage helping to close the hole in the retina; late bleeding occurred in four cases, and they all did badly. In one case a curious accident happened; the cautery hit on a branch of the central vein, and produced thrombosis in it, but ultimately circulation became restored.

Though the author sees much evidence to support Gonin's theory, he does nevertheless hold that some cases of detachment
are not due to retinal tears, but are caused by inflammatory exudates, which lift and detach the retina. Choroiditis, in his opinion, does not infrequently lead to these serous detachments, and in one case where the lesion was clearly secondary to choroiditis, diagnosed as of tuberculous nature, conservative treatment with anti-tuberculous measures gave "an excellent result."

ARNOLD SORSBY.


(4) After a brief résumé of his ten years work on detachment and its treatment, and of the recent method of Gonin, Sourdille considers at length the question of the rôle of the ruptures so frequently seen. von Graefe who first recorded them considered that they were accidental, produced by the pressure of the sub-retinal fluid, on an already diseased retina. Leber as a result of his observations in a case of a patient with a foreign body in the globe who developed vitreous bands, was led to perform some experiments on animals, and formulated his "théorie de l'attraction." The vitreous bands by contraction tore a hole in the retina, and allowed the vitreous to detach the inner from the outer layers. Later Leber renounced this theory, but evolved one in which numerous pre-retinal bands of extreme tenuity were responsible for the ruptures.

Many objections to these two theories were noted in papers on the subject. In 1920 Gonin revived the second of the two ideas as a result of the pathological investigation of eyes which had been the subject of detachment for a long period, and later enucleated. Sourdille considers that these bands are the result of degeneration, and would not be found in the early stage. He points out that Vogt could find no bands in the vitreous in his examination of numerous eyes with retinal detachment. He quotes Weekers who in 1925 produced experimentally retinal detachments in rabbits by means of the superficial application of the cautery, and who found retinal tears in some only, and considered that they resulted in those cases in which the detachment was rapid and forceful, and that they had nothing to do with the condition of the vitreous.

Sourdille has noticed that in recent detachments there is a higher percentage of tears than in old detachments, and considers that some of them close themselves, but notes that this does not necessarily cure the detachment.

The method which Sourdille has used for many years with great
success depends on the acknowledged clinical fact that there is fluid in between the layers of the retina. This must be removed, and the retina pegged down at certain points. The fluid can be evacuated outside the globe or into the vitreous; hence the presence of a tear is no disadvantage, and in fact the detached layers of retina are perforated again to facilitate this evacuation.

The method has three main stages.

1. Puncture of the sclero-retina in the centre and each side of the detachment with a narrow knife, a centimetre of the blade at least being introduced to perforate the retina.

2. Production of a reaction sufficient to produce adhesion of the retina and choroid, either by a very fine cautery in shallow detachments, or by the injection of cyanide of mercury in deeper ones.

3. Immobilisation of the patient in the position which will most satisfactorily help replacement of the detached retina: half sitting for the lower detachments, on the side for the lateral ones, etc.

Sourdille deprecates the very violent reaction of a larger cautery in the vitreous, as it is liable when the scar forms to cause a further detachment by bands, and he quotes Gonin who in 1921, pointed out that the vitreous is liable to be damaged by the cautery, and a detachment appear at the opposite pole of the globe.

After a review of the cases operated on by Gonin's method, Sourdille gives his own figures for his cases since 1923, and in conclusion he gives as his opinion that the cures by Gonin's method are not due to a closure of the hole, but because the method has produced a sufficient reaction in the choroid to provoke adhesions, and he points out that his own figures of cures have been obtained in spite of the fact that he not only does not close the hole which may or may not be present, but that he makes fresh ones.

O. Gayer Morgan.

II.—THERAPEUTICS

(1) King, Clarence (Cincinnati).—The therapeutic value of tuberculin in ophthalmology. Arch. of Ophthal., June, 1929.

(1) King's paper gives a fairly comprehensive survey of the literature on this subject and an account of his own experiences with thirty-seven cases of ocular tuberculosis, some of them observed over a period of years. That the administration of tuberculin is not such a simple matter as some would think, is evidenced...
by a quotation from Ranke "It is possible by tuberculin to change
a relative beneficent immunity into the specific toxin hyper-
sensitiveness of the immune." In other words, its use does not
imply the introduction of a protective agent, but rather the pro-
voking of a disease. In spite of these statements, however, Ranke
held that the proper therapeutic use of tuberculin was only a matter
of time. Numerous studies have been made on the subject. von
Hippel in 1914 was relatively optimistic in that he reported 75 per
cent. of 243 patients as being cured by its use. Bernheimer found
that in tuberculous keratitis, during the 6 years when specific
therapy was employed there were 20 per cent. of recurrences,
whereas in the previous five years, when tuberculin was not used,
they amounted to 50 per cent. Hertel as a result of a survey of
cases concluded that the general average therapeutic effectiveness
of tuberculin as contrasted with non-specific treatment, amounted
to 20 per cent. Hess on the other hand found that tuberculin was
devoid of influence on ocular tuberculosis and Gilbert in the
Graefe-Saemisch "Handbuch" displayed a similar pessimism.
There are many more authorities quoted, some in favour of and
others against the use of tuberculin. The matter has also been
tackled from the experimental side. Hertel, who summarised the
results of other workers, concluded that it was not possible to
effect a cure with tuberculin in ocular tuberculosis experimentally
produced by inoculation. The author feels, however, that these
results are not significant because there is no parity between
primary inoculation in a non-infected animal and ocular tuber-
culosis in man, as ordinarily encountered. The latter is usually
due to metastasis and variations in the resulting lesion are depen-
dent on the allergic state of the patient at the time of the metastasis.
As a result of his personal experience, King is convinced that after
treatment with tuberculin, a large proportion of his patients have
been able to pursue occupations involving strenuous use of their
eyes, whereas before, they were disabled by frequent recurrences.
Tuberculin is not, however, suitable for all types of cases and is
regarded by Werdenberg as being contraindicated in the highly
allergic exudative lesions occurring in the stage of hypersensitive-
ness, but as indicated in the nodular proliferative, slightly
allergic lesions with diminished hypersensitivity. Stock on the
other hand advocates empiricism and maintains that the competent
clinician will intuitively resort to the proper treatment after careful
observation. From the diagnostic standpoint, it is worthy of note
that X-ray examination yields positive evidence of tuberculosis of
the pleura in all cases of ocular involvement. With regard to
the types of tuberculin, the author considers Toenniessin's tebe-
protein as having distinct advantages over other varieties, in that
it is ten times less toxic and has a much greater specific effectiveness. It is also said to be a pure chemical substance, soluble, uniform and susceptible of exact dosage. The diagnostic dose is 0.1 mg. and the initial therapeutic dose 0.001 mg. It is in routine use at Meller's clinic.

F. A. W.-N.

(2) Young, George (Colchester).—An obstinate case of chronic infection of the conjunctivae from bacillus xerosis. Arch. of Ophthal., June, 1929.

(2) Young reports an interesting case of chronic conjunctivitis, in which the only organism present was b. xerosis, which was found in very large numbers. It was noticed that the cultures failed to grow on any medium that was slightly acid. All the usual lotions and drops were tried without any effect and the irritation produced by any acid was intolerable. Fresh lemon juice, however, in a strength of 1 or 2 per cent. did not cause irritation and the following prescription was eventually worked out.

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<thead>
<tr>
<th>Ingredient</th>
<th>Gm. or c.c.</th>
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<tr>
<td>Boric acid crystals</td>
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<tr>
<td>Sodium chloride</td>
<td>2.8</td>
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<tr>
<td>Filtered lemon juice</td>
<td>2.0</td>
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<tr>
<td>Suprarenaline (A + Co.)</td>
<td>2.0</td>
</tr>
<tr>
<td>Camphor water</td>
<td>50.0</td>
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<tr>
<td>Distilled water to make</td>
<td>200.0</td>
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S: to be used frequently, at least three times a day in an eyecup. The use of this lotion kept the conjunctivitis at bay and rendered the patient completely comfortable. On one occasion, citric acid was substituted for lemon juice with the result that the patient suffered agonies.

F. A. W.-N.

III.—MUSCLES


(1) The outstanding features of this syndrome, total or partial loss of vertical ocular movement, sometimes associated with paralysis of convergence, were first fully described in their clinical
aspects by Parinaud in 1883, although the condition had been noted earlier by other observers (Henoch, 1864; Priestley Smith, Wernicke, 1876).

In the partial form upward rotation alone may be limited and this variety seems from published observations to be the most common: limitation of downward movement alone is not very infrequent, and in the complete form there is simultaneous though not equal loss of all vertical movement.

In a long thoughtful paper the authors "far from attempting to solve many of the undetermined problems," discuss the syndrome and its associated and underlying conditions in the light of present day knowledge.

The clinical examination of these cases demands a careful technique, as described by the writers, by reason of the fact that in some instances the paralysis is one of voluntary movement while involuntary reflex movement is unaffected. This dissociation has been recorded by many observers and has led to much discussion concerning its pathogenesis.

While loss of vertical deviation may be an isolated symptom, it is frequently associated with other neurological signs, some of which have a notable localising value. Among these are loss of lateral ocular movement, loss of oculo-palpebral synergy, nuclear paralysis generally involving the third pair, hemiplegia with unilateral third nerve paralysis. Leri maintains that in almost all cases of paralysis of vertical movement the third pair of nerves are more or less affected. This statement is important, since if an actual fact, it supports the suggestion that in the majority of cases the causal lesion of Parinaud's syndrome is situated in the immediate neighbourhood of the third pair. The symptom indicating involvement of the third pair is diplopia. Hemianopia is an exceptional concomitant condition.

The results of post-mortem examinations hitherto made are of unequal value, the majority having been only macroscopic and very incomplete. Moreover, in several of the recorded cases a neoplasm has been found, often so widespread as to render localisation impracticable.

In the greater number, however, lesions have been found involving the corpora quadrigemina or the immediately adjoining structures, less commonly the optic layer and the region of the aqueduct of Sylvius, the peduncle, the nucleus of the third pair, and the pons. It is noteworthy that in a certain number of cases the corpora quadrigemina were intact, and the opinion is held that the rôle of the corpora in associated movements of the eyes is very uncertain. Bernheimer has shown that such movements can be excited by stimulation of the cortex after destruction of the corpora
quadrigemina, and Ferrier and Turner are of opinion that lesions of these bodies give rise only to transient disturbances.

The complexity of vertical movements including as they do voluntary, associated, and automatic movements, differing both physiologically and phylogenetically, is obvious. It is logical to assume that the lesion which determines paralysis of such movements, singly or grouped, does not invariably occupy the same site. It seems equally reasonable to admit that paralysis of automatic movement is dependent upon a lesion which isolates the nuclear or paranuclear centres from the various centres of reflex excitation (optic, acoustic, labyrinthine, cervical, tactile); and that paralysis of voluntary movement arises from interruption of the connections between the oculo-motor nuclei and the cortex, such interruption being very probably bilateral. This hypothesis, for it is no more than an hypothesis, requires confirmation by clinical and anatomical examinations conducted with meticulous care and accuracy.

J. B. Lawford.

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BOOK NOTICES


Having read this book through with great interest the reviewer may state that it is possible to learn all about trachoma from this well-printed and well-illustrated volume, which is sold for eight or nine shillings. It is well documented, and sufficiently up to date to refer to the discussions on trachoma at the International Ophthalmological Congress at Amsterdam in September last.

Cuénod and his assistant, Nataf, have studied the disease in Tunis for many years, where its ubiquity resembles the conditions in Egypt. Cuénod is well known from his association with Charles Nicolle, the Director of the Pasteur Institute at Tunis, in important experimental work on the production of trachoma in monkeys.

The clinical description of the various forms of the disease is very good. It is based on MacCallan's classification of the stages of trachoma. Trachomatous granulations of the superior convexity of the cornea, and their resulting depressed scars, are attributed to another than Herbert, for their first description. It will be remembered that a full description of this condition was given by Herbert in the Transactions of the Ophthalmological Society of the United Kingdom for 1904.