shaped crystals of uric acid, with a very small number of fibrinous casts of the tubules. The crystals present a linear arrangement, of the size of a kidney-tubule, and were closely packed, as if formed in the tubules before being discharged. The child was much better, though still with a poor appetite.

℞ Tincturæ ferri muriatis 3ij; syr. glycyrrh. 3j; inf. quassiae 3v. M. Sumat 3ij ter die.

Repetatur pulvis.

Tonics, as the syrup of iodide of iron and cod-liver oil, were continued a little longer without a relapse, until the cure was established.

SOUTH LONDON OPHTHALMIC HOSPITAL.

TRAUMATIC OPHTHALMITIS: ABSCESS IN THE
VITREOUS CHAMBER: DETACHMENT OF
RETINA: REMOVAL OF EYEBALL.

Under the care of J. ZACHARIAH LAURENCE, Esq.

A LITTLE boy, five years of age, was brought to the South London Ophthalmic Hospital on April 14th, 1860. On the afternoon of the 11th, he was watching a man shooting for nuts at a target at Stepney fair, when he received the charge of the gun on his left eye. This charge consisted of a piece of steel wire about an inch long, sharpened to a point, and mounted into a piece of cane. The boy said the wire struck him just below the lower eyelid; but there could not be discovered any traces of the injury there. On the upper part of the cornea, however, was evidence of a wound in the shape of a white cicatrix. The cornea generally was somewhat cloudy; the pupil was one confused hazy disk, completely obscuring the deeper structures. The external tunics are highly injected. There was great lachrymation, intolerance of light, and some pain. Mr. Laurence wished to take the boy into the hospital, but the friends preferred his being treated as an out-patient. He was ordered leeches to the temple, warm fomentations, and belladonna ointment round the eye. By the 18th, the cornea had cleared; but the anterior chamber was centrally occupied by an opalescent substance, which concealed all but the external margin of the iris. Slight swelling of the eyelids and chemosis had ensued. His bowels being costive, he was ordered two grains of calomel and a scruple of rhubarb immediately. The warm fomentations were continued.

On the 21st, the boy was again brought to the hospital. The case had now assumed a most formidable appearance. The eyelids were swollen out into a protruding tumour of the size of a small Tangerine orange; they were tense, glossy, and livid. The narrow interval between the two eyelids was occupied by fluid and dried pus, in the midst of which the cornea could be partially seen. The patient was put under chloroform. Mr. Laurence, in the first instance, made several exploratory punctures around the eyeball into various parts of the orbit, cutting into the conjunctiva; this was found to be extraordinarily thickened, and of a brawny consistence, by interstitial deposit of plastic matter. The eye having in this way been partially peeled of its shell of hard chemosed conjunctiva, it became evident that the eyeball was itself greatly enlarged (to about the size of an agate marble), and moreover presented to the touch an unusual degree of elastic tension. Mr. Laurence therefore cautiously explored it with the point of a bistoury; and, some pus exuding, the incision was at once enlarged, and very nearly two drachms of thick yellow pus evacuated; and at last a membranous body, like an hydatid, stained and infiltrated with pus, shot out. The eyeball being thus completely disorganised, Mr. Laurence deemed it advisable to remove it. The operation-wound very soon granulated up.

Dr. Bader, of the Royal London Ophthalmic Hospital,

examined the eyeball. He stated that the hydatid-like body was "the pus-infiltrated retina"; further, that "a thick layer of lymph was deposited upon the whole of the inner surface of the choroid; the latter was sacculent, and thickened by greyish films of fibrine. The sclerotic was thickened, and numerous adhesions must have existed between it and the orbital tissue."

The above is a case of that inflammation of all the textures of the eye which is known to oculists as *ophthalmitis*, and is one of those rare instances of eye-disease which may actually kill the patient. Mackenzie, in his elaborate *Treatise on the Eye*, says that, "if the eye is not opened, the patient is apt to fall into a state of coma, from which he does not recover." In a fatal case, the morbid changes in and around the eyeball were very similar to those observed in the present instance. There, too, "the inner surface of the choroid presented traces of fibrinous effusion, and was completely detached from the retina by a collection of purulent matter." Mackenzie further states that "the causes of idiopathic ophthalmitis are often obscure; slight injuries, such as simple puncture, may produce the disease in some particular states of the constitution." In our case, nothing unusual could be found either in the patient's constitution or previous health. Ophthalmitis of febrile, phlebotic, or pyæmic origin, is the most common form of the disease. Cases of such strictly traumatic origin as the present are comparatively rare, and, as such, present an opportunity of studying the disease under its most simple form.

It may be very fairly asked, Why was not the treatment of the first stages of this case of a more active description; and more especially why was not mercury administered? Had the case from the first been treated in hospital, where its daily progress might have been watched, and its treatment modified accordingly, a more energetic course would have been adopted; but, under the circumstances of the case, this was impossible. Moreover, the symptoms of ophthalmitis appeared to have only really commenced on the 19th, and to have already reached their climax by the 21st, when the globe was so disorganised as to call for its removal.

Original Communications.

NOTE ON A SEQUELA OF INFANTILE PURULENT OPHTHALMIA; AND A CAUSE OF EPIPHORA NOT PRE- VIOUSLY NOTICED.

By J. VOSE SOLOMON, F.R.C.S., Surgeon to the
Birmingham and Midland Counties
Eye Institution.

SURGEONS who have seen much of the ophthalmia of new-born infants in private practice, must have been sometimes perplexed at the report of the mother or nurse of the continuance or reappearance of the purulent secretion after the conjunctiva of the lids had recovered completely, or to a great extent, its tone. This occurrence has not been noticed by systematic writers; nor has the cause to which it is referrible been remarked upon by recent contributors to the pathology of epiphora.

I have made out that the source of the purulent secretion is the tear-sac, and not the eyelids or canaliculi, the disease having travelled thither by continuity of surface. The local astringents employed against the lid-affection had proved equal to the removal of the ophthalmia from the parts which were freely exposed to their action; but had failed, owing to the obstacle offered by the anatomical arrangement of the excreting tear-apparatus, to correct the disease of the mucous lining of the sac.

During the past year—1860—six cases have come under my care which were illustrative of this practical point. They show also that epiphora of apparently congenital origin is due to other causes than insufficient development of the osseous parietes of the tear-canal, or hereditary predisposition.

The subjects of the disease were healthy, but diathetically strumous. In one, an infant of eight months, in whom there were grounds for suspecting a syphilitic taint, acute abscess of the sac threatened; it was swollen, tense, and red. The canaliculus was slit while the child was under chloroform, and a probe was passed into the nasal duct, with the effect of removing the urgent symptoms in thirty-six hours. The five other cases were treated in the same way, with the addition of astringents. The attendants should be directed to press out the sac contents every two or three hours.

The duty of examining the condition of the tear-sac in all cases of infantile or adult purulent ophthalmia will not need, after what has been said, to be urged upon surgeons.

ON SORE-THROAT.

By THOMAS INMAN, M.D.Lond., Physician to the Liverpool Royal Infirmary.

THE subject of sore-throat is so familiar, that few think it now-a-days worth much consideration. Yet that it is so, the following observation will prove.

If we ask ourselves what we mean by the words sore-throat, the natural response is, "a throat which is sore"—but not content with this, we add, that the throat is sore because it is affected by inflammation or by ulceration; and we still farther localise our ideas, by saying that the affection is one of the tonsils or mucous membrane; so that the ultimate answer to the question is—"the throat is sore, because the mucous membrane is inflamed or ulcerated;" and as a result, all our remedial measures are directed to curing this abnormal condition, by astringent or stimulating gargles, the use of caustic, and the like.

But if we prosecute our investigation a little farther, we shall find that we have been contented with superficial information. "Why," we ask, "is inflammation and ulceration of the mucous membrane attended with soreness?" and "why do we have soreness, as in some forms of dysphagia, when such mucous affections are absent?" Again, we sometimes see the throat inflamed but not sore; and we most of us know practically, that when ulceration exists extensively, little pain is complained of except during the act of swallowing; this leads us to the idea, that the "soreness" is chiefly connected with, and dependent upon *deglutition*.

The only exception to this is in that condition of the throat to which the name of relaxation is given, in which we find that the act of swallowing positively gives relief. This I shall explain by and bye.

Having arrived thus far we have to inquire "why is deglutition so painful in cynanche?" The answer is readily given. The act is a muscular one, involving the associate contraction of the faucial and pharyngeal muscles, which are generally implicated by an extension of inflammation from the mucous membranes. But is it a fact, that muscles in contact with inflamed surfaces are commonly and painfully affected? Unquestionably; for we all know how severe is the affection of the intercostals in herpes zoster or in pleurisy, and of the abdominal muscles in cases of peritonitis. We know how acutely painful is muscular contraction near a goutily inflamed joint, or in acute rheumatism.

The idea being once started, that the pain in cynanche is *myalgic*, we next inquire whether it may not be produced by causes external to the pharynx; we turn to experience, and find that sore throat attends inflamma-

tion of the parotid. I have now repeatedly seen it attend myositis of the sterno-mastoid, in which case the spread of inflammation from this muscle to the pharynx, and ultimately to the mucous membrane of the throat, has been well marked.

We have dysphagia accompanying myalgia of the sterno-mastoid, sterno-thyroid, and sterno-hyoid muscles. We have sore throat from prolonged shouting, or speaking in a high key; and I have known a similar phenomenon from severe paroxysmal cough.

The pain of relaxed sore-throat is readily explained on the muscular hypothesis—for it clearly resembles that which is felt when the cremaster, being flabby and soft, is stretched to its utmost extent by the weight of the testicle. It arises from the constant drag on the levator and tensor palati, and is also temporarily relieved by pressing the soft palate firmly upwards with the finger or any hard substance. The contraction of these muscles, which occurs during deglutition, also renders their fibres more tense for a short period, and thus gives relief from the tiresome dragging pain.

The hypothesis I thus advance is not barren of practical results. If it be true that the chief sufferings in cynanche are due to the forced contraction of inflamed or irritated muscles, it follows that any irritating applications are likely to increase the pain. Do they act thus in reality? Certainly—we have seen a child with diphtheria, unable to swallow wine in any form, and even a weak solution of tincture of iron, without spasmodically rejecting a quantity through the nostrils, and almost screaming with pain, which was, from the fingers being driven into the ears in that direction, evidently referred to the attachment of the lingual, faucial, and pharyngeal muscles to the styloid process. Yet, this patient could readily swallow milk and other bland fluids without any suffering or muscular spasm. The application of nitrate of silver never gave her relief—she said it made her worse. Another patient, an adult lady, with scarlatina, ulceration of the throat, presented a similar phenomenon. She was equally unable to take wine without agonising pain—yet she could swallow barley water with ease and comfort, and all local applications of caustic solutions made her worse. The theory farther points to a new principal of local treatment, viz.—*we must try to relieve the irritability of the muscles, as well as to heal the mucous membrane*. Acting on this idea, I have used opiate epithems externally for some time, and a few weeks ago began to use laudanum and water as a gargle. The effects have surpassed my expectations, and no case could more fully corroborate my views, than the following. Mr. C. aged 30, after being much exposed to scarlatina, had ulcerated sore throat: this was so exquisitely painful, that he was unwilling to swallow anything; and he could not sleep, for he was constantly awaked by involuntary efforts of deglutition, which occurred as soon as he began to be oblivious; and he could not even speak intelligibly. I used no internal application whatever but a gargle of laudanum and water. He reported the effect as magical, for he was able both to speak and swallow comfortably as soon as he had finished gargling; the ulceration remained, the *soreness* had gone. He had only to repeat the application three times in all. The only adjunct I adopted was the use of iodine paint externally.

The effect of anodyne gargles is not merely to diminish the irritability of the muscles and the constant desire to swallow, which is so provoking an accompaniment of cynanche; they have also a sedative influence on the mucous membrane, and diminish the amount of its secretion, the abundance of which is so distressing in many cases; and in one remarkable case which came under my care, many years ago, in which there was general stomatitis as well as inflammation of the fauces and pharynx, total inability to swallow anything or to articulate, with a perpetual discharge of very dense mucus, the use of