

view which he has himself adopted. He believes that the auricular contraction precedes the ventricular, and is not accompanied by any appreciable sound; that the ventricular diastole is active, and produced not by a particular set of muscular fibres, but by the elasticity of the tissue of the heart, the want of which in the right ventricle is supplied by the atmospheric pressure during inspiration; that the first or long sound takes place during the contraction of the ventricles, the second during their dilatation; that both are produced, not by muscular contraction, but by the friction of the blood against the parietes of the heart; and that the impulse is produced, as the majority of physiologists have taught, by the contraction of the ventricles.

We need not enter into his examination of the opinions of Mr. Turner, and of Drs. Barry and Williams, as some of these have been already discussed in our pages, and others are too evidently absurd to require refutation. We cannot, however, altogether pass over the theory of Dr. Corrigan, the most recent, and probably the most important of all. The principal objection opposed to this theory by the author is, the circumstance of there being as great an interval between the pulsation of the extreme arteries, and that of the large trunks, as between that of the latter and the heart itself,—an indisputable fact, and one well deserving of attention, though certainly not of the weight, against Dr. Corrigan's theory, which the author gives to it, the strongest points of which he has not in the least invalidated; for a case which he mentions as "an additional evidence" against it, is no evidence at all. In this case, that of an old woman, subject for several years to severe cough, dyspnœa, and palpitation, there were two pulsations of the jugular veins to each arterial one; and although there was distinct "bruit de soufflet accompanying the double sound of the heart's action," owing, doubtless, to a patent state of the tricuspid valve, so that the blood in the venæ cavæ would be repulsed during the contraction both of the auricle and ventricle, the author supposes that there were two distinct contractions of the auricle, and as there was, of course, only one impulse, concludes, at once, that Dr. Corrigan is wrong in attributing this to the auricular

systole—a blunder which, from the good sense and judgment displayed in almost every other part of the work, we should certainly not have expected.

The sections on the use of auscultation as a means of detecting pregnancy and fractures, are very brief, and contain little or nothing from the author's own experience; and the cases, though well arranged and accompanied with judicious remarks, are calculated chiefly, if not entirely, for the use of the student. We may, therefore, here conclude our notice, by recommending Mr. Spittal's treatise to those who are unwilling, or unable, to peruse the more voluminous works on the same subject, as containing much useful information agreeably conveyed in a small compass.

ON
PURULENT OPHTHALMIA,
AND ITS TREATMENT WITH THE NITRATE
OF SILVER.

*By JOHN WALKER, Esq., Surgeon,
Manchester.*

PURULENT ophthalmia is universally admitted to be one of the most painful, uncontrollable, and destructive forms of inflammation to which the eye is subject, and may be considered nearly equally so, whether it occurs in infantile or adult age. The disease usually commences, as is well known, in the conjunctiva of the palpebræ, gradually extending over the conjunctiva covering the globe, and frequently implicating, also, the cornea and deeper-seated structures of the eye. In general it is attended with violent pain, which is often of a remittent character, affecting not only the eye and its appendages, but extending also to the head, with great distension and enlargement of the palpebræ, and profuse puriform discharge from the secreting surface of the conjunctiva.

As the treatment of purulent ophthalmia is the only object of the present remarks, nothing but what relates to this point will be introduced on this occasion. Every one, who has had moderate opportunities of witnessing this disease, will at once admit, that, in its severe forms, it is a very unmanageable one; and that it frequently runs through its course entirely unchecked by the most active antiphlogistic treatment, even when the patients affected with it are early seen. It is not surprising, therefore, that it should prove quite unavailing in those neglected cases which are too often seen, where the patients do not apply to the surgeon until

the last stage of the disease, when extensive sloughing of the cornea, staphyloma, or some other irremediable state of the eye, has occurred, and vision is probably gone.

No doubt, from observing how frequently the antiphlogistic plan of treatment failed in arresting the progress of this disease, when once fairly established, surgeons were led to look around them for other means, perhaps of an opposite nature; and from having observed the effects of powerful astringents in other diseases attended with discharges, they were led to adopt the use of these remedies in the one in question.

That considerable difference of opinion should exist, as to the relative merits of these two opposite modes of treatment, is not surprising. The extreme delicacy and irritability of the eye, in its ordinary state of health, seem to forbid us to apply anything to this organ possessed of the least irritating qualities. Many, therefore, look at a stimulating plan of treatment in these diseases with distrust, or even fear. Mr. Lawrence, who has had immense opportunities of observing diseases of the eye, and whose opinion, therefore, is entitled to great deference, expressly says, speaking of the use of powerful astringents in purulent ophthalmia—"I should be almost afraid to try them, and indeed very little inclined to make the experiment, because the means already described (antiphlogistic) deserve entire confidence."* Were this latter assertion found correct, there would certainly be no reason for using any other than the antiphlogistic plan, and probably any other would not have been sought after. Dr. Jacob also has lately written on the subject of stimulating applications to the eye, and almost goes so far as to think that the nitrate of silver could be entirely dispensed with, and I believe Mr. Lawrence has hazarded a similar assertion. Whatever weight we may be disposed to give to the opinions of these eminent surgeons, they will hardly be admitted to over-balance the authority of facts. I imagine there are very few surgeons who, having given to the nitrate of silver an impartial trial, and having properly selected their cases, will arrive at a conclusion which is so diametrically opposed to what I conceive to be a correct view of the case. I should rather say, that in the treatment of some morbid states of the eye, you might safely pass by all other remedies, and trust alone to this, the most valuable of all. The opinion here expressed on the efficacy of the nitrate must not be considered to have emanated from myself individually. I speak from facts which have come under my observation during my connexion with the Manchester Eye Institution, first as a pupil, and subsequently

during the time I have had the honour to be associated with its medical offices. The surgeons of this institution have long been in the habit of employing this remedy in various diseases of the eye; and it was from the circumstance of my having witnessed so many varieties of ophthalmic disease beneficially treated by this mean, that my attention was directed to the treatment of purulent ophthalmia in a similar way.

Nothing can more clearly prove the beneficial employment of a remedy than when you find, that in the space of a few hours after its use, the patient expresses himself so much relieved, that he is able to obtain the refreshing influence of sleep, after having been deprived of it for many days and nights. The plan of treatment pursued in the cases to be related was attended with this salutary consequence, and it must be at least admitted that this treatment may be employed with perfect safety, and therefore without fear.

It is possible that this mode of treatment may not apply to all cases. In some it may be prudent to combine the two modes, using the nitrate of silver after the previous employment of bleeding, &c.; and if this necessity should occur in any cases, it will probably be in those where the patient is early seen, and where there is great constitutional suffering.

Since my attention was directed to this subject, I have had an opportunity of perusing Mr. Mackenzie's practical and comprehensive work on the Diseases of the Eye. It gives me much pleasure to find, that he advocates, very forcibly, the use of the nitrate of silver in purulent ophthalmia. He recommends it in solution, in the proportion of four grains to the ounce of water, and this in the commencement of the disease. It appears to me, however, that if in a weak solution this remedy can be beneficially employed, it will be of much greater benefit applied in substance. I am not prepared to say that this will be in exact arithmetical proportion; however, I do think, that in severe cases it will be very much to be preferred to the solution, and has several advantages over it, independently of its greater strength, such as its greater facility of application, portability, &c.

From the great tendency to eversion of the eyelids, in almost all cases of purulent ophthalmia, no difficulty will be experienced in applying the nitrate of silver in substance to their internal surface. It is merely necessary to draw it lightly over the conjunctiva of the lids. More than this will not be required, except where there is ulceration of the cornea; it may then be applied to the ulcer, and will commonly prevent not only its extension over the surface of the cornea, but also the penetration of the

* See LANCET, vol. 9, p. 759.

anterior chamber, and consequent protrusion of the iris. In cases where it may be difficult to evert the lids, the solution of the nitrate may then be used, or the ointment recommended by Mr. Guthrie. It is stated by Mr. Mackenzie, that the nitrate of silver, when mixed with animal matter, soon becomes oxidised, so that if the ointment be used, it should be always recently prepared, otherwise it will lose much of its strength. I may be allowed to pass over very briefly the consideration of other means usually employed in the treatment of this disease, my more immediate object being that of recommending the above remedy, although certainly not to the entire exclusion of various other assistant means usually employed; such as great attention to cleanliness; freeing the eyes from the constantly-accumulating puriform secretion; counter-irritants, purgatives, &c. I should wish, however, strenuously to urge the superior importance of the nitrate of silver to all other remedies; and that equally so at whatever period of life it may occur.

I may be permitted in conclusion to remark how necessary it is to attend early to the treatment of these cases. How many poor objects are daily seen, where, from ignorance of the nature and destructive tendency of the disease, vision is totally lost in one or both eyes; where the friends of the patient have falsely imagined there was no danger; and where they have even been told by medical men that the disease was only a cold, and would soon be well! whilst some simple treatment has been recommended, incapable of effecting any-thing but the loss of valuable time,—when the disease, properly treated, might have been removed with little or no mischievous result.

I shall now relate the following cases, which I trust will clearly prove the propriety of what has been stated in the preceding observations:—

CASE 1.

Thomas Topping, æt. 62, admitted an out-patient of the Eye Institution, April 19, 1831. He complains of violent and continued pain in both eyes, with severe headache, and great intolerance of light. The eyelids are enormously swollen, are with difficulty opened, and attended with incessant puriform discharge,—the conjunctiva both of the lids and globe being intensely red, the latter being very prominent, and appearing raised above the cornea. In the left eye the cornea is in a sloughy state, and vision totally gone. The cornea of the right eye is unaffected.

The disease commenced in the left eye seven days before applying for relief, the right eye being attacked on the following day. He cannot assign any cause for the attack. He had not been exposed to cold

or wet, having been confined to the house two or three weeks previously from lameness. He was ordered to be bled from the arm, to have leeches to the eyelids, blisters behind the ears, cold lotion, purgatives, and to take *antim. tart. gr. ss.* every four or six hours, with the usual dietetic directions.

20. He is not at all relieved. The pain in both eyes and in the head is unabated; the swelling and puriform discharge undiminished. No impression having been made on the disease, and the patient's constitution seeming to forbid any further loss of blood, it was resolved to use the nitrate of silver, a pencil of which was passed along the inner surface of the eyelids in both eyes. He was directed to continue the cold lotion and aperients.

21. He expresses himself much relieved. He says that the pain from the nitrate of silver was not severe; that it produced only a smarting sensation of the lids, which went off in five or six hours. He also states that he would gladly have it repeated, as he was so effectually relieved that he slept last night five or six hours, whereas he had not slept one hour any night during the preceding week. The tumefaction and discharge are lessened. *Rep. arg. nitr.* Contin. med. After this time the nitrate was applied to both eyes daily for a week, the lens in the mean time escaping through the slough of the cornea of the left eye. To the right eye it was applied daily for a week or ten days longer, and afterwards every two or three days, until the tumefaction and puriform discharge had ceased. There was a considerable disposition to ulceration of the cornea also in this eye, two or three distinct ulcers occurring along the margin of the cornea, through one of which a protrusion of the iris took place; the nitrate of silver was of course applied to their surface, and with the effect of limiting the mischief.

July 5. He is free from any irritation. With the right eye he has regained sufficient vision to read and write. Upon the whole my decided impression is that this eye was saved only by the free use of this valuable agent.

The following case will clearly prove the value of this treatment in the more advanced stages of the disease:—

CASE 2.

Sarah Collier, æt. 32, from Bullock-Smithy, admitted July 2, 1831. In this case the complaint, which affects only the left eye, has existed about six weeks; during this time she has had bleeding both local and general, with various other remedies employed, without affording her much relief from her suffering. The conjunctiva of the lids, as well as the globe, is considerably injected, attended with puriform discharge, which, however, is much smaller in

quantity now than formerly. The cornea has evidently sloughed and evacuated some of the humours of the eye, but is now healed. The eyeball is sunk, and of course no vision exists. She complains of distressing pain, which has been present from the commencement of the disease, and is so great as to deprive her almost entirely of sleep. Apply the *arg. nitr.* Ordered a collym. of solut. of *cupri sulphas.* Pil. purg. p. r. n.

July 5. The eye is much easier, the discharge and injected appearance much diminished. Has been able to sleep soundly every night since the application of the above remedies. Rep. *arg. nitr.* Cont. med.

July 12. She is nearly well. The pain quite gone, and there is very little redness of the conjunctiva.

Princess Street, Manchester,

July 30, 1831.

ACCOUNT OF A REMARKABLE CHANGE IN THE APPEARANCE OF A

TAPE WORM.

By E. BARLOW, M.D.,

*One of the Physicians of the Bath
Hospital, &c.**

THE following communication may be interesting to those whose attention has been directed to the subject of intestinal worms. The natural history of the *tænia* seems to have been hitherto but imperfectly understood. All the accounts and descriptions apply to the worm as it appears when expelled from the body, yet there is reason to believe that the form and condition in the living state, are essentially different from what has been represented, and that this state has hitherto eluded the observation both of naturalists and physicians.

About a year ago, the following circumstance occurred to me: when about to leave the Bath United Hospital one day, one of the nurses hastened to show me a worm just voided at stool by a patient under discipline for acute rheumatism. It was such as I had never seen, being about five inches long, dark-coloured, flattened, yet with a convexity of surface, marked throughout with minute rings, gently swelling from the head to the body, and then gradually diminishing to the tail. Pressed for time, I directed it to be laid aside until the next day, and, for security, I saw it deposited in one of the bleeding porringers, covering it with water to prevent injury from desiccation, and consigning it to the special care of the apothecary's assistant. On examining the porringer next morning, I found, to my

astonishment, not the worm of the preceding day, such as I have described, but a large mass of unfolded tape worm, white, flat, jointed, and in all respects such as patients so often exhibit to their medical attendants after the successful operation of a vermifuge. My first impression was an unpleasant feeling of my own ignorance. I could not imagine but that I must have overlooked what naturalists had recorded, for it never occurred to me that a fact such as I witnessed could be unknown or unnoticed. My first resolve, therefore, was to supply my own deficiency, in full confidence that I should readily find the information I wished. My research, however, was vain, for I could no-where find descriptions or delineations of *tænia*, but such as applied solely to the unfolded worm. Thus disappointed, my next procedure was to make a drawing of the worm from memory, and to send this, together with a written account of the circumstance, to an intelligent friend well versed in natural history. But in this, too, I failed, for he could give me no additional information.

I would have afterwards called attention to the subject, by reporting the facts to some medical journal, but my original statement had been mislaid by the friend to whom I submitted it, and I had not leisure at the time for drawing it up afresh. It continued to occupy my thoughts, however, and I only awaited opportunity to make further inquiries. Perceiving, subsequently, in Dr. Hodgkin's catalogue of the museum at St. Thomas's Hospital, that he had paid attention to the subject of worms, it occurred to me to communicate with him; and I accordingly sent him a full and accurate account of what I had witnessed, accompanied with a drawing, and with such remarks as the occasion suggested. Of this communication I took no copy, which I now regret, as it would have saved me trouble in the present instance, and (was, if I recollect, rather more full than the brief sketch which I now present. It would gratify me to introduce here the Doctor's polite and interesting reply, but as it was a private communication, I do not feel myself at liberty to make such use of it without his express consent. One sentence only shall I extract, as tending to verify my statement, by showing that the same fact had been observed by another living witness. "On mentioning the circumstance to my friend Dr. Addison, he told me that he once took from a dead subject a worm in the state described by thee, and that having left it, a similar transformation took place." The confirmation of the fact, supplied by Dr. Addison's evidence, is valuable, and, perhaps, two such instances, separately observed and positively attested, might suf-

* Mid. Med. and Surg. Rep. Aug. slightly abridged.