serious and at times of fatal mischief. They have been the cause of infantile convulsions and consequent death; and surely in a diseased condition they may naturally be expected to interfere with the health of the adult, who is arrived at that period of life at which he is more at the mercy of their mischievous tendencies, though in his case the evil may proceed in a subtler form, and with a slower pace.

SOME ACCOUNT OF THE OPERATIONS PRACTISED IN THE NINETEENTH CENTURY FOR THE RELIEF OF TENSION OF THE EYEBALL, GLAUCOMA, ETC.

By JAMES VOSE SOLOMON, F.R.C.S., Surgeon to the Birmingham and Midland Eye Hospital.

[*Concluded from page 92 of last volume.*]

Diseased States in which the Operation has proved Useful. On March 1st, 1860, I operated upon a much disorganised and tense eye; and on the 31st, upon a case of near-sightedness (myopia), complicated by choroido-retinitis. The pupillary margin of the iris "was drawn slightly towards the lens, the other part of the membrane being arched forwards, except at its ciliary origin."

The effect upon the accommodation of the eye and congestive symptoms proved so remarkable, that I was encouraged to submit other myopic patients to a similar plan, and obtained markedly beneficial results.

The theory of treatment in this class of cases was based upon the opinion, at the time generally prevalent in England, and taught in the best text-books of physiology; namely, that the ciliary muscle consisted of a single set of fibres, which in direction were radial, and that the adjustment of the eye to near objects was effected by contraction of the muscle drawing the lens towards the cornea.

I argued thus: if I cut some of these fibres *across*, the muscle of the lens will be weakened, and the far point for reading will undergo an increase.

As my views upon this subject, with clinical illustrations, have been already given in the *Medical Times and Gazette* (vol. 1861-62), and will shortly appear in a separate form, it is unnecessary here to do more than notice that, in cases which I have had opportunity of following since the year 1860, the increase of accommodation for large and distant objects, as human features and landscape, has been most completely maintained*; while a very slight contraction has taken place in the reading distance.

In other words, the myopia, as regards distance, has been permanently improved and *arrested*; a slight progress only having occurred in respect to near objects.†

Another point of interest was presented in two cases of extreme myopia, who, having been much improved by the operation, resumed, after a time, the use of their deep concave spectacles for looking at near and far objects. In each instance, the near-sightedness returned to what it was before surgical treatment.

Do not these facts obtain interest from their relation to the mechanism which accommodates the eye to different distances? Are they not suggestive of the existence of some active agency by which the organ is adjusted for objects placed beyond twenty feet? The time, we would fain believe, is not remote, when a solution of some of the several problems connected with the subject of optical accommodation and refraction will be attempted by a recourse to intraocular myotomy in suitable cases.

A word of caution on the selection of cases. Instances of hypermetropia and astigmatism, diseases which are sometimes relieved by concave glasses, and which might, on cursory examination, be confounded with near-sightedness, must be carefully excluded from operation.

To proceed with the narrative. In the same year and month, I operated upon a case of *acute* choroiditis, complicated by great tension and myosis. The first two conditions were reduced by the treatment, and vision restored; and I would here repeat the opinion expressed at the meeting of the British Medical Association in London (1862); namely, that I am unacquainted with any "surgical measure, equally safe and easy of execution, which exerts the same amount of curative power in cases of subacute and chronic choroiditis," as intraocular myotomy.

In April 1860, I treated instances of glaucoma, with very satisfactory results. In the glaucomoid tension well known to practical ophthalmic surgeons, as occasionally following the operation of cataract extraction, where vitreous, even though small in quantity, has been lost, and the iris obliterated from view at the centre of the cicatrix, the operation under consideration removes the tension and restores clear vision. In one case, the tension was not completely overcome until after the incision was repeated, and slightly extended in length.

Previous to adopting this method, I made trial of division of the ciliary structures at a right angle with the cornea, selecting the point where they were continuous with the coloboma. In none, were the symptoms ameliorated; in two, so much aggravated as to suggest the expediency of an immediate enucleation of the globe.

I recommend that the intraocular myotomy should always include the base or pillars of the widest part of the iris. Mr. Teale (BRITISH MEDICAL JOURNAL, April 9th, 1864, page 404) appears to have practised, at the suggestion of Mr. Bowman, a somewhat similar, if not an identical, plan of treatment, in two cases in which exalted tension was consequent upon a needle operation for cataract. The first of Mr. Teale's cases occurred nearly a year *after* my papers had appeared in the *Medical Times and Gazette*.

In the glaucomoid state, which sometimes forms a sequela of violent injury to the eyeball, when complicated by dislocation of the lens deeply into the vitreous, no surgical treatment can be relied on as curative of the tension and prophylactic of the occurrence of sympathetic ophthalmia.

Discouraged by the results which I had witnessed in my own practice and that of others, I withheld all surgical interference in the last case that came under my care. The irritation subsided, and no serious sympathetic mischief followed in the fellow organ. The patient was nearly 60 years of age.

In May 1860, the operation—by removing tension from an eye in which the pupil was closed and the iris bossulated (synechia annularis)—cured a sympathetic irritation of the fellow organ, that had existed a year, and which, at the time of treatment, rendered the reading of small type impossible. (*Vide Medical Times and Gazette*, vol. 1861, p. 327.)

The case derived additional interest from showing that the irritation due to an exalted intraocular tension may be imparted to a sound eye.*

* Many writers consider the eye to be passive when viewing landscape, and that *accommodation* or adjustment only comes into play when near objects are viewed. They therefore object to speak of *accommodation* for distance.

† According to Donders, the natural tendency of myopia is to advance.

* This fact is, I believe, now (September 1864) conceded, *quoad* glaucoma, by the iridectomy school.

In the next year (1861), instances of conical cornea were submitted to treatment. The sides of the cone became more flat; when opacities were present, they underwent rapid absorption, and if superficial, disappeared. The vision was much improved. These results appear to point to an improved nutrition of the cornea, and a diminution of the secretion of aqueous humour, which, it will be remembered, is derived from the surface of the iris and tips of the ciliary processes —parts that are immediately implicated by the operation.

In regard to the treatment of nearsightedness by the procedure under discussion, I cannot, Mr. President, close this paper, without referring to a claim of priority, which was put forth in a letter in the *Lancet* (vol. II, 1862, Sept.), upwards of two years after the journals and retrospects had given publicity to my method of treating myopia.

In this letter, it is asserted: 1. That I wrote to Mr. Hancock *a few days after* the publication of his paper on Division of the Ciliary Muscle in Glaucoma, in the *Lancet* of Feb. 11th, 1860, inquiring whether he had any *new facts* to communicate. 2. That Mr. Hancock and his colleague Mr. Power wrote to me in reply; and that *very soon afterwards* I visited the Westminster Ophthalmic Hospital, and had explained to me the application of division of the ciliary muscle to cases of myopia. 3. That, on my return to Birmingham, I prepared the notices of my cases of myopia which appeared in the BRITISH MEDICAL JOURNAL and *Medical Times and Gazette*, of the respective dates of May 26th and June 1st, 1860.

Very fortunately, the letters to which reference is here made are in my possession; and I need feel no delicacy, Mr. President, in placing these letters in your hands.

You will observe, sir, that Mr. Hancock's letter is dated May 17th, 1860, is written in answer to one from me, and concludes with a request that I would publish my cases.

The letter of Mr. Henry Power is dated, as you see, May 18th; and contains a full description of the operation of division of the ciliary muscle, and a drawing of conical cornea, showing the direction which the knife should take.

Here, then, are the letters which the writer in the *Lancet* asserts were written in February, and interchanged previously to my visit, "*shortly* afterwards", to the Westminster Ophthalmic Hospital; which visit was followed, he says, by an announcement, in the BRITISH MEDICAL JOURNAL, of my cases of nearsightedness treated by intraocular myotomy. I hand you that JOURNAL; it bears the date of May 26th; just one week later than the letter of Mr. Power, and eight days later than that of Mr. Hancock. In the next week, June 1st, the *Medical Times and Gazette* drew attention to the same subject; and on that day I visited the Westminster Ophthalmic Hospital, and not before since 1850.

If reference be made to the cases published by me in the last mentioned periodical (vol. 1861, January), it will be found they were operated upon in March, April, and May, 1860; therefore, in order to give a colour of probability to Mr. Hancock's claim of priority, it became absolutely necessary to place back the date of that gentleman's letter, and his colleague Mr. Power's, to about February 14th; and my visit to their institution to early in March or the end of February. It was also essential that the date of my letter should be omitted.

The evidence in refutation of the statements to which allusion has been made, admits of being carried much further. It will suffice, however, to refer to the *Lancet* for an announcement that succinctly and conclusively decides my claim to priority of operation in cases of myopia. The *Lancet* for July 7th, 1860, p. 7 (six weeks after the note of my operation in the BRITISH MEDICAL JOURNAL), contains the following paragraph.

"The cases in which division of the ciliary muscle has been resorted to are, hydrophthalmia, sclerotic staphyloma, and acute and chronic glaucoma. It has also been performed in conical cornea by Mr. Power."

The same periodical furnishes a conclusion so appropriate to the present paper that I cannot refrain from making use of it.

"We wish it to be understood that any new operation, with whatever authority it may be introduced, or with whatever amount of success it may meet in the hands of its originator, offers a fair subject for just and even rigid criticism; but this criticism, if it is to be of service [to medical science?], *must be conducted in a spirit of equity.*"

PARAPHIMOSIS.

By JOHN THOMPSON, M.D., F.R.C.S., Bideford.

AMONG the minor cases of surgery that frequently come under the treatment of the surgeon, is paraphimosis. As observed in the wards of the hospital, it will be generally in connexion with venereal disease; but in private practice, it occurs mostly without this complication.

It is met with in two principal forms: the first, when a natural phimosis is converted into a paraphimosis, by the forcible retraction of the prepuce behind the glans; the second, from great swelling of the glans and prepuce, making it impossible for the patient to bring the prepuce forward, when it has by accident or design been drawn behind the corona. In the latter case, the swelling of the glans and prepuce causes the paraphimosis; in the former, the paraphimosis causes the swelling.

A moderately tight constriction where disease exists on the glans will quickly produce tumefaction, discoloration, ulceration, and even sloughing; whereas, when disease is absent, the results are not so severe, and consist of swelling of the organ, followed by inflammation, with perhaps ulceration at the seat of stricture, and also adhesions among the surrounding integuments.

As regards the treatment, it is advised by all to relieve the constriction, by reducing it with the hands as quickly as possible, more especially where venereal disease is present, as any impediment to the circulation fearfully promotes the ravages of ulceration and slough. But, supposing efforts with the hands fail to reduce it, a good deal of variation exists among the directions given by writers on practical surgery. Thus, scarifications, elevation of the penis against the abdomen, and confinement in this position for some time, the use of saturnine lotions, division of the stricture at once, have their several advocates.

The late Mr. Samuel Cooper advised the copious affusion of cold water to the organ, and then trial of reduction by the hand. He stated that this method had in his experience been most successful, and that division of the stricture would not often be necessary, were it more generally adopted.

The main object of my communication is to state that I most fully concur in the justness of Mr. Cooper's views, from their practical value tested by experience. In the course of my practice, I have met with a good many instances of paraphimosis, and have never failed at reduction, provided persistent adhesions had not formed. Merely moistening the parts is not sufficient; a pan must be placed beneath