Report of Clinical Work at the Glasgow Eye Infirmary

by

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Largo case of specimens

H.A.W.
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In the following Report it is my intention to endeavour to give a faithful picture of the clinical Ophthalmic work which has come under my own immediate care both in the Eye Infirmary of the city and in private, during the last six years. During the first three years, I was on duty every alternate three months, two days a week, but for the last three I have had regular work being on duty two days in each week and also two days for operations.

Each Surgeon and Assistant Surgeon operates on his own patients and previous to operation consultations are held. Some conception may be formed of the amount of work accomplished when it is stated that in 1881 the total number of patients treated was 6068 there being 1100 operations performed on that number.

The average number of patients in the Infirmary is 62 so that the great bulk of the work is carried out in the out-patient department. In order that this Report may be clearly understood I have divided it into Sections.
and according to the importance and interest of the section will the number of the cases detailed vary, and as much as possible frequent repetition of similar cases will be avoided. As patients having been under immediate care in the hospital, the results are more accurately noted, and although in some sections the number is not great, still they will illustrate the treatment used.

The following are the Sections under synopsis:

I. Affections of the eyes and ocular conjunctiva including the lacrimal apparatus.
II. Diseases and injuries of the cornea.
III. 20. do. 20. Iris and choroid.
IV. 20. Lens.
V. 20. of the Brain, Retina, Optic nerve which include Obstructive work.
VI. Muscular affections including. Syaptic myasthenia, Strain of the optical muscles, Paralysis of the muscles.
VII. Disease of the orbit.
VIII. Refraction including Hypermetropia and Myopia together with Astigmatism.
I. Disease of the Eyelids, Seolar Conjunctiva, and Lacrimal apparatus.

The aggravated cases of ophthalmia candida, which come under observation in hospital were treated by removing the lashes either entirely or more generally cutting them short with forceps attached and applying a solution of nitrate of silver (10 grains to the ounce) to the roots of the hairs and seeing a weak red ointment of mercury ointment of cadmium. Cod-liver oil and syrup of the Bordo of iron were always recommended to be taken internally.

Boracic acid was found the most useful application to hordeola and acts as a preventative, it is denuded on to the edge of the lids with a fine brush.

In dealing with chalazia a large number of which came under treatment in the out-patient department in addition to missing the little tumour on the conjunctival surface of the lid a small sharp scalp was found useful in removing at times the hardened contents, or if they are left the little tumour may return.
several cases of congenital cysts of the eyelids were met with and operated on by decomposing the cyst whenever that was possible. Ulcers on the eyelids may be specific or malignant. Case 8 is interesting as it is of a female aged 58 had an epithelial ulcer of the lids removed three times and since the last operation it has not recurred. Case 10 had a large ulcer on the inner side of the right eye and the upper and lower lids on their inner side were destroyed. Some doubt was expressed as to the nature of the disease, but dose of Potassium gave it ten grain dose, Morin daily quickly caused the ulcer to heal. Case 3 and 4 explain the operation generally adopted for Entropion and Ectropion and cases 5 and 6 illustrate the treatment of Syblepharon and Ankylo-syblepharon.

Congenital Affections. Ophthalmia neonatorum is generally treated by great cleanliness, a lotion of Belladonna and an ointment with one grain of Atropine in the drachm of benzeline. Saturated solutions of Boracic Acid and weak solutions of Carbolic Acid were employed with benefit as also 10 grains to the ounce of water.
Strumous and non-precipitant phthisis requires careful attention also, chief reliance being placed on Atropine frequently used until the pupil is dilated which is of very great importance in dealing with inflamed eye conditions. In a large number of strumous cases, iodide of starch was used internally and apparently with benefit, but as a general rule, symptoms of the iodide often have been found very efficacious, and in every strumous case whether presenting all the typical symptoms or only showing a phlycean ear or pinnae, point of Salvarsan, ordered the symptoms of the lodode of iron became the eye troubles and general disarrangement are certainly due to a condition of the system which the above mentioned remedy is able to counter.

Unless in chronic catarrhal conditions astrigent lotions have not been much employed as they often irritate and rather retain than remove ever sulphate of lime with big ovarino or acetate of lead or chloride of lime or Chrome olem all these are well and indicated as astrigents.
Granular Ophthalmitis. Cases of this affection are from time to time admitted and various forms of treatment have been employed such as solution of Bichloride of Silver, Sulphate of Copper, Bismuth Ointment and Mucilage of Boracic Acid. Gemma situated. Recently Iodoform has been used with benefit, thought to be very finely powdered as it will contaminate if any of the crystals are left. The result of the inflammation in granular Ophthalmitis is often Ectropion which produces thickening and distichiasis. No operation should be performed until the granular condition is healed. Great care is necessary in the form of inflammation to avoid infecting them with it, so that a band of embolized tissue is placed at necrosis that any chance of infecting them may be gone if the hands are carefully washed. In cases of Ectropion resulting from Granular Ophthalmitis a thin canthus or eyelid canthotomy was first divided, then the eye lashes were separated from the torn and cartilage a portion of skin removed from the lid, the epithelial lashes and skin sutured together.
In Ectropion a V shaped portion of conjunctiva was freed and carried upwards, if the cartilage was too curved to yield and remain, then a wedge shaped portion is cut out of the lateral edge and the wound carefully stitched. Other stitches are employed where needed and a light cold water dressing employed.

In dermatochalasis and trichiasis Dr. Arey's operation was performed, the edge being carried through tunnels in the lid. Case illustrations of the above are detailed in the following pages.

Disease of the Lacrimal apparatus.

The principal disturbance met with in the affection known as Trichiasis Lacrimalis, is the obstruction of the conjunctival tears may lie in the nasal duct and may lie in the baffle duct from the lower eye to the nose. The plan of treatment regularly adopted was, that of slitting open the canaliculus, the lower being most convenient and passing a large probe into the duct. Boracic lotion ordered to soothe irritation,
After irritation had entirely subsided Dr. 
Streltzer, graduated probes were 
used one every third day until the 
fray was dry and no contraction follows. 
A probe should be used every fourth 
week after the pain is gone and the passage 
quite patent. When an abscess forms 
from a wound or from cecum, intense pain is complains 
and an early incision should be 
made over the painful spot where abscess 
opened. At first there may be no painful 
discharges but the relief to pain and tenderness 
fully justifies the early incision.
Fistula is very apt to result from this 
inflammation and it is very difficult to heal. 
But the general health must be great attention 
to the wound poststrum. Probes 
must be regularly used. Syrup of the side 
of anil taken internally and gradually the 
putrid heat. The submaxillary gland has 
been removed by some surgeons, but I am 
inclined to doubt the prospect of the result 
of that operation. The old fashioned 
plan of the style is not much used.
From long irritation chronic dumpy cataracts, sight to result, and a very disagreeable condition is produced for which injections into the eye on solutions of carbolic acid and boracic acid have been tried. An ordinary subcutaneous syringe with the point removed from the needle was found serviceable. After a few applications, the discharges become non-prurient and if the structure can be overcome a cure results. Two cases have been recently under observation where the above was adopted with the best result.

In symblepharon where the adhesion is within nine and where the greater part of the lid (generally the lower) is adherent absolutely to the globe then the success of any operation is doubtful. Mr. Dake's method has been adopted on several occasions but with only doubtful benefit. In one case where the adhesion was great on three occasions operations were performed and finally a small portion of rabbit conjunctiva was stitched into the divided adhesions, and partial success resulted.

It is important to wait until the adhesions
are whitened or there is less tendency to con-
traction. Where the adhesion is only a
membranous band then greater success
follows treatment and indeed P.Moore's
remark is a true one that where a pocket
can be formed below the adhesion's excess
will attend operation, but where com-
plete and extensive much improvement
cannot be expected.
Diseases and Injuries of the Eyelids and Conjunctiva.

I. 5. 30. Gowan. Ophthal. Lance to all the lids of very long duration on account of which he was admitted. Hygienic conditions at home bad.

Treatment: Break 2 oz. of yellow ointment, good rest and syrup of the Infusion of Iron in Lea spoonful three. He was dismissed on Nov. 12th 79.

1st week after admission much improved and continued treatment at home attending at the daily visit for sometime.

Sclerema of lids, brow, face.


Nov 15th: Discharged well. Ordered to use Sulphate of Soda lotion (4gr. wine 30. Z.)

Ectropion of both lower lids.

3rd 16. ad 40. 278 79. Suffering from Ectropion in both its result of a tear. A V shaped incision was made from the angles of the lower eyelids the edges then sutured with silk and stitches, a wedge shaped piece was removed from the margin.
and the gap stitched with silk suture.
12/16/79 - Diminished well

Entropion of upper lids.
31st. Patient diminished with vision improved and lid in a normal position.

Andyrope- Symblepharon.
5th. Act. 22. Shot, adm. 31 Aug. 1879. Eleven weeks ago had her eye injured with exploding gunpowder. Andyrope-symblepharon resulted in both. Act 17. Lid's divided and attempt made to divide the lid off corner, but with only partial success.

Symblepharon.
6th. Act 43. Right eye was burned four years ago. Symblepharon at inner margin of corneal lid involved. A probe cannot be passed underneath it.
June 25th: Oedema freed and removed away from conjunctiva. Conjunctiva showed the apex of a flap. It being attached to the cornice. July 25th: Proven successful well observed, greatly improved.

Trichiasis:

Mr. B. aged 60, a.m. 10/6/50. Has suffered from Trichiasis for several years. The lashes have been intermittently frequent without much relief so the lashes were altered in their direction by an operation described by Dr. Robertson in the British Med Journal, which consists of opening a double ligature through the lid and then drawing the eyelash through the hole made by a needle; more for the temporal.

Epithelial ulcer of eyelid:

8. J. T. act. 58, a.m. 23/8/76. Epitheliotomator, ulcer of the conjunctiva, shell-like, at nine centimetres of left eye, first observed four years ago. Recently it has increased rapidly. 23/8/76. When removed and edge of wound stitched.

25/8/77. Area returned, removed, healed.


Microscopic examination showed cell necroti.
Epithelium of left lower lid.

In. act 82 ad. 8 of suffering from epithelium of lower lid of three years duration. Nodule has at once removed and the patient

Specific treatment of lower Epsils.

1. P. act 35 a. Sailor. Adm. June 1887. Has suffered from a sore on the Epsils for some months. It commenced six weeks after being stranded on an island and spread rapidly, destroying half the lower and upper Epsils, and the inner canthus. 10 gr. of iodoform of Bateria were ordered twice daily, internally and an ointment of Acid Bata of mercury, from 35 to 36. Of Bata oil recommended to be applied every morning. In a fortnight there was a decided improvement, and in two weeks more the pain was almost healed and the ulceration process arrested. Patient went to America so that no care could be followed to its termination.

Chronic Hyperplasia of right upper Epsil.

In. act 21. Adm. 28/5/81. Seen same patient had
drooping of the scarlet tear. The skin in upper eyelid has been hanging over the lid in folds. Portion of skin on both lids was removed with the best results.

**Ptérygium**

12. 11-8, set 36. adm. 11/3/57. Ptérygium in both eyes, in the fleshly form. Denuded off both eyes and one stitch introduced into the conjunctiva. Patient did well.

11/3/52. Redmitted and operation repeated.

Dimmed and —

13. 11-c. set 18. adm. 22/1/51. Large Ptérygium in left. Denuded off and stitches the growth to the conjunctiva below.

Lacrimal Fistula -

J.C. adm. 21/11/76 - Fistula opening below inner canthus in right. Probe of different size passed from time to time. The fistula healed. The patient was dismissed to return once a week.

Inflammation of Lacrimal sac with purulent discharge from may 1876. Adm. 22/5/76. Feb, of the sac. Which was opened, fistula formed but healed after probe was passed. The canaliculus being slit. Per Boreini lotion (saturated) ordered. Dismissed Jan 1877. Readmitted. deep ulcer of cornea with purulent discharge from the sac. The ulcer spread and assumed a sloughy appearance but by the aid of good diet and Per Boreini lotion keeping the fieldName clean with a large probe, the ulceration subsided and the ulcer gradually healed. Feb 20. Sent Home.
II. Disease and injury of the Cornea.

Diseases treated under this head may be conveniently divided into classes of various kinds from the small phlyctenular ulna to the ulcerogenous or sloughing ulna and they may be idiopathic or traumatic.

2. Inflammations of the Cornea which may occur as a simple corneitis from a strumous condition of the body or from a specific cause the most frequent being congenital syphilis. Cases occur from foreign infection but they are less common than the congenital class.

3. Alterations in structure and shape of the Cornea such as Arcus senilis and Corneal Cornica.

4. Wounds of the Cornea which may involve the Cornea alone or the deeper structures such as the iris, lens, or.

1. Iritis. In all cases of ulceration of the Cornea the two points to be attended to in treatment locally are (1) Instillation of atropine or eserine (2) The Protective Bandage. The atropine or eserine may be used in solution, ointment or a drop.
of gelatine recommended and made by Messrs. Savory and Moore. The protective bandage ought to consist of a pad of lint and a single turn of roller bandages, or an ordinary kerbouchi bandage may be used—a large handkerchief ought to be avoided.

When the ulceration has advanced as in the case subsequently detailed what other remedies are of avail—locally. Belladonna preparations frequently repeated which alter the character of the ulceration and when not continued too long are highly beneficial. In addition the use of a phenol or colton such as Boracic Acid, 260 grms to 6 fluid oz of water is of great value as a non-corrosive antiseptic. Internally Quinine and Iodide of Potassium, the latter more especially if pus is forming, are useful. Pain is relieved by opium and other symptomatic remedies—'

Good diet is essential. If the pus in the anterior chamber increases and the amount of ulceration of the cornea not small or deep, permanence of the anterior chamber is sometimes sufficient to induce healing action.
It is to Professor Saemisch of Rouen that we are indebted for introducing a form of treatment for the most severe form of irregu lar ulceration and the brilliant results it has produced are one of the greatest achievements of ophthalmic surgery.

Saemisch noticed that when a patient was suffering from this disease the moment the cornea gave way immediate relief followed with disappearance of all the severe symptoms. The rupture however did not take place in many cases until the cornea was entirely destroyed and the eye was therefore lost.

She said: "Can we not by anticipating nature help her?" He accordingly incised the cornea passing a narrow knife through corneal tissue on the outside of the ulcer entering the anterior chamber and bringing the point out on the inside of the ulcer in good corneal tissue and then cutting outwardly. In other words in raising the base of the ulcer. Saemisch 24. commands that the wound should be opened by a probe daily until healing occurs or indeed the however reflex movement
Injury to syringenous ulcer, in which the treatment is especially recommended.

If the incision is practiced early in slightly ulcerated in which it is now very generally used as well as in the syringenous form and abscess with a serum faithfully employed along with a good diet into which porter is allowed to enter a point on which Dr. Wilkie insisted a very decided improvement will generally be found in the condition of the eye, even the day after operation — sometimes the corneal patch on the injured eye but an iridotomy and iridectomy are sufficient to correct this, and ought not to be delayed too long if from the dragging of the iris anterior synechial changes are apt to take place in the injured eye, which may lead to greater impairment in vision both in it and the sound eye. The Corneal incision produces good results by fulfilling these important conditions: 1. Relieves tension 2. It prevents pus 3. It affords a drain for discharge through the wound.
given subsequently in detail.

These are the methods of treatment re.

commended for severe corneal ulceration.

Dr. Tweedy has adopted and carried out

with satisfaction. The operation of rhexotomy

was especially in severe ulceration as

he found that keratotomy confusion of the

cornea is best suited to limited ulceration.

The operation is performed with a linear knife

carried through the sclerotic on either side of an

inch from the cornea-sclerotic junction

right across the anterior chamber through

the corresponding point of sclerotic.

The mucosa is then carried downwards

for the breadth of the instrument which

then withdrawn.

Markman has recommended that a

red hot probe be applied to the ulcer, but if this be not successful —

then suffering from stromous ulcer

which occur largely in children, in addition

to careful local treatment must always

receive internal constitutional remedies

and of these tincture of the iodide of iron

has been found most remissible.
The results of ulceration of the Cornea are sometimes thinning of its structure resulting in Staphyloma. This may require removal which may be partial or complete, when not great an operation may often be serviceable, but it is a rule removal of a portion of the prominent cornea is necessary.

2. Rupture of the Cornea with prolapse of iris and adhesion of the iris to the wound constituting anatomic symblepharon operation for its relief.

3. Large cicatrices result a cause greatDimmen sp.vasion.

2. Inflammation of the Cornea - 
Corneitis - 
Occurring as this does from a constitutional cause either a disease or a congenital influence being at work in the system. The general condition demands every special attention. 
The cornea having a condition of malnutrition and the length of time occupied in the process varies, but when a corneitis is pronounced several months, always slough before the membrane returns, in whole or in part to transparency.
Both eyes are generally affected, the first signs being generally a month or two weeks in advance of the other. Sometimes only one eye suffers.

Syphilitic cormiti, generally occur from 5 to 15 years in the case, and in some of these cases, in children 2½ and 3½ years, the latter are generally milder.

The syphilis is generally conjugate, and often accompanied by peg-shaped teeth (Hutchinson) depigmentation of the skin, albumen and the membrane tympani assume a dull appearance from the same condition of malnutrition. Primary syphilis do produce cormiti, sometimes in a peculiar dotted appearance of Depigment membrane; not in simple and specific cormiti.

Treatment. Locally soothing applications, atropine, hypnaresin or colturae are useful. Shade for darkening the sight.

Colonial powder dusted on to the cornea in the later stage. Red oxide of mercury treatment is a stimulating application in varying proportions according to the
amount of inflammation - Internally. Periodide of Mercury has been found of most service along with bin acid tonic. Gum and grey powder i often prescribed. Cases illustrating all the above points are given in detail —

3. Changes in Structure and Shape of the Cornea. Area centralis, i.e., due to fatty degeneration of the corneal edges and occurs sometimes in youth but generally in advancing years.

Corneal Corneal. Many cases of slight corneal corneas have been observed but only one where it was thought necessary to trepan the cornea. Case No. 36 gives the result of the operation and treatment. In a future case I would not penetrate Descemet's membrane with the trepan but would do so by a broad needle after removing the layer of the cornea. This would prevent adhesion of the iris to the wound.

1. Wounds of the cornea are sometimes confused to it but more often from deeper injuries the iris or lens. The cases detailed illustrate the treatment and operations for relief.
Diocesan of the Cornix.

15. Mr. B. act 7. adm. 19/2/76. Has suffered from ulceration of the cornix which has been followed by staphyloma in the right eye. Atropine solution to be introduced and cream applied. Syrup spenic iodide, internally. 22. Cornix hazy. 23. Staphyloma disappearing. 24. Diminished.


June 11th. Complains of pain in right eye which is somewhat injected. H. 78. Iodide and Bromide ordered. June 28th. The stump of left eye was removed under chloroform. July 3rd. Socket of left healed and right free from pain. 18th. Cornix spectacles ordered for right.


Extract of Belladonna applied to brow, Atropinic solution introduced, compress and bandages. Cornea gave way prolapsus gingivae with cyclitis, followed which gradually subsides. Des. Desmond im proved.

19.S.J. act 24. admi. 29/8/76. Cornuitis in both worst in left. well marked irregular teeth. Atropinic solution pr. to 21 ordered with Atropinic eye drops and Ointment, for 15 th. Desmond after being six months ill with the hayman rapidly dappled.

20 D. it. A. act 70 admi. 12/5/76. Alien in centre of left cornea. Ointm. Atropinic solution with Bird of Potassium internally. 20 th. eye improved

26. Desmond well.

21 A. T. act 7 admi. 7 th 2/77 Holteyton suffering from Atropinic solution of cornes in both eyes. Atropinic solution, rest and Rhubarb and Astringent Powders. March 25 th. 77 Desmond well.

Aug 12 th 77 Relapse i readmitted

Sep 28 th 77 Desmond well.


Eye recovered perfectly — Discharged on May 3rd.


Dec. 26th. Readmitted with the right eye worse.

May 7th. Discharged after having the same treatment quite well.

26. Sarah M. A. act 58, House of Adm. 20/6/77. In about last week noticed vision of right eye failing and this gradually got worse until by the end of April she was unable to distinguish light and shade. In the middle of May pain commenced and has continued up to this date.

Examination: Well marked sclerotic choroiditis with Staphyloma of few lines posterior to the superior ciliary region tension 11.

Ophthalmoscopy: Examination: Owing to hazy state of lens the fundus cannot be illuminated.

Examination of left eye: No 2 aided with +3.5 convex lens, as seen by ophthalmoscope the funder is contracted with a few floating bodies. 4 in the vitreous. Various soothing applications were employed, but as the pain continued the Staphyloma was removed without stretching on July 19. July 20. Eye quiet, no pain or pressure. 20th: Patient deemed with the eye quiet but only able to distinguish light and shade.

Aug 14th: Patient returned complaining that the vision of her left eye was beginning to fail. Pupil found irregular and dilated irregularly under the influence of atropine. So pain in the right eye.

Examination of right recommended with atropine.
atropine drop for the left and calomel and firn pills internally. 15 th. Globe removed under chloroform. 15 th. left pupil dilated freely and regularly. Socket of right healing. Pile destruens and larve of Potassium substituted in 5 grain doses, on account of a certain amount of haemorrhage in the vitreous humour of left.
Sept 11 th. Patient cue 6 3/4 a.m. 14 inch convex glass.
The right eye was hardened in a solution of Chromic Acid and on making an anterior posterior section of it the following appearances were noted. Superior ciliary region atrophied with cecatricial tissue passing towards it from the point where Staphylocoma was removed, retin separated entirely there being a large quantity of lymph, pulses bowel town half white, a partially decolorous clot existed behind the upper half the lens was degenerated into a softened mass into which blood was hemorrhagic.
My friend and senior colleague Dr Reid kindly made sections through the ciliary region including with the above mentioned objects. On examination with a low power it was observed that the cecatricial tissue had passed
into the ciliary process, causing partial destruction of them.

During the formation of the ciliary nerves delineated, the ciliary nerves must have undergone a certain amount of stretching and squeezing, and subsequently to that the nerves in the lefthand, possessing the same function and composed of similar nervous substance were reflexly irritated and an

[Diagram]

27. J. G. act 17. adm. 17/7/77. Anterior corneal staphyloma in right eye which has been gradually increasing for three months. It occupies the lower half of the cornea and the iris is adherent to the side of the staphyloma at lower outer and inner aspects. July 18th, staphyloma removed 300. Bound with taffeta. Sep. 5th. Induction for optical purposes. Patient improved. Oct 5th. Diminished improved. Eye quiet.


31.  Mr. Bright and 19. adm. 11/11/76. Cornitis in left
right eye was injured in infancy. Jan 26 " Under
Atropine & Hypoyaminc solution with syrup of
the iodide internally the eye improves and she
was sent out to continue treatment
Feb. 17. 2m. 10. 4. 4. Aug. 27. Readmitted
because the right eye is heavily red, tender and
painful. Enucleation recommended and carried
out. Sep. 24. "Discharged well."

52.
32. 9th act 38. adm. 19/77. lacerated wound of cornea
Belladonna extract to brow. comprex and bandage
rem. cataractous and removed. Jan 18th Eye
quiet, ir regularity and adherent to corneal
abrasions. - Diminished.
Oct 26th Iridotomy with De Becker scissors
performed but vision not improved.
Nov 2nd Diminished.

33. 6th act 15. adm. 13/77. Anterior staphyloma
in left. Removed without stitching and an
excellent stump resulted - Diminished.

34. 69th act 18. Anterior synchia in left with
dense membrane. July 6th. Iridotomy to corne and
June 5th. Eye quiet and wound
healed. Aug 1st. Corne tattooed with Mr. Walker's
needle - on three occasions with good result.

35. 8th act 9. adm. July 27th. Staphyloma on
inner side of right cornea. Aug 3rd. Parenteris of
anterior chamber through staphyloma; comprex
Nov 21st Diminished with the staphyloma gone.
Conical Cornea.

36. J.C. aged 27. came to the Eye Infirmary on Oct 23. Complains of diminuion of vision of two years duration. The letters of No 20 with left eye, and No 20 with right eye. The cornea of left eye is very conical, that of the right is also somewhat cone shaped though in a much less degree. The general health has been good and no other member of the family have suffered from their eyes.

Ordered to use sulphate of Eserine drops into each eye and to take six drops of Rosein Arsenic solution internally twice daily after food. Mr. G. can count fingers with left, can most distinctly to two, side. See letters of No 8 with right.

16th. As the vision was becoming worse it was determined to trephine the left cornea. This was done under chloroform by Dr. Rosomani instrument the rim of tissue being directed off with a small knife and forceps. Descemet membrane was penetrated by the trephine but in a similar case the membrane would not be penetrated only pierced carefully with a fine needle. The eye remained quiet but a slight adhesion of the iris formed on the inner side of the corneal wound. Eserine drops were carefully
The following note was taken 

An adhesion of the iris with 

The considerable con-

The operation on left.

July 5th. Readmitted. 6th. Induction in left.

Oct 16th. Eye quiet; lens cataractous in part.

Dec. 22nd. 1879. Induction in left trabecular 
of lens. The induction was performed at the 


April 12th. Len. No 16 added. Eye 3½ in. Corneal 

Spectacles.

This case of corneal corona was so marked 

that the appearance presented was an if this 

was an ulcer of some age and a 

descemetic membrane being entered leads to 

the danger of an adhesion of the iris, but by 

avoiding the division you really insure a better result.

We have not had 

an opportunity of trying cutting a wedge 

out the cornea with a linear section knife 

but it seems to the successful.
37. Mr. W. 17th nov. 1879. Cornets in right of some weeks duration. Hypopyrammin solution with Bismuth of mercury internally (32 grm) 1880 Jan. 8th up to this date cornea improved, but to day a mucous-purulent discharge from left eye. The patient was in bad diphtheritic ophthalmia, his swollen and oedematous purulent discharge. Boracic lotion with belladonna employed. Feb. 1st. Cornea has sloughed in right eye. March 3rd. Staphylonia has formed which was accordingly removed, the tear exudate full abated. Left eye quiet. clean自律 one month from commencement.


39. W.K. Ch. male with prolapsus in left. Deconic and in this case with benefit.

at lower aspect of cornea, iritis abscess developed by debriding scissors and a portion of the iris removed by debriding iris forceps.

20th wound healed. Eye quiet and vision returned to no 10 larger.


UPPER AND INNER ASPECT, STAPHYLOMA PUNCTURED AND
FROM COMPRESSION. 17TH HOUND HEALING DRY; ZENIL
ACT 8TH HEDGE SHAPED PUNCTURE REMOVED FROM STAPHY-
LOMA. ACT 25TH, HOUND HEALING NO BLEEDING.
NO PAIN; VISION IMPROVING.

SLOWLY WORSE OF THE CORNEA.

4/4. 7. Act 4/6 a.m. Feb. 10th, 1800. Received an injury
four days ago with a chip of iron which struck his
left cornea and has resulted in an ulcer. Considerable
edema, injection and pain in the limbal region.

Atropine solution introduced; ice, salt, irregularly
compress and bandage applied. Patient ordered to keep
his bed and to have good diet with a pint of porter
daily. Atropine and every four hours and pil with
two grains of salmual and half a grain of opium
given at bedtime.

De 13th: Irrigation extending by points, pus in
the anterior chamber. Cornea mixed at lower
and outer aspects, and cloudy for evacuation.

Hot Belladonna applied to the brow and warm
compress over the eye. Diet continued as above
mentioned along with two grains of ginsing
three daily. 3. Pain relieved, anterior chamber
filling and wound in cornea healed 6 " . Corneal ulceration had extended upwards, the cornea was again mixed with complete relief to the symptoms.

31st. Cornea clearing; pain entirely gone. Accurate suture on the outer side of the cornea with the initial suture tied at its center and outer border. Patient dismissed to return and attend at the dispensary.

Patient did so and three months after an iridectomy and iridectomy was performed with improvement in vision.

45. 9 A.M. Nov. 30/20. Stated that his vision has been dim and his left eye very painful for a week. Did not receive any injury, but has had no work and consequently insufficient food for several months. At present there exists a cloudy ulcer on left cornea with hypopyon the ulcer covering the greater part of its upper two thirds. Cornea mixed and purulent. Treatment: medical and dietetic as detailed in Case 44, being adopted.

Dec. 6. He does not return. Eye quiet and when healing.

49. R.C. act 24. amn. 14th Oct 1880. Complain of
pain in and a copious discharge from left eye
which has existed for a week. lid swollen
relatively injected. Cornea hazy with ulceration
hanging round its base. The origin of the dis-
charge is a synchona of some weeks duration.
Boracic Acid Lotion (Saturated Solution) ordered
with atropine drops and ice compresses. The other
eye carefully protected. Act in liberation de-
laying and commencing with S.Pain at its maximum.
The corner. S.P recommended delay as the
patient was only 24 and the general health
good. 30th Oct. Boracic Lotion was forth-
fully continued, the discharge continued to dimin-
ish, the ulceration ceased, the eye gradually re-
covered.

50. R.C. act 33. amn. Feb 1st 1881. Received an
injury four days ago which has resulted in
a swelling above with hyposia. 3rd Boracic
y. Cornea incised for evacuation. Local treat-
mant ordered. 10th Feb. Eyes quiet and ulcer
healing. No pain. May 1st. Demurred with
vision improving.
57. A.B. aged 18. adm. 6th Feb. 1887. Unmiveness. Cutting oil has suffered from obstruction in the lacrimal duct with constant discharge from the eye and consequent ulceration of the corner.

The canthi were still open and a large probe passed and thereafter Bereneum and lotion employed with the effect of altering the character of the discharge from the eye, curing the ulceration.

Wounds:

52. I.D. aged 30. wound of left corner with one engaged in the wound. Suppurative chronicitis followed the eye was lost.

53. I.D. aged 41. adm. 6/3/77. In July 1876 received a blow on the right eyeball and ever since his vision has failed - the globe gradually atrophied.

46. A. R. aged 52. Adm. 18th Jan. 1880. Suffering from a traumatic ulcer on the centre of the left cornea. May be the result of an injury with a piece of iron three days ago. Cannot count fingers, severe pain in the corneal region. Cornea involved, the pus in its layers being evacuated and the usual after treatment ordered. The eye improved favourably and Feb. 12. patient was diagnosed with good vision and only admission making the incision.

47. A. B. aged 46. Adm. 30th Nov. 1880. States that he received an injury on the 26th which was followed by severe pain. 30th. Roughly uveal bulla on right cornea with opacity. Cornea involved and the usual treatment recommended.


48. J. R. aged 40. Adm. 13th Dec. 1880. Received an injury with a small piece of iron on the 7th. Ulcer exists on the left cornea with opacity. Compress and bandage, all things drops and the usual
14th. When extracts, few in the anterior chamber, in somewhat discoloured and contracted. Cornea is nearly and warm compress applied with belladonna to supracoarotid region.

23rd. Case progressing favourably with the exception that there is a slight protrusion of iris from wound. 30. Anterior chamber filling protrusion has ceased and pupil yields satisfactorily.


Note - Atropine does not act on the iris if there is collapse of the cornea from incision, injury or rupture even when the iris is perfectly free from the wound between atropine introduced into the eye acts by paralyzing the peripheral nerve and consequently must come in contact with them for a time which it cannot do if there is no aqueous in the anterior chamber.

In the above case the pupil did not dilate until the wound in the cornea healed. The collapsed cornea also acts mechanically in preventing the iris dilating a contrary more than it does at the moment when the aqueous is thoroughly excited.
Burns.


67. H.R. adm. 18. 16/160. Eight months ago received a burn which has resulted in a very complete symblepharon of lower lid in right eye. the lid being attached as high as the half of the cornea.

Jan 7th. 1881. Atheroma divided, flap of conjunctive
The adhesion again formed.

March 5th: Operation repeated but failed. The adhesion were again divided. The edge of the lid turned upwards and stitches downward but without satisfactory result.

July 1st: Adhesion again freely divided and a piece of rabbit conjunctiva stitched to point of demoted conjunctiva on inner cul-de-sac of globe. Mrs. resolved in a partial improvement.


Nov. 30th. Ophthalmia followed. The eye was excised on account of severe pain.
63. I. P. act 5. adm. Nov. 4, 1837. Received an injury
in right arm with the point of a knife
which penetrated the cornea. The cecation was
removed to the corin which is trimmed and dragged
from its former attachment above.
Nov. 9. Incision in right with attempt at
division of adhesions during which lean was injured
Nov. 30. Ball contains paper in incision and relieved.

Dec. 6. Diminished well —


Mar. 27. a.m. June 24th 1881: Left eye was struck this morning by a splinter of metal. A small incised wound parallel with its edge, just under the lid and at a point corresponding to an ulcerous wound in the cornea. Protoplasms of iris stripped. Blood in anterior chamber. The right eye atrophies the result of an injury forty years ago.


III. Diseases of the Iris and Choroid:
Inflammation of the iris (iritis) may be caused by simple or specific causes and by injuries. Debility. Rheumatism, syphilis, and three frequent causes. In dealing with cases of iritis, no remedy is of such value as atropine, and to prevent and remove adherent mucous treatment is essential. It was frequently noted that whenever the system was slightly affected an improvement took place. The inflammation may spread to the ciliary and choroidal regions, and glaucomatous symptoms may develop in the course of these affections. Constitutional treatment of the utmost value and as a whole in this section the mercurial remedy to be used either alone or tanninamide. Iridectomy was found one of the most valuable operations in ophthalmic surgery, and its improvement following it was marked, more especially in acute glaucoma, as also in arresting desea of the iris adherent. Injuries to the iris and ciliary region are always accompanied by pain, swelling, or from their sympathetic ophthalmic wisp to occur.

68. R.D. act 30. Adm. 22/2/76. Old irrit from which he has had repeated attacks. Can count fingers.
March 11th. Indirectomy downward 5 mm. in right. See to 10 aided by Jn. convex lens. Refraction Hypermetrope.

69. N.M. act 33. Had irrit 10 years ago and lost right in left eye in which a large staphylos of ciliary region exists. Indirectomy was performed with great relief to the pain and irritis symptom in right with which he sees no 8 on Sept 4th. 1777.
6/10. Glaucoma in right, tension +32. Can hardly count fingers; the pain is very severe. He declined to have any operation performed at the date but suffered for three weeks and as pain still continued he allowed us indirectomy to be performed with perfect relief to pain. The vision was hopelessly lost.

The pupil yielded. The pain subsided and patient was dismissed well on April 9th, 1877.


72. C. H. act 11. adn 26/6/77. Otic in left. Dis of left oedema, loss perception of light in right. The pupil is contracted and cornea becoming oedematous, distinction light & shade. Iridectomy performed with slight improvement.


74. M. H. act 31. Oedema in left. Iridectomy for optical purposes. Lens removed. Can Count fingers & eye seems improved, but the advanced state of closure of the incis and lens renders the chances of any operation very doubtful.
75. M. H. act 31. adri. 10/10/77. Indocineni in left can count fingers. Indocentum performed in left with benefit. See No 16 with right eye.

76. S. M. act 61. adri. 26/2/68. Old injury. See No 20 with right, light and shade with left. Dam 2". Indocentum in right down in - 29". See No 16 with right.


79. S. D. act 22. adri. 10/1/68. Intui. in both. See No 19 with right, No 8 with left eye. Dept pupil dilated irregularly. The right is found. Tum 11". Indocentum in right to nine o'ci. 16". See No 12.
May 5th. Indentification in left temple side 16. See No. 4.

80. B.D. act m. STRICT in both which has recurved frequently especially in left. See No. 1 and right No. 2 with left. Gunn's and free powder applied with all in ointment of 1 to 3.0 of vaseline 3/3.0. Indentification to relieve pain. Patient has vomiting the night after the operation and prominent oedema has set in 15. The whole globe luxated. May 21st. Stump removed, vision right continues normal, pressure vision —

82. J.S. act 22. adm. 11/3/01. Old inchi. in both.
with posterior synechiae. lens no. 16 wth right
and no. 8 wth left - 12/3/01. Indecency in
both eyes. downward and inward.
April 12th Seen no. 8 wth right and no. 16 wth left.

83. M.D. act 60. adm. May 13th.60. Absolute
slaneone in left. 5th acute pain. Vision of
eyes lost. J x 7. Right. Vision down to 2 and she
60 mi corner spectacle. No cupping observed
by Ophthalmoscope. May 14th. Indecency to
relieve pain - first Pain gone -

but win. night. June 4th. Indecency with
swarm of aphthic. Seen to be same.Qualum

85. J.S. act 42. cedi. March 14th. 60. Old inchi. in
both. seen no. 16 wth right. no. 16 wth left.
June 12th Indecency downward. in right. 22. seen no. 8
Enucleations —

The accompanying case contains sections of eighteen eyes removed for sympathetic irritation, sympathetic of the lumbar and severe pain in the region of the disc of each eye.

By an examination of these specimens the most danger of iritis in the ciliary region is fully borne out, and also the long time that a foreign body may remain in the eye without causing any pain or irritation in the eye itself or the other.

The case of David Woodhouse, No. 17 18, is particularly interesting a shewing distinctly ciliary destruction and pressure necessary irritation of the ciliary region.

The globes enucleated were hardened in Chromic Acid solution, then divided by an ordinary knife & put into a solution of Chloral Hydrate which removed the Chromic Acid. After being in solution, they were put into different strengths of glycerine or water, 5%, 30%, 50%. They mounted according to the method recommended by Dr. Watley Smith of Birmingham which consists in embedding the sections in gelatine placed in planes.
made especially for the purpose in Birmingham.

Holding the box with the hand, and the body
the plane are numbered from left to right
so commencing at the left upper corner.

1. P.C. act 33. Traumatic блок, стапфилома
Intera pain, Emulsionation. Section. Lymphatic
derhot, posterior to tear.

ophthalmia. Section. General destruction of
interior of globe. Lymphatic debris occupies
anterior.

3. Act 3. J. 27. Injury in cervical region. 8
Sympathetic irritation (Emulsionation).
Section. Separation of retina and pressure on along
vene.

4. M.G. 30. Injury with piece of steel
which has penetrated Cornea. Emulsionation.
Section. Foreign Body lying behind lens. Destruction
of eye.

5. J.H. 14. Wound of the left Cornea. Sympa-
thetic Ophthalmia. Emulsionation. Section. Destruction
anterior of eye. Pressure by lymph on cervical region.
    Sympathetic irritation. Enucleation.
    Section - large foreign body on the anterior of the eye.


     Section. Blunting and atrophy of the iris.
     Retina - swollen. Thickerened.

     Section. Sympathetic irritation. Retina - changes surrounding less.

12. M. C. 14. Enucleation of right, which was destroyed 20 years ago, but has attacked of pain. Duble vision in left.
     Section - separation of retina. Destruction of inner part of globe.

13. M. act 21. Cyclical, the result of an


   Section. Injury to celiac region, atrophic in eymphoid musculation behind celiac.

19. James, Mr. 42. Eunuleation after Sympathetic. Section. Adhensive inflammation of all the structures.

22. R.C. Injury to abdominal region. Incision: Laceration seen - large solid mass of contusion behind - which is chondrified.

23 & 24. R.I.D. act v. Wounded at upper part of lower with prolapsed inn. Be the seem. Complaint of intense pain. Incision was performed. Section seen surrounded by lymph colored by blood staining.
### Cases of Hard Cataract

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Age</th>
<th>Operation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>J.B.</td>
<td>72</td>
<td>L. PI linear section,</td>
<td>See No 10.</td>
</tr>
<tr>
<td>4.</td>
<td>J.D.</td>
<td>63</td>
<td>L. PI Int. Inf. section</td>
<td>See No 12.</td>
</tr>
<tr>
<td>5.</td>
<td>J.B.</td>
<td>60</td>
<td>Do.</td>
<td>See No 10.</td>
</tr>
<tr>
<td>6.</td>
<td>J.D.</td>
<td>69</td>
<td>R. Post. Div. with special three times at intervals of three months</td>
<td>No reaction.</td>
</tr>
<tr>
<td>8.</td>
<td>J.B.</td>
<td>60</td>
<td>P. in both eyes. Subtraction at different dates</td>
<td>See No 4 with both.</td>
</tr>
<tr>
<td>9.</td>
<td>J.B.</td>
<td>62</td>
<td>P. in both eyes. Subtraction at different dates</td>
<td>Cytol. followed in left.</td>
</tr>
</tbody>
</table>

Notes: L. PI = Left Phaco-Mic. R. PI = Right Phaco-Mic. V. = Vitreous.
<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Age</th>
<th>Operation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>E.H.</td>
<td>50</td>
<td>P.D. in left</td>
<td>Did not return</td>
</tr>
<tr>
<td>11</td>
<td>J.W.</td>
<td>50</td>
<td>P.D. in right</td>
<td>do</td>
</tr>
<tr>
<td>12</td>
<td>E.R.</td>
<td>74</td>
<td>P.D. in left</td>
<td>do</td>
</tr>
<tr>
<td>13</td>
<td>E.S.</td>
<td>70</td>
<td>P.D. in right</td>
<td>do</td>
</tr>
<tr>
<td>14</td>
<td>J.H.</td>
<td>74</td>
<td>P.D. I. Enthusiasm by inferior section</td>
<td>Ophthalmoplegia and Enucleation on account of pain, See No 3.</td>
</tr>
<tr>
<td>16</td>
<td>M.S.</td>
<td>67</td>
<td>P.D. in right</td>
<td></td>
</tr>
</tbody>
</table>
| 17 | M.C. | 68  | P.D. in both at different times. Extract infr. in left.  
 Tonicity followed.  
 Enucleation performed.  
 Extract infr. in right | See to No 3. with right to 16 in left. |
<p>| 18 | J.C. | 60  | Enthusiasm with video.                       |                                                                         |
| 19 | M.H. | 70  | P.D. I. in left. Enthusiasm with febric division andі months after fault. | See to No 10.                                                          |
| 20 | J.T. | 53  | P.D. by stethoscope on three occasions        | See to No 4.                                                           |
| 21 | T.H. | 60  | P.D. I. in left                               | See to No 4.                                                           |
| 22 | J.K. | 60  | P.D. I. in left. Enthusiasm between sexes     | Ophthalmoplegia.                                                       |
|    |      |     |                                              | See No 2 with the usual spectacles.                                    |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Age</th>
<th>Operation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Hh.</td>
<td>63</td>
<td>Retract inf.</td>
<td>See No.4 with sketch.</td>
</tr>
<tr>
<td>24</td>
<td>E.</td>
<td>49</td>
<td>Retract in left.</td>
<td>- No.2</td>
</tr>
<tr>
<td>25</td>
<td>S.</td>
<td>55</td>
<td>P.D. tone in right.</td>
<td>- No.2</td>
</tr>
<tr>
<td>26</td>
<td>Th.</td>
<td>55</td>
<td>P.D. tone at interval of six months.</td>
<td>- No.4</td>
</tr>
<tr>
<td>27</td>
<td>E.</td>
<td>65</td>
<td>P.I. Retract in Right.</td>
<td>- No.6</td>
</tr>
<tr>
<td>28</td>
<td>E. W.</td>
<td>50</td>
<td>P.I. Retract in Left.</td>
<td>- No.2</td>
</tr>
<tr>
<td>29</td>
<td>M.</td>
<td>60</td>
<td>P.I. Retract in Left.</td>
<td>Good vision in both.</td>
</tr>
<tr>
<td>30</td>
<td>Mh.</td>
<td>62</td>
<td>P.I. Retract inf. (iritis, iritis, pupillae)</td>
<td>See No.10</td>
</tr>
<tr>
<td>31</td>
<td>Hh.</td>
<td>72</td>
<td>P.I. Retract inf. (iritis, iritis, pupillae)</td>
<td>Vision. No.14</td>
</tr>
<tr>
<td>32</td>
<td>S.</td>
<td>70</td>
<td>P.I. Retract inf. Left.</td>
<td>See No.24</td>
</tr>
<tr>
<td>33</td>
<td>S.</td>
<td>60</td>
<td>P.I. in Left.</td>
<td>See No.6</td>
</tr>
<tr>
<td>34</td>
<td>G.</td>
<td>52</td>
<td>P.I.e. at Retract inf. Left.</td>
<td>See No.24</td>
</tr>
<tr>
<td>35</td>
<td>J. D.</td>
<td>69</td>
<td>P.I.e. at Retract inf. Right.</td>
<td>Do. Do.</td>
</tr>
<tr>
<td>36</td>
<td>M.</td>
<td>64</td>
<td>P.I.e. at Retract inf. Left.</td>
<td>See No.6.</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Age</td>
<td>Operation</td>
<td>Result</td>
</tr>
<tr>
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<td>-----</td>
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<td>--------</td>
</tr>
<tr>
<td>38</td>
<td>C.J.</td>
<td>45</td>
<td>P.D. in right on two occasions. Insert from the tibia.</td>
<td>See No. 4, with left</td>
</tr>
<tr>
<td>39</td>
<td>J.C.</td>
<td>64</td>
<td>P.I. et Insert. Int. in left. Rheumatic condition.</td>
<td>See No. 5, with right</td>
</tr>
<tr>
<td>40</td>
<td>G.J.</td>
<td>52</td>
<td>P.I. et Insert. Int. in right.</td>
<td>See No. 5.</td>
</tr>
<tr>
<td>41</td>
<td>P.J.</td>
<td>75</td>
<td>P.I. et Insert. Int. in right.</td>
<td>See No. 6.</td>
</tr>
<tr>
<td>43</td>
<td>E.H.</td>
<td>55</td>
<td>P.I. et Insert. Int. in right.</td>
<td>See No. 7.</td>
</tr>
<tr>
<td>44</td>
<td>A.F.</td>
<td>64</td>
<td>P.I. et Insert. Int. in right. Autopsy of other. Tumor or tumor substance left in m. p.</td>
<td>See No. 6.</td>
</tr>
<tr>
<td>45</td>
<td>E.H.</td>
<td>65</td>
<td>P.I. et Insert. Int. in right.</td>
<td>See No. 6.</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Age</td>
<td>Operation</td>
<td>Result</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>48</td>
<td>S.A.</td>
<td>18</td>
<td>Soft. Cataract</td>
<td>20.20, 20.20, one posterior division, intervals of two months, due to 2 added by the ordinary spectacles.</td>
</tr>
</tbody>
</table>

Cataracts of Traumatic Cataract:

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Age</th>
<th>Operation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>S.K.</td>
<td>15</td>
<td>Anterior Division rape solution</td>
<td>See No. 6.</td>
</tr>
<tr>
<td>50</td>
<td>M.K.</td>
<td>21</td>
<td>Anterior Division Goodfellow</td>
<td>See No. 7.</td>
</tr>
<tr>
<td>51</td>
<td>K.D.</td>
<td>11</td>
<td>Two anterior divisions</td>
<td>lens absorbed then failed left.</td>
</tr>
<tr>
<td>52</td>
<td>M.K.</td>
<td>33</td>
<td>Ant Div. in right, blood in anterior chamber, posterior chordal desease</td>
<td>No improvement. See No. 7.</td>
</tr>
<tr>
<td>53</td>
<td>K.K.</td>
<td>34</td>
<td>Lens drawn off</td>
<td>lens absorbed.</td>
</tr>
<tr>
<td>54</td>
<td>M.D.</td>
<td>35</td>
<td>Ant Div. in right.</td>
<td>Vision improving.</td>
</tr>
<tr>
<td>55</td>
<td>K.D.</td>
<td>43</td>
<td>Ant Div. of chalkyfies</td>
<td>See No. 6.</td>
</tr>
<tr>
<td>56</td>
<td>A.D.</td>
<td>37</td>
<td>Ant Div. P.D. et Intact Inferior</td>
<td>See No. 7.</td>
</tr>
<tr>
<td>57</td>
<td>L.K.</td>
<td>17</td>
<td>Incision and evacuation of lens. P.D. afterward</td>
<td>See No. 8.</td>
</tr>
</tbody>
</table>
58. C.N. 11.


60. D.H. 53.


63. H.M. 33.

64. R.H. 7.


68. H.R. 35.

69. R.H. 19.

70. H.H. 8.

71. H.D. 25.

Left drawn off.

Ant. Division with death mottle.

P.D. in right.

Division memory between mumps of pupil and iris.

P.D. in left.

Ant. Division on two.

P.D. in left.

Ant. Division on two.

P.D.

Ant. Division repeated from lenses.

P.D.

Ant. Division repeated on two.

See No. 6.

Absorbing.

See No. 8.

Ophthalmitis.

See No. 4.

Vision good.

See No. 6.
V.

Cases of Cerebral Disease.

The following four cases are of sufficient interest to give in detail the more so that in some three of them a careful and post mortem examination was made, in the fourth every effort was made to obtain an examination but without avail.

1. M. R. S. aged 20, from brick admitted March 24, 1876.
A year ago began to suffer from pain in her head (in the morning chiefly) accompanied by sickness, but no vomiting. In November 1875, her sight suffered and the dimness of vision increased very rapidly in the right eye; a month after her left eye began to trouble her. She headache and sickness increased the pain in her head being situated in the frontal and mid-parietal regions; pressure sensations complained of in the arms and legs.

The organs and functions indicate nothing wrong. The family history is quite satisfactory.


Swollen and partially obscured by lymphatic deposit which renders the congested vessels indistinct. The veins are very large and the arteries diminished in calibre. Left: Much the same as right.
but not so well marked. 27th: Much worse. Can only see 20 with right and 16 with left. 30th: Can only count fingers with right and see 20 with left. The pain in her head is intense. Broads of Opiates in 30 grain doses with Strychnia inside of Opiates given Thrice daily which had the effect of relieving the intensity of the pain.

The hidden nature of intracranial disease and the amount of doubt and absence of symptoms render it often very difficult to make a diagnosis and the only way to a correct prognosis is by repeated ophthalmoscopic examinations accompanied by noting the vision signs. In the case detailed above we have a double optic neuritis consequent probably on some disease of the brain affecting either the region of the optic commissure, optic tract or some one of the optic nerve origins. If it has affected one side principally the inflammation has spread very rapidly to the other.

July 8th: The case gradually improved and when sent home she saw 20 with difficulty. 30th: a little more distant.
A year after going home she became much worse, the headache was intensified and she
J. B. act 60 was admitted as an out-patient at the City Infirmary on Nov 29, 1877. He states that six months ago he began to suffer pain on the left side of the face which has continued more or less since and two weeks ago his left eye became inflamed and irritable.

On examination paralysis of motion and sensation on the left side of the face is found to exist, and as a result of the exposure of the eyeball, the cornea is hazy. There is evidence of old injury, and the eye generally is affected by a catarrhal condition. The movements of the globe are perfect.

The sense of smell is impaired on the left side, the patient being unable to distinguish between ammonia and acetaldehyde.

Hearing—bath head only on contact on the left side and a tuning fork at two inches distance. Sensation of taste is absent on the left side of the tongue which is protruded to the paralyzed side. The patient cannot be illuminated. Patient ordered 10 grain dose of
Pride of Potassium Nitrii daily and was directed to
protect the inflamed eye with a shade.
Jan 6th 1878. Paralysis of internal rectus noted today.
March 1st. Patient's friends came to Infirmary today
and state that since last visit he had been
more and sufficiently from pain in the head
with constant vomiting. I ascribed his symptoms
into the Western Infirmary and Dr. Valentine Knox
admitted him to the wards. The following
report taken.

On admission on March 2nd

the following note was taken. There is paralysis
of the 3rd nerve in addition to what is detailed
above, and the appearance was necessarily much
altered. The eye is completely covered by dropp-
ing of the upper lid, and the internal strabismus
has disappeared. The hardness of the
consistency continued, and considerave suction
connect the lids. The patient does not yield to
atropine solution. He walks, with a certain
degree of unsteadiness, but there is no
paralysis. The muscles of the face do not
respond to the continuous current. There is no
marked mental disturbance, but there is a
certain unmanageableness especially marked
during the night. The general opinion after
consisting of the fact, was in favour of some malignant growth at the base of the brain. 
Patient gradually became worse until he died on April 9th.

April 10th: Today Sir Joseph Lister made a post-mortem examination and the following is his report. 

Head. On removal of the dura mater, which appeared normal over the convexity, there was seen to be some oedema of the soft membranes, there was no accumulation in the ventricles; at the base of the left temporal sphenoidal lobe was adherent to the dura mater and could not be removed without some laceration. On removing the lobe it was found softened and involved with the and on making a section through it the following observations were noted:—beneath the general soft condition above mentioned there is in one part of the white substance close to the inferior substance of the lobe a patch of dark red softening, almost different, close to this there is a mass the size of a walnut which is distinctly firmer that the rest of the brain substance and indeed forms a solid tumour; the mass is grey in colour and though com-
paid to the neighboring brain substance it is from
still offers practically of moderate consistence
the enlarged temporal sphenoidal to be found,
on the left side of the floor and the surface
of the floor presents an irregular and very
hyperplastic yellow softening... In the temporal
sphenoidal forna especially anteriorly and
Corresponding with the temporal gyri of the sphenoid
bone, the dura mater 1 much thickened, and
apparently infiltrated at some deep forma-
tion being also adherent to the bone beneath.
In the thickened and infiltrated dura mater
the fifth nerve and sphenian ganglion are
involved and are not recognizable.
At the angle of the sphenoidal forna the
bone is softened and replaced by a soft
tissue so that the probe can be quite
easily forced through it.

A careful examination of this region showed a
mass of grey tissue involving the skull outside
and the parotid gland in which the tumour may
have taken origin.

On macroscopic examination the tumour is
found to be distinctly cancerous, the cellular
epithelium in character with large oval nuclei.

Patient states that in July last he began to complain of dimness of vision which increased until he saw objects double, a slight improvement took place in the beginning of August, but by the end of the month the dimness had returned accompanied by headache, sickness, and vomiting. On examination, partial paresis is observed from vivid in both eyes, the pupils are dilated and sluggish. In the left eye the external rectus is paralyzed which has caused a convergent strabismus. Seen to be with right most distinctly to inner side and his right left also best to inner side.

Ophthalmoscopic Examination: Right: Optic nerve is swollen, vessels are congested principally the vein which are tortuous, especially on the upper side of disc, point of pigmentary defect visible. Left: Some pale blue, especially to outer side slight hemorrhage on the inner side, point of pigment along the edge of the disc, vessels congested principally the veins.

The movement of face tongue and palate are normal on also sensation of the face, but sensation of the posterior half of the
Tongue is not quite acute. Date and small, normal.
Patient was ordered Bromide of Iodine along with the Iodide which was added on the account of the strong suspicion of syphilis to which the patient would not admit only stating that he had a very irregular left.
Oct 18. L. in left with left 26. with right and states that his left leg has troubled him formerly. 22. Vision of left improving.
Slight sensation of paralysis of internal rectus improved, see 20 with left strongly with right which is becoming worse. external rectus paralyzed as it seems slightly improved.
Owing to severe sickness and vomiting he was admitted into the Western Infirmary under Dr. Findlayson and from the Report taken then the following is abstracted. The Vision improved off, along with paralysis of both internal rectus vision almost nothing on right much improved in left. There is no paralysis of the limbs but considerable staggering on attempting to walk. The vision of the right eye became distinctly improved day by day. His residence in the Infirmary, the movements of the ball were completely restored and the
pupil acted normally, subsequently both pupils became dilated and sluggish and the movements of the pupils principally the left densely impaired. Patient suffered severely from headache, epheloid and vomiting which eburneous injection of morphia allayed. A small anaesthetic patch was placed on right brow. Patient gradually sank and died on January 9th, 1882.

Post Mortem: — The base of the skull was found to be the seat of a tumour which had evidently grown from the bone a period the former being much softened. The tumour was situated in front of the face and extended forwards covering the optic chiasma, which is entirely converted into a column.

What massed tumour out of which the two optic nerves emerge, the left hemine uns isolated than the right, and looking in its outer fibre were continued directly into the optic tract, its decussating fibres being completely destroyed by the tumour. Both third nerves are involved, but the right more so than the left, being partially occupied by tumour tissue. The left e.
involved in the tumor, but the right does not seem to be so at least at its commencement, both 5th and 6th nerves are not involved —

The tumor itself is of soft consistence and cuts easily with a knife. The section containing little nodules of bone. On microscopic examination the structure of the tissue was proved to be cancerous —

J. H. aged 25 was sent to our case at the Eye Infirmary by Dr. Reagent on Aug 17th, 1880. Complained of diminution of vision (right) headache with giddiness, of three months' duration.

He had no vomiting. He had indistinctly with either eye examined. Distant vision normal.

Ophthalmoscopic Examination. Well-marked meningitis in both eyes, most marked in the right knob of radiation over the vessels, vein, larger.

Ordinary Bromide and Sald of Phenacine in dose of 10 grains of the former and 1/2 of the latter twice daily.
He denied having had syphilis— but admitted to having lead rather an irregular life.

Dr. Reagent has kindly supplied the following note:

"On August 15th since 11 a.m. and found all his organs healthy. The pain complained of in principally located in the left side of the head, no tenderness could be detected on that side. Patient states that he has had an attack of unconsciousness the day previous and for sometime lost the power of speech. This continued for a few"
home, and then entirely disappeared. On examining his eyes, well marked optic nerves observed. On Sept. 2nd, went to see him at Houston when he had an attack of a maniacal character followed by great irritability of temper and increase of giddiness. His attacks continued, and he was advised to go to the Houston Infirmary where he died on the 5th with convulsive dementia which took place in:

Post Mortem Examination: Postmortem examination was only given to examine the head. The scalp and calvaria present nothing remarkable. The brain matter is normal except that towards the left occipital region it is adherent over a considerable surface. The left cerebral hemisphere is obviously much larger than the right and especially in its posterior parts. This is very strongly evidenced by the fact that the convolution of the corpus callosum of that side is pushed and a fulness bulges beneath the same convolution of the right side comes to form an elongated ledge. Horizontal sections were made of the hemisphere and a tumor was found in the front where the dura mater is adherent. In the section, the tumor is situated somewhat above the level of the roof of the lateral ventricle, and just at the anterior part of the occipital.
the involving it and the posterior of extremity of the parietal. Onseen on section it is about a square inch in area and while situated at the surface it seems at its broadest on the tumour has a lobulated appearance and while it entirely replaces the convolutions it has the appearance as if it may have followed the sulci in its formation. The tumour is generally grey but in its central part it is in appearance. The surface shows great variation in general aspect. More deeply than the tumour there are two cysts, immediately beneath the tumour one is a thin flask shaped and extending somewhat deeply. These cysts have a somewhat redder tissue inside and are well defined. The remaining brain tissue is not remarkable. It should be added that the dura mater is adherent for some distance outside the tumour, and that beneath the tumour there is some softening of the brain tissue.

Under the microscope the marginal portion of the tumour shows innumerable round cells, rather in their fatty degeneration. But most internally the tissue is very indefinite.
consisting of irregular fibers interlacing

Section of brain showing A. Gob. and B. Simon.
Most of the choroidal and retinal affections as also those of the optic nerve are attended at the oculist/patient department of the Infirmary so that I only give a few in detail, who were at one time in the Hospital.


Diminution of vision in left. See to 20 with light and to 12 with left - letters and objects are best seen to main side.

Optical microscopic examination - Both nerves are atrophic. Pulver, veins prominent and obscured by exudation - Iodide and Bromide ordered.

10 grains of the latter and 5 of the former.

June 12th. Vision improving.

July 1st. Has not been so well. Been in bed reduced to 1/2. Carlsbad salts ordered along with a continuance of the Iodide of Potassium. Aug 7th. No improvement, and patient went home where embrocations injections of strychnin were employed, but with no good result. Atrophy of the nerves followed.

Mr. S. act 21. Lanark admitted 27/7/78.
Eleven months ago patient fell a distance of foot on his head and was unconscious for two days, since then has complained of a diminution of vision more especially in looking at distant objects. Can see indistinctly with both eyes together and separately. He complains of piddiness, trembling and shaking of the head in an antero-posterior direction—on closing his eyes, he is unable to sway to and fro. This part is unsteady and locomotion at times

Ophthalmoscopic Examination: Right: there are spots and vessels generally accompanied by white lines, dense congestions and ill-defined, on the left the line is more distinct than in the right.

But otherwise the appearances are the same. There is evidently a superficial neuritis, and the patient was ordered rest along with solitude and Promides of Muscimol—despite this gradually improved, but last evening,

one day so that the final condition of the vision cannot be noted.

Another interesting case where a man received an injury of the head came under observation. The blow which was direct came in contact
with the globe and resulted in permanent diminution of vision and on Ophthalmoscope examination a distinct rent was observed in the choroid in the region of the macula—No improvement followed in this case—


Inj. to 6 with R. to 4 with left. Slight twitching of left side of jaw and left arm and leg.

Ophthalmic: Swelling of left foundation over the wound, more especially at upper region. Staph.oxide and bromide ordered in 5 Frau. dose 3 times daily.

26th Complete paralysis of right side of face. 

Bathing fluid applied over the forehead at a few points with benefit. The muscle react to application of the continuous current which was recommended and on Sept. 27th patient was dismissed.

A B. aged 65. Admitted 3/2/76. Complains of dimness of vision worst in left.

Ophthalmic: Well marked retinal change, hemorrhage in the region of disc and macula with atrophic spots over the choroid.
On January the urine was found to contain albumen in small quantity. The patient ordered to rest her eyes and to have plenty of stimulants and tonics internally along with a dose of Uresin salt every second morning until the rash was cured when the patient gradually improved, the hematuria subsided, with limited degeneration and the patient began to look stronger.

At the date of April 1882, she continues well. She is to come back again.

M. C. was admitted Sept 30th 1880.
Complaining of dimness of vision in both eyes, left and always aggravated at the menstrual periods.
Occasionally, the eye swollen and congested, outline, and a degree of hay fever exist over the vessels, as if the retina were irritated. Young advised to keep the bed at the period and to rest the eyes. Subsequently, I ordered and succeeded in bringing her improvement.

Nov 25th: Vision normal, see her with colly.

Optik.  Left.  Optic nerve prominent and obscured by conjunctival conjunctivitis.  More so at some points.  The same can be seen by fundus.  Right nerve pale and atrophic.  The left nerve went through the same process and gradually atrophied with total blindness.  Everything seemed to point to some pressure in the brain from a tumour or otherwise.  Promisc of Phenacine was given to soothe pain.

J. G.  act 23.  adm 29/7/79.  Complain of blurriness of vision on right of three months duration.  Les  No 20 with left, and no 19 with right.  The patient of which is partially dilated and sluggish.


Left.  Refraction Hypermetropia.  +.  Spectacles were ordered in this.
case and patient gradually improved. The case can illustrate a second condition of Optic neuritis, which is the result of uncorrected hypermetropia, hyperopia, Astigmatism, and which improves after the error of refraction is corrected. Particularly in astigmatism it is noted a great discomfort, severe headache is often caused by a small amount of astigmatism uncorrected.

Atrophy of the Optic Nerve. A large number of cases of this destructive disease come under observation from various causes - atrophy from over indulgence in tobacco and whisky, and frequent occurrence, and if not early, very marked improvement may follow upon the stoppage of the bad habit. The atrophy resulting from paralysis is hopeless. Several interesting cases have been observed. As showing the lowered vitality of the ocular tissues in paralytic conditions, one case is noted when a slowly when followed on the paralysis. The atrophy following Paralysis, and Syphilis,
of a very grave nature. Two interesting cases were seen the same week recently of atracting after Syphilis, one in a female, the other in a male. Of improvement took place in either. Shortly from Poison such as lead are hopeless when advanced.
The Measurement of the Retinal Vessels.

The following plan was adopted for the above purpose. - These the ordinary means of an Ophthalmoscope along with a two inch biconvex lens with a micrometer carefully divided into square millimetres placed 2 miles behind it was enabled to obtain a view of the fundus ocular, which in an emmetropic eye occupied the position of the micrometer.

The vessels can be seen passing through the squares with a little practice. The eye is easily noted. In order to facilitate working, the convex lens and micrometer have been fitted into a brass plate with a handle and thus any one who is able to use the Ophthalmoscope by the indirect method may do so by the addition of the micrometer.

A rack and pinion movement has been fitted to the end of the brass plate at which the vernier of glass and thus variations in refraction are easily corrected for.

The accompanying drawing shows the form of the instrument used, viz., the concave lens and use the micrometer which was not
by Dr. O. J. D. Previous to adopting the
above instrument I made repeated experi-
ment on rabbits, dog, and the human
subject with a demonstrating of the nature of
having a micrometer placed in it but the
results were not so satisfactory.

I have examined now a considerable
number of eye, the pupils being dilated
sometimes with atropine, at other times, with
extract of digitalis, and also unaffected by
mydriatics, and the results show that
the apparent diameter of the arteries of
the retina is half a millimetre while the veins
are slightly broader being two thirds of
a millimetre.

It was hoped that a number of experiment
as to the effect produced by certain drugs
on the condition of the retinal vessel would
have proved satisfactory but the instru-
ment is not sufficiently delicate for
estimating such fine differences as_Custom.
The drawing on the next page illustrates the instru-
ment. A rack and pinion movement is used
to alter the position of the micrometer according as
this says "myopic or hypermetropic"
VI. Muscular affections including Strabismus. Spasm of the ciliary muscle and paralysis of its Sympathetic. Paralysis of M. Middlin.

Strabismus is of very frequent occurrence and daily cases come to the out-patient department. The most frequent cause is long sight although there are other temporary nerve irritants which produce squinting. The convergent variety occurs in Hypermetropia and the divergent in Myopia. If the patient is brought early and the amount of long sight not great then one may be able to correct the deformity by means of suitable glasses. When however the amount is greater than 1/2, it is generally necessary to divide the internal rectus of the most divergent eye and in many cases this is sufficient to render the eye straight. It may not do so at once but with the aid of spectacles for reading and writing it will. When the squinting eye is very behind it is much more uncertain and there has to divide the external rectus when after division of the internal in an amblyopie eye, it looks outward.

The subconjunctival operation has generally been adopted but in some cases great benefit
follows pre division of the conjunctiva.
As untoward results have followed any of the
operations, but in two cases acute calculus
accidents greatly obscuring the patient's view
as the ciliary suspended, and no suppurating
iridotomy. Division of both internal recti is sometimes
required but division of one in the
first instance is recommended.

Asphyxia. A large number of cases of this form
of muscular trembling have been seen, the
most common cause being anything which
prevents clear vision such as cataract, partial
obstructing nerves, diathermy and certain specific
cases such as tubercular meningitis. Hence
asphyxia, a case of it being detached.

Spasm of the Ocular Muscles. This occurs in
long-sighted people from overstrain and is
best corrected by rest and atropine drops.
ventilate corners glasses where the eyes
are sufficiently rested.

Paralysis of the Ocular Muscles. The Cerebral
Cases have been mentioned in detail when describing the case of Cerebral tumor, Malaria, and Syphilis. Other causes such as Fungus and Rheumatism produce paralytic ophthalmia. The internal administration of Salicylic Muriate has been found sufficient.

Palsy of the eyeball muscles occurs after diphtheria, more especially in hypermetropia. Conjunctivitis ophthalmiae Calabar Bean are generally required along with Strzemińska internally. Several interesting cases of low vision have been noted, it also the instance of neuritis with good vision with acids has been observed.
Micro Hystagmus—
B. J. aged 23. without a Mena came on an
out. patient on Dec. 30, 1874. Patient states
that six months ago he noticed that lights
on the streets seemed especially dim at a
distance, and this unsteadiness has gradually
increased until all objects tremble whenever
he looks at them. He has been a miner for
17 years, and for ten of them lay on his side
while working. He has always been a
healthy man and there is no history of rheuma-
tism in his family. He can read ordinary
types with either eye, but cannot read very
well the moving of the letter.
On examination, his eyes were observed to
oscillate to the right and left and upward
with great rapidity more especially when the
patient looks steadily at any object.
The oscillation continues when he looks up-
wards, but when he directs his eye downwards
at almost ceases. Ophthalmoscopic examina-
tion shows the fundus normal in both eyes.
He was recommended to cease working
on his side and to take internally five
drops, each of Eucaine of Hyoscyamus, and
Tincture of Belladonna Nuis Daily
Dec 23: Has improved somewhat, states that he can read more comfortably and is only annoyed with the movement when looking closely at an object.

The movements above noted are a combination of oscillatory and rotatory effort being produced by the extrinsic action of the superior rectus and internal recti and oblique muscles.

Various reasons have been assigned for the affection occurring in clinicians, but the two best are these. A man when working late, on his ride looking up at his work in a constrained position in a comparative dark chamber and Dr. Bell Taylor considers that the circumference produced in the muscle, causes spasm and he looks on the affection a chronic and analogous to writer's cramp. In order to bring the eye straight to the print the recti and oblique muscles are called into requisition and the circumference causes the spasm.

Rest from the particular kind of work which caused it is best treatment.
vii. Disease of the Orbit — Several cases of cellulitis have been noticed. Their progress watched. One lad's eye swollen to an alarming size but no suppuration took place. The eye gradually recovered vision.

Cyst of the orbit removed entirely; the difficulty of doing so was often great owing to the way in which the cells were backwards.

Removal of the orbit — removal of these has been seen, but none which justified removal. They grow to an immense size. The malignant form invades neighboring parts with rapidity. The accompanying photographs show an interesting enlargement which appeared to be chronic induration of the whole tissue of the orbit, but not enough for removal. Severe portion of the orbit were observed in a large number of enormous children. Detachment of the orbital membrane has been observed on one or two occasions, but the intractable nature of the complaint is remarkable. The rapidity with which the fluid collects is amazing.
viii. Refraction including Hypermetropia, Hyperopia

In estimating the amount of hypermetropia it is not only because the visual line has been used but Landolt's Refraction Ophthalmoscope was used to confirm the results.

Although the dioptric system of marking defects has not been generally adopted by instrument makers still it is the most satisfactory method for stating not only the amount of the Refraction.

Some people are able by means of an ordinary Ophthalmoscope to state very accurately the amount of that amount right from the appearance presented by the disc, and in high degree of this it is not difficult. But the smaller degree are very ill defined to most eyes. Hence the value of Refraction Ophthalmoscope.

It is unnecessary to discuss case of Short Long sight. But the next division demands a little more attention viz. Astigmatism which is one of the most interesting alterations of the human eye. The hereditary and family tendency of
...very marked in some cases.

One family noted had

First daughter. Hypermetropic Astigmatism

Youngest do. Myopic do

in one eye

Second son. Hypermetropic Astigmatism

The amount of headache accompanied by this defect is out of all proportion to the amount of the inconvenience, and nothing illustrates the peculiar delicacy of the eye, so well as the very marked improvement which a very slight change in convex or concave cylindrical glass will produce. The nature of astigmatism is quite sufficient to produce a condition not to be remedied by considerable improvement of vision.

It is important in all cases of astigmatism to examine the eye two or three times on patient and one set to say a slang suit improves at one time and not the same at another. The evidence concerning vs. the remains rest aside by Belladonna solution of Chloroform Ointment.