In the description of the observations which will be found herein, which have been quoted to provide examples bearing on the subject taken up, I must mention that what is written is the result of careful examination and observation of the cases of the different patients, as they came to the Cliniques from time to time, and what I noted down at the time of seeing them on each occasion.

The notes were taken from personal observations and questioning of the patients, while the Diagnosis of their cases was in every instance confirmed by Dr. Aladre, Laroi at their Cliniques in Paris and St. Denis.

The few Ophthalmoscopic Sketches, accompanying the description of some of the cases, were taken and drawn by myself at the time of examining the fundus, and as I have tried to make them as nearly accurate as possible, it is hoped that they will give a better idea, and more fully illustrate the nature, of the lesions and condition of the fundus, than could appear possible by a written description. The Sketches will be found when it seemed advisable, and was practicable, to supply them. They represent in each case the Exact Image of the Fundus.

Accompanying the description of the Corneal re. affection, also, some Diagrams have been added (which were drawn in the rough at the time of seeing the patients) to serve a similar purpose.

Red ink has been used in some places to denote headings &c., to represent the Repeated, thereby, it is hoped, enabling one at a glance to see and compare.
the Vision, whether improving or otherwise, during the progress of the case under treatment.

In examining the patient's Vision re. the Metrical Scale of de Wecker has alone been used throughout, both for distant & reading purposes, for the former the patient standing at 5 metres from the types, for the latter an average of 20 to 25 centimetre (i.e. 0.6 to 10 inches) was maintained as the distance at which the patient should read the reading types.

To facilitate reference, copies of the types will be found enclosed.

Robert F. Pope M.R.C.O.G. (Edw.)
Some Ocular Affections with their Therapeutics

by Roland Pope, M.B. C.M. (Edin.)

Having been Senior Assistant to St. Damien of Paris, Paulin, at his "Clinique pour les Maladies des Yeux" (Private Hospital for the Diseases of the Eye) at St. Damien, Paris, and also Assistant at the Clinique which Dr. Albee and St. Damien carry on together in Paris for the last six months (October to April 1892), I have had during this time the opportunity of making a special study of some new methods of treatment of certain affections of the eye which perhaps appear to constitute a real progress on the methods which until recently, within the last year or so, were formerly in vogue. In thinking also that it is best to read the observations which I have personally made collected, they have been enlivened in the following work, always endeavouring to control as exactly and accurately as possible the results obtained, and comparing these with those obtained by what one might call the usual classical methods of treatment.

As a result of the work which has been done, the observations of the patients' cases which have been taken, the special study which has been made of the subject, one has only taken up with the three cases of their treatment which may be calculated, perhaps to form an advance in their Ocular Therapeutics, coming on one side the numerous affections fall that which enters into the customary routine of treatment.
The subject then that will be found treated on will be
(i) Certain ocular affections treated by sub-conjunctival injections of Picric Acid of Mercury.
(ii) Ophthalmia with surgical treatment.
(iii) Certain ocular affections treated by masses with lanoline, hydrocyanic gas, an ointment composed of equal parts of metallic mercury and lanoline.

Firstly, let us take up the subject of sub-conjunctival injections as above.

It will be necessary to give a brief outline of the history and development of this method of treatment before proceeding to the description of the cases and the results obtained from personal observations which have been taken during the last 6 months where the injections have been practiced.

For a considerable time the idea of combating certain local manifestations of a general or constitutional affection by local therapeutics has been in the minds of many, and it has been carried out in several instances, either alone, locally, or combined with general treatment. With great success, for example, with regard to syphilis, it is well known that local treatment of local syphilitic manifestations combined with general treatment which is known of the chief to produce much more intense and permanent effect than general treatment alone.
be shall have practice later on in our remarks the local treatment of certain eye affections with its results, as also when it has been combined with general treatment, and when, after general treatment has not seemingly failed, (perhaps because it takes much longer to act) the local treatment has produced such amelioration as to almost make apparent its superiority, while we are fortunate in having such an excellent field for observation as the eye affords when viewed locally as contrasted with the whole body.

It may be said that when it is found necessary to local ocular affection to dilate the pupil one does not think of giving Atropine or Scopolamine through the system, but rather by instilling locally, hence perhaps it appears that one might treat by local therapies and local manifestations of the eye (being the only one) of a general affection e.g. Syphilis (though of course it does not hold for Syphilis except in the tertiary form), Rheumatism etc., and that this is to some extent true will be seen from remarks later on in this work.

Let us assume then that the idea of local therapy for the eye is fairly reasonable, for it evidently was keeping this in view that had some of our great physicians to devise a method of carrying out this local treatment, which as far seems the simplest and most efficacious, viz. by Subconjunctival Injections.
Accordingly the first step leading to it was
been up to the surgeons, introduced by Abadie
of Paris a few years ago*, to prevent the
occurrence of sympathetic ophthalmia by
Intra-ocular Injection of Subchloride of Mercury.
He had successful results in several cases.

Then later Raymond de Paris reported having
successfully prevented sympathetic Iris-
Cyclitis by means of Sub-conjunctival Injection
of Subchloride of Mercury, but he had taken
the idea from Bellewonger & Secondi, the latter
being due in Northern Italy all the credit of
the introduction of the method, he having been
the first to introduce and work at it there,
while just at the same time Caries of Paris
was also working at it, he having got the
idea from Abadie’s intra-ocular method of
injection 1 from the local absorption by the
Sympathetic channels of Communication (which
will be mentioned later).

He therefore in May 1891 after having practiced
this treatment for 2 years, to take careful ob-
ervation of the cases, presented to the Société
Française de l’Ophtalmologie at Paris the first
important treatise of “Sub-conjunctival Injection
of Subchloride in Sympathetic Ophthalmia”, and later
published it –

This suppliedocular surgeons with a new field
for observation & research, as nothing had previou-
sly been seen out as regarding this treatment in cases
of the Choroid, Retina etc., hell only of the Anterior
Retract des Archives d’Ophtalmologie, No.5 de 1891. Demon.
segment of the circular flexor (Acetab. Regnart &c.), and it has led me to make a special study of what may perhaps prove to be a great advance in the therapeutics of some ocular affections, whether as an improvement on former methods of treatment, or to fill a void in many cases where up to till very recently the patient was often compelled to say "treatment is of no avail."

With regard to this local method of therapeutics the idea was that where the cause was of an infective nature or origin (i.e., due to any virus or germ) the best way to combat it was to bring the medicating agent (in this case Sulfuratic*) as nearly as possible to the seat of the pathogenic agent; a fact in contract with it if possible which has been brought about by the subconjunctival injections, and this is proved, perhaps, by the results of experiments made & published by Pflüger of Berne, showing the communicatin between the subconjunctival space and the inner of the eye-ball by means of the lymphatic channels. It has been found that the lymphatic system of the eye, canals of spaces & channels, and concerning this work, that the subconjunctival space and the Tenon's space communicate with each other and with the infra-choroidens space, as well as deeper with the vaginal space which surrounds the optic nerve. Establishment thus a communication with every part of the structure of the eye, the eye, &c., with the canal cavity itself. This has been demonstrated.

* For brief reminiscence we shall always retain the word of the "Phllacticum of Mercury" or "Sulfuraticum."

...
by Ofliger also found that coloured matter injected into the conjunctiva penetrated into the Cornea, into the iris, lens, subconjunctival space, and through it into the anterior chamber of the eye, and in ordinary circumstances is known to have the power of destroying certain elements. Hence it is probable that a suitable agent, when brought into contact with the structures affected, is a substance which of the eye could be the best means of combating the affection, and that the agent in a suitable form could get right to the root of the disease and that it was brought about by subconjunctival injections (the intra-ocular injections obviously presenting certain dangers). If we can be asked that agents act so at injurious doses only are used, while the cases which at first seemed not amenable for this method of treatment can there which demanded mercurial treatment constitutionally, or which seemed to be of a systemic origin, but, as will be seen later on in this treatise, it has since proved of great marked benefit in many other cases.

The active quantity of the medicinal agent (sublimate) introduced into the eye, although apparently insignificant is nearly 50 times stronger than that which penetrates into the eye from the hypodermic injection of 1 centigramme of sublimate (the ordinary dose). The dose per subconjunctival injection being then 1/20 of a milligramme of sublimate, one-twentieth
of a cubic centimetre of a solution of sublimic acid to 1000. Whilst admitting that the
sublimic acid enters into the general circulation alone, there would be for even cubic centimetres of
blood, at the rate of 5 litres of blood in the body, scarcely 0.000005 of sublimic acid (from the hypop
dermic injection), while that locally from the subconjunctival injection (20 milligrams) is 100
times greater.

This is only to show that the dose of sublimic acid the latter though infinitesimal is not too small to have a medicinal action so might perhaps at first be thought; and as probably therefore possesses this method a most valuable
toxicological means of noting the action of a medicinal agent (as this way does not as it speaks) which
from a practical point of view is so much more vivid than any theory could be; while it may
be pointed out here that in the general treatment of syphilis e.g. when a patient is ordered small
mammulations on the flanks 50, although this be a certain amount of mercurial ointment, so that
it may be therefore dosable, that is the quantity used to be regulated by dose; we cannot tell
whether they get the whole quantity ordered absorbed into the skin or not, either because
they do not apply it properly, or because of the varying absorptive powers of the skin in
different patients. It is therefore doubtful if in can in this way note the dosable action of the
medicinal agent, whereas we know how much goes into the eye or the system so above & can
therefore note its action by dose.
With regard to the local therapeutics, we know that the propagation of generalisation takes place by the lymphatic channels, i.e., the majority of infectious processes, and hence it appears best to evacuate the lymphatic territory around the local manifestation, which occurs most rapidly when carefully brought about, in the case of affections of the globe of the eye, by sub-conjunctival injections.

The treatment of the affections of the eye, which are described from observations made upon cattle, is the introduction of sublimate into the eye, at the root of the affection by subconjunctival injections, the sublimate penetrating by the lymphatic circulation. The quantity introduced is the twentieth part of a milligramme, or, as the vehicle to speak more exactly, that is, when we say the twentieth of a cubic centimetre of a solution of sublimate 1/1000, regulated by the syringes of Labarre; a milligramme of sublimate has been introduced.

The action of the mercury in the affections after this described must vary greatly, in tincture in syphilis, affecting the Cornea (Intestinal Keratitis) inia, Chorioid, Retina, it must act as in acute Syphilis, as a Specific to the Vessels.

In infective cases of the Cornea (Uleceration), inia Retina, it may be increased in virtue of its absorptive and antiseptic
Properties, destroying the lactic acid, and thus arresting the infectious process, at the same time absorbing the remaining products of infection. In those affections of the chest, in which we cannot base too strong an affection upon it, it is difficult to understand the mode of action of the mercury, other than the absorption of the inflammatory products, though it gives toxicity to the tissues.

It has produced very satisfactory and convincing results in cases of Rheumatic Heart Condition of the heart, and Chronic Rheumatism. Where general treatment by Alkalis, Salicylates, Aloe, etc., have failed, though given good trials, but it is very difficult to explain how it has acted, though very satisfactory, clinically only working. In all forms of acute and acute cases it has caused the most speedy growth of new tissues, and in all cases it has caused the most rapid formation of new tissues; over the affected portion of the form of treatment we have so far been, probably set up by its action on the suffering and disease properties of the tissues in the most favourable condition for cellular work.

The method of application is very simple, and carried out by means of the Syringes of Dr. H. Prévost, or ordinary hypodermic syringes, but the needle is so modified as to be very fine, of the lance-like form of a cataract needle. This makes it quite easy to pierce the conjunctiva, the extra force being always kept very sharp.

The patient is first cleansed, it being found
must for practical to put a drop or two of cocaine (3 per cent solution) in the eye three times during 20 minutes; the syringe being adjusted so that a twentieth part (the Syringe being graduated into 20 divisions) only can be injected at a time, and this represents 20 milligrams contained in a twentieth of a cubic centimetre of liquid, equal to a drop of about one large drop of liquid. When one has acquired the practice, which is soon done, there is no need for uter forces before the eyehole or speculum &c. For reas of the needle is of course of prime importance, it should be used only for this; for another purpose, when not being used it should be suspended in carbolic glycerine (5 per cent). Before using it may be held still at a red heat in the flame of a spirit lamp to sterilise it, which is very convenient & very safe against re-pass. After trying several, the best results have been obtained with a solution of sublimic at one in 1000 (the solution being made with boiling water & allowed without the addition of alcohol). Though there is no pain at the time the injection is made, when the effects of the cocaine have passed off, some patients complain of a burning or foreign sensation for a few hours but not longer. The injections are usually made every second day for the first two or three weeks, if it is necessary to carry them on as long as this, and afterwards twice a week for a fortnight about 1 later once a week & soon once a month, according to the progress of the case.
It is important to use discretion in choosing the portion of the conjunctiva for puncturing with the needle in order to make a correct injection. When the conjunctiva is normal, for example, one makes the first injection above the cornea (as far away from it as possible), the 2nd below, the 3rd to the outer side of, the 4th to the inner side of, the cornea; it must always be done as far away from the cornea as possible, as it a few hours before experience had shown it to be wrong. When the injections were made near the cornea, an oedema of a pale yellowish white colour of the conjunctiva resulted, whereas this had not been noticed once puncturing according to the above method. It is also always desirable to puncture that portion of the conjunctiva which is the natural open state of the eye is covered with the lid by one or other of the eyelids. After several injections have been made, one must use the own discretion and the site of the next, choosing a portion which presents a normal appearance, as after puncturing there remains for a few days a slight oedema.

Immediately after the injection, a small blister forms containing the solution of sublimate, which becomes absorbed in a little time; this blisters causes no trouble to the patient who is ignorant of its existence. With regard to the syringe needle, it is made of metal composed of platinum and silver for the base, very durable while allowing of being heated to red or white heat without sustaining injury.

When both eyes are affected similarly, one makes the injections alternately in each eye, so far, never in the two eyes on the same day.
The form of sublimate which is used in the Hypo-
drone injection is made up specially for the purpose
as follows:

Dry pulverised Peptone
Chloride of Ammonium ... in 15 grammes.
Chloride Sublimate ... 10 grammes.

Then 8.45 (2.45 centigrammes) of the above is
10 grammes of Distilled Water gives a solution
of sublimate by which when an injection of
1 gramme of it is made, the 1 centigramme i.e.,
about 1/2 grain of sublimate is injected into the
injacent.

This solution is called Peptonate & the hypodermic
injections contain 1 gramme, so that when
the syringe is filled with the Peptonate solution
it contains 1 centigramme of sublimate in gramme
of Peptonate which is the quantity injected.

The site chosen is, in the case of males, the
Pustule region, in the case of females, the inter-
acicular region. The injections are usually
given 3 times a week, and as their chief
purpose, only, mitigation is in specific cases,
a prolonged course is always necessary.

The Mercuric Cyanide may be, and has been
employed instead of the Phosphide of Mercury,
if required, the same amount (1/2 grain) being in-
jected occasionally, whilst for the Sub-Injection in
jections 1/10 milligramme similarly.
The affections of the eye which have appeared to derive the greatest benefit from the treatment by sub-conjunctival injections of sublimate are amongst the following:

1. Various forms of Choroiditis & Retinitis
2. Forms of Neuritis Optici & Retrobulbar
3. Forms of Optic Atrophy
4. Forms of Keratitis
5. Affections of the Iris & Uveal Tract, with Sympathetic Ophthalmia, Iris-Choroiditis, Iris-Cyclitis

With regard to the first three, results of varying kinds have been obtained, such as:
(i) Complete recovery as to vision and anatomical lesion.
(ii) Recovery as to vision but not as to lesion.
(iii) Improvement in both, or as one of the two, vision restored or lesion without vision.

As to the latter two heads (i.e. Keratitis & the results have been so satisfactory as to surpass in rapidity, certainty and form obtained previously by any of the former methods of treatment.

It will be well now to give some brief accounts of the observations which have been made in the cases of patients which come under the above heads which appear to bear special reference to this subject.
Macular Chorioiditis

M. Y., 38 years of age, formerly an Officer in the Indian Army. History of Cataract in brother, while he is Rheumatic & has had several attacks of Cataract. No history of Syphilis in parents or self. Patent came first on Dec. 14th 1891 complaining that his sight was becoming weaker & that there was a mist always before objects at which he looked. The vision was

RE. V = 1/2 (weak), read no. 2 at 25 centitrons.
In.E. V = 1/3, read no. 4.

with + 1.75 BS - Dec. 12th 1891
without glasses it was RE. = 1/3; In.E. = 1/4.

Ophthalmoscopic appearances:

A few small whitish spots of roundish Chorioiditis in the macular region of each eye. The papilla of each eye appeared normal.

After eight subconjunctival injections of 0.5 milligrams of sublimate the vision was

RE. V = 1/2, read no. 2 in glasses.
In.E. V = 1/2, read no. 1 in glasses.

the 8th conj. inj. having been put in the In.E.

After a second one the vision was about the same, and remained so for another 203 days, upon which it was decided to give hypodermic injections of sublimate & desublimate the 8th conj. inj., but the result after 20 such hypodermic injections was a retrogression.

RE. V = 1/2, read no. 2 in glasses.
In.E. V = 1/3, read no. 2 in glasses.
B. conj. inf. was then removed and after one week in each eye (the hyperemic inf. was dusky in color)

\[
\begin{align*}
\text{R.E. V} & = \frac{2}{3} \quad \text{read No. 1} \\
\text{L.E. V} & = \frac{1}{2} \quad \text{read No. 1}
\end{align*}
\]

with glasses.

Feb. 26th 1892.

The case remained stationary at about this for a time, the B. conj. inf. being continued only twice a week and later once a week, but a month later, there was still further improvement.

\[
\begin{align*}
\text{R.E. V} & = \frac{2}{3} \quad \text{read No. 1} \\
\text{L.E. V} & = \frac{1}{3} \quad \text{read No. 1}
\end{align*}
\]

with glasses. March 27th

In the Fundus -

R.E. The upper portion of the whitish spots had disappeared from the macular region, while the lower ones were very much smaller and nearly as distinct.

L.E. The spots were also much less distinct.

Eight days afterwards, the next time the patient came his vision had returned quite to normal.

\[
\begin{align*}
\text{R.E. V} & = 1 \quad \text{read No. 12} \\
\text{L.E. V} & = 1 \quad \text{read No. 1}
\end{align*}
\]

with glasses.

April 4th 1892.

while he told me he had read his newspaper that morning, for half an hour without his glasses, a thing he had not been able to do for 5 years.

This case seems to illustrate the advantage of the subconjunctival infusion given hyperhemically, and to show the benefit derived in cases which are not of a syphilitic nature.
I have noticed that choroiditis in early or rheumatic patients takes seemingly a characteristic form, sometimes we find a defect in the vision without any apparent cause in the fundus, nor is there anything pathological to explain it; it seems to be probably a latent form of macular choroiditis which later develops, and one notices a reddish macula with a small somewhat pinkish spot in the center which later becomes white, leaving a small patch of its being choroiditis. Sometimes choroiditis takes the form of small white spots or patches in the macular region, most often between the macula and the fovea, as in the case of Mr. Y, just formerly.

Macular Chorioiditis -
Mr. L, aged 29 years - no history of syphilis, or jaundice, probable (from patient's account) rheumatic kidney. For 5 years he had not seen as well with his R.E., but quite well with his L.E., until 2 years ago when he found his sight much diminishing and when he came here he had very imperfect vision:

R.E. V = 1/50 (1 inch) reds No. 2 at 10 centih. T.E. V = 1/10 (1 inch) reads No. 2 at 10. -

Jan. 29, 1872

He had been examined, then he went for treatment there, by 3 French in Paris at different times, but none had seen him for nearly a year before he came here; he had derived no benefit from these treatments, and he was told by each of them that
there was no visible cause in the fundi of the eye for the defect of vision. On very careful examination of the macular region, we noticed the following pathological appearances:

R.E. A reddish macula with whitish spots in the centre, while around it several small white focal choroiditis.

I.E. A somewhat similar condition but not so marked.

The natural conclusion was that the affection had been latent when he had been previously examined, and that as already described, there was the defect (or marked in this case) of vision, while the lesion came out later.

Sub-conj. m. were begun and after two has been made one in each eye the Vision was

R.E. V= 1/60 (metre) read No. 1 at 10 cm.

I.E. V= 1/10 (metre) read No. 1 in ~

Feb. 3rd 42.

For some reason or other the patient has never once returned here, so that we cannot record his case.
Macular Chorioiditis

M. A. aged 45 years. Some first time on the 10th January 1892, complaining that for a fortnight he had noticed a mist when he looked at an object and gradually his sight was becoming defective.

RE. with -3.50. V = 1/3 - Read No. 1.
I.E. = V = 1/4 (weak) - Read No. 1.

3 D. of mercury.

History of Syphilis: Has been guilty for 12 or 13 years having had 3 or 4 attacks in the feet in ankle & knee. Otherwise good health, temperance, abstinence and Alcoholic. Notting abnormal in urine.

Opthal: - 15th Jan. 1892.

RE. Notting abnormal observed, papilla pale.
I.E. In macular region to the inner side of the macula, between it & the papilla, were some small whitish dotted patches of chorioiditis. The reddish spot of the macula was distinctly seen.

The papilla was slightly reddish, inflamed with slight inflammatory swelling.

The treatment consisted of Sub-conj. inj. only.

After the 1ste sub-conj. inj. a great amelioration had taken place in the Vision.

I.E. V = 1/8 (clear) Read No. 1 at 20 cent. while the mistiness before the eye had completely disappeared.

Opthal: The white patches of chorioiditis were not entirely diminished or altered.

After the 3ste there was no change, the Vision remained stationary, but changes took place in the fundus, e.g. after the 3ste sub-conj. inj.

Opthal: RE. Papilla slightly reddish still.
I.E. Papilla a little infiltrated with a reddish
hue. Stratched patches between macula & papilla
of what seem to be a fally degeneration of the choroid
ring slight. The reddish spot of the macula was no more to be seen.
Feb. 1st 1842.

The patient came very irregularly, and had
the S. c. inj. about once a week only.
After (6 or 7 inj.) in 5 weeks the Vision had
been brought to normal

<table>
<thead>
<tr>
<th>R.E. V = 1, med. No. 1</th>
<th>I.E. V = 1, med. No. 1</th>
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Feb. 23rd 1842

while with the

Opthalmic:

R.E. Papilla slightly infiltrated at side, and
one noticed, one small albumen white spot in the
retina, which seemed to be a little raised from
an Antoni's condition.

I.E. The papilla was much clearer.

The patient kept on very well, and when he
last came, March 5th, both papillae were
almost perfectly clear, while the patches of
choroiditis in the I.E. were much diminished,
and the apparently Antoni's condition of the
Retina in the R.E. had disappeared. March 5th.
He had not had a 0. c. inj. for a fortnight
his Vision was quite as good as last time &
he considered himself completely cured.

This case illustrates the benefit derived from
such conjunctival injections as the treatment.
In connection with this last case it may be mentioned that after the 50 c.c. and only 5 have been given during as many weeks the patient complained of the metallic taste in his mouth. Salivation has been produced, yet only the usual amount. 30 milligrams had been injected each time. This not only showed how powerfully this minute quantity can act locally, but made one wonder if it were not well supported in certain patients. 

As a result of the previously described case of M. Y. who was healthy, it must be stated that he, after two months or more, was troubled with severe boils on the neck and over the lower jaw. Yet in each case the vision lesson were remarkably improved. The opportunity did not, unfortunately, offer to study the effect of 2 c.c. of echinocidin in healthy cases, but time experience will be necessary to clear this important point up.

Patient macular choriditis.
M. M. Evans 43 years.

In November 1891, three months ago, patient noticed the sight of his R. E. failing pellagrially. A week before, the object looked at. He increased till he could scarcely see at all with his R. E. Hehly has always been good with regard to.

History of parents good. Disease syphilis, but caught right through pellagrially. The symptoms at times. Rheumatic having suffered especially the heads of feet.大きい, otherwise health good.
In November he consulted an eminent Genito-urine in Paris (Dr. Faureaud) whose diagnosis of his case was "Central retinitis from Lepra of the meningae," and who treated him by mercury injections on the legs, and ordered him 3 granneces (45 grms about) of iodine of Paris per day, which treatment be carefully followed for 2 months. But without deriving any benefit, as he gave it up. A few weeks later (15th February) came under our notice. No record of the cessation of visions having been kept while he was under the care of Dr. Faureaud, we have only the patient's word that he did not improve under the treatment. Below hereon will be found the record of his case and was when he came to us and how it progressed under treatment by local medicinal injections.

R.E. V = 7/1 at 1 meter. Tread No. 7 at 25 centim.

E. (normal) V = 1. Tread No. 1.

* Vision when he came to us. Feb. 18th 1892.*

When he looked at r.a. a sheet of white paper he noticed a dark shadowy brigures, but on turning him for the colours, there was no Central Retinitis. There was however the phenomenon of Metamorphopsia, the outline of objects appearing distorted to the patient.

* Ophthalmoscope —

Each papilla was reddish, though no lesion in the macula or macular region in either eye was apparent, though in the R.E. the macula was markedly red & distinct.

After 2 1/2 years his vision for near work had improved.

R.E. V = 7/1 at 1 meter. Tread No. 4 at 25 cm.

The dark shadow before an object had entirely disappeared.

Feb. 23rd 1893.
then after a 3rd injection
RE. V. ½ at 5 metres, made no 2 at 25 cm.
which was a marked improvement to take place in a weak.
On the 27th Feb '72
RE. V. ⅓ at 5 metres, made no 1 at 25 cm.
ophthel.
The redness of the macula was still apparent,
while in the very center of it there appeared a very
faint pinkish white spot, only discernible with
difficulty & care. The papillae were clearer.
The metamorphopsia had disappeared on the 23rd
March, the Vision being as at the last time, but
on March 5th when the Vision was
RE. V. ⅔ at 5 metres made no 1 at 25 cm.
the patient had developed Micropsia, all the
objects looked at with this eye appearing
smaller than normal, than they did with the other eye.
ophthel.
The macular lesion is no longer latent now, there
being a very small whitish spot of choroiditis in
the center of the macula which still shows some redness.
So far the patient had had only 6 inj. inj.

On the 30th March '72
RE. V. 1, made no 1 at 25 cm.
normal vision, after 6 weeks treatment. The
macula now presented a almost quite normal
appearance, the whitish spot diminishing & the papillae were now quite clear.
In case of severe vomiting. The patient had
10 sub conjunctival injections, and after
could rely on the patient's statement, about the general Mercurial treatment, also你看 atin of
Black, not having done him any good or improved his vision, then this case would show
the advantage of local over general treatment for local manifestations, as regards the eye, of
a general condition, thus supporting the local therapeutic idea. It certainly shows the efficacy
of subconjunctival injections in affections of the Choroid & Retina.

Chorioretinitis

Mr. O. S., aged 29 years

had complained of his sight failing him
gradually for two or three years, both eyes being af
fected. No history of syphilitic, and the patient
denied any knowledge of Syphilis in himself or
parents. He said that he was definitely Rhumatic.
Notwithstanding his denial of it, on examination of
the fundus, the case appeared to be of a syphilitic
nature. He came here first in June 1891 when
his Vision was R.E. V = 1/3, L.E. V = 1/3, but
did not return for some reason or other till Jan. 16 92
and then

\[
\begin{align*}
\text{R.E. V } &= \frac{1}{3} \\
\text{L.E. V } &= \frac{1}{3}
\end{align*}
\]

Jan. 16 92 till March 9 92

In Jan. 16 92 the case being considered specific
he was given hypodermic injections of sublimate
three times a week up to the 9th March, but
without improvement (7 weeks treatment), the
case remaining stationary.
The Ophthalmoscope revealed the papilla to be slightly infiltrated hypaemic, with indistinct margins. In the macular region there were some disseminated choroidal changes, yellowish white patches with pigmented outline, in one with pale margins, also some patches of black pigmentation. While at the periphery of the fundus in each eye, also, were choroidal pigmentation changes.

On the 9th March, it was decided to make sub-conjunctival injections of sublimed iodine in addition to the hypodermic, and after the first one, in two days the result was striking:

\[
\begin{align*}
R.E. V = \frac{2}{3} & \quad \text{read No. 1 at 25 cm.} \\
I.E. V = \frac{2}{3} & \quad \text{read No. 2 at 25 cm.} \quad \{ 11^{th} \text{March, } 1892. \}
\end{align*}
\]

while three days afterwards, after the 3rd inj.:

\[
\begin{align*}
R.E. V = \frac{2}{3} & \quad \text{read No. 1.} \\
I.E. V = \frac{2}{3} & \quad \text{read No. 1.} \quad \{ 14^{th} \text{March.} \}
\end{align*}
\]

and on the 16th March, about the same thing, the vision of the I.E. being slightly better than that of the R.E. Patient did not come then for 5 days or on 21st March, after 4th inj.:

\[
\begin{align*}
R.E. V = \frac{2}{3} & \quad \text{read No. 1.} \\
I.E. V = 1 & \quad (some better) \quad \text{read No. 1.} \quad \{ 21^{st} \text{March.} \}
\end{align*}
\]

and later:

\[
\begin{align*}
R.E. V = 1 & \quad (weak) \quad \text{read No. 1.} \\
I.E. V = 1 & \quad (weak) \quad \text{read No. 1.} \quad \{ 30^{th} \text{March.} \}
\end{align*}
\]

Up to this date the patient had had 8 sub-conjunctival injections of 33 hypodermic.

The patient has been once since, and his vision has improved, become clearer, while the lacrimation in the fundus were markedly diminishing, some
small patches having almost entirely disappeared.

This case perhaps illustrates the rapidity and intensity of the action of sublimated carbon obscured under the red conjunctiva, and the seemingly slow action, not beginning to act till some time after, when introduced hypodermically.

Chorio-Retinitis —

M. E. Cole aged 52 years.

The patient came complaining that his eyes were red and inflamed, and that because of it he could not see well. A condition of episcleritis was found in each eye, an old salmon of the cornea of the left eye, while on the right eye, while he complained of not seeing well during the last 10 days, since his eyes became red, his vision was taken up to be

R.E. V = 1/4; red No. 3 at 25 cm. (35 Wnd)

I.E. V = 1/10; red No. 4

why a defective was in the case of the I.E. shown by the old salmon of the cornea, while the vision of the R.E. led me to examine the fundus, and the following conditions were found:

Ophthalmoscopic appearances —

R.E. Nothing appreciable in the papilla itself, but a slight fading of the retinal at its margin from top to bottom radial a little in the direction of the macular; and area not the papilla macula, near to papilla a little scattering of small which brilliant fomt — probably an alteration of the pigment in the joining.

In the macula itself a granular, reddish, condition without any pathological change.
In the equatorial regions, upwards toontowards especially, the dotted appearance is much more marked. There are small clustered pigmentary corpuscles, deposits, on a yellowish, punk background.

It was not the typical aspect of pigmentary retinosis but there were some pigment spots about the age of a pin's head or little larger. The choroid in these regions was nearly white.

I.E. Difficult to examine on account of the cataract, but it seemed that the lesions were more advanced in the than the R.E. there being one white focus of choroiditis surrounded with black pigment larger in more pronounced than any in the R.E. otherwise very similar generally.

As was suspected the case was specific, the patient telling a history of syphilis to himself, he also said he was rheumatic, having suffered in one knee, but this may not have been rheumatism. It seems for the syphilis were not known of the changes in the fundus of the eye.

He was given subcutaneous injections of sulphur and told to rub in "Bignamne' Napoletani" (i.e. Bignamne' Hydragyrum Comesulis B.P.) to the temples, sound about the eye, till a thick cheesy mass of a mud (of an ordinary Barloma mud) was all absorbed, evening the bumps.

After the 1st & 2nd day in two days the vision has improved from

<table>
<thead>
<tr>
<th>Date</th>
<th>R.E.</th>
<th>I.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>30th March</td>
<td>⅓</td>
<td>⅓</td>
</tr>
</tbody>
</table>

To

R.E. V = 1 (week) | read No. 2
I.E. V = ⅓ | read No. 2
and 5 days afterwards, three s. o. j. inj. in all

R.E. V = 1, made No. 1. at 25 cm. 4th April.
I.E. V = 1/10 (Anoma), made No. 1. a.m.

So far however, no diminution in the vision of the
fundus was apparent, though from experience
of many other cases it is very probable that late
they will become very much modified. Some entirely
disappear.

Chorio- Retinitis

M. A. I... aged 25 years.

A specific case, the patient giving a history of acquired
Syphilis. He had had the eye affection for 4 years,
during portion of which time he was treated by his local
practitioner by mercurial injections (general), by hypodermic
injections and opthalmic injections of sublimates.

Three latter two forms of treatment were commenced i June (1st) 1891, about 8 months previous to the
first, by which time he had had 60 hypodermics +
10 s. o. j. inj. 2, the latter being given 5 from the 1st to
11th Aug. 1891, 5 from 12th September to 6th
December 1891, thus being on an average about 18 per
between each. The first series of 8 inj. injected in
the left eye, the second into the right eye. The states
that for 20 or 3 days after each s. o. j. inj. there was
marked Improvement which had however disappeared
before the next one.

The first case under our notice on the 19th Feb. '92

R.E. V = 1/3 made No. 1 (weak) at 15 with this
I.E. V = 1/10 made No. 1 (weak) at 15 centimeter.
The cataracts were well seen distinguished.

Papilla much swollen. Hypersensitive.

R.E. Numerous floating bodies of varying size in the vitreous. Papilla swollen, infiltrated, indistinct in outline. Niris a little turbid. Above the papilla, a floating body of blood attached by a filament to the margin of the retina, this body appeared red with the direct, black with the direct method of examination, while there was a larger one hugging the fundus. Inside red cloud (direct & age) Behint this red cloud the choroid was less coloured than the rest. There were small hemorrhages in other places. Downward, a large black floating body, some small foci of choroiditis located to the periphery were seen. The extremities of the retinal vessels appeared smaller than normal.

T.E. Papilla much swollen, hypersensitive.

Transocular R.E. Many floating bodies in vitreous. The vessels from the papilla were thin & tender. There was a small white filament in the vitreous in front of the papilla. Two foci of choroiditis seemed to be behind some of the choroidal vessels, while there were many small foci of choroiditis at the periphery, not all behind the vessels. Some of these foci were surrounded by hemorrhages.

The patient was given Subconjunctival Hypodermic infusion of Sublimated for treatment, and 5 days after

R.E. V = $\frac{1}{2}$ max. N. 1 (weak) at 15 centimetre.
T.E. V = $\frac{1}{2}$ max. N. 1 (weak) at 20 centimetre.

24th Feb. 92.

Contining

R.E. V = $\frac{1}{2}$ max. N. 1 at 20 cm.
T.E. V = $\frac{1}{2}$ max. N. 1 at 25 cm.

4th March 92.
This was after 6 such inj's, and the patient appeared satisfied with his progress, saying that he had indeed 'shed tears'. The case further as follows:

R.E. V = \( \frac{1}{3} \) read No. 1 at 25 cm. 
I.E. V = \( \frac{1}{3} \) read No. 1 

1st March

after 8 a.m. + 9 hypodermic injections.

On the 17th March without apparent cause, the patient found the sight of his R.E. again diminishing, and on the next occasion of seeing him it was found (March 23rd) that a 'relapse had taken place in that eye, the I.E. remaining as before. Vision now

R.E. V = \( \frac{1}{6} \) read No. 9 at 25 cm. 
I.E. V = \( \frac{1}{3} \) read No. 1 

8. a.m. + 10 hypodermic inj's all day continued, the Fusid (Fusidic) was erased, visible, while the Ulcers appeared drier than a reddish tint.

On the 25th, however, under the continued treatment, the Ulcers had cleared up, Fusid became again visible and the Vision brought to what it was before

R.E. V = \( \frac{1}{3} \) read No. 1 at 25 cm. 
I.E. V = \( \frac{1}{3} \) read No. 1 

10th April. 96.

Since this date the patient has gone on most satisfactorily without check of any kind.
Dissociated Chloro Retinita—Miss S. D. aged 19 years. Complained of defective vision for the last 2 years, but did not present herself for treatment till a year ago Feb. 1891. She has always had good health, has been very strong, healthy, has had good antecedents as to health, there being nothing in the way of Rheumatism or Brain, nor can any history of Syphilis be elicited. The vision of both eyes being defective and the vision of the fundus very murky and pronounced.

When she first came
R.E. V = 1/6; read No. 1 at 20 cm. Feb. 16th 1891
I.E. V = 1/8; read No. 6 at 20 cm.

The treatment at that time was hypodermic injection of sublimates twice or sometimes three times a week. After 3 months there was an amelioration as follows though it was slow.
R.E. V = 1/3; (week) read No. 1 at 28 cm. 23rd May 91
I.E. V = 1/6 read No. 3

After 40 hypodermic injections during the ensuing 5 months (May to October 91), these injections were continued though not so regularly or frequently and at this time
R.E. V = 1/6 read No. 2 3rd October 91
I.E. V = 1/8 read No. 5

A slight progress; she then had between the 13th and the 22nd December 1891 20 more hypodermic injections but there was no improvement or change in the vision, it still being.
R.E. V = 1/6 read No. 2 at 20 cm. 12th Dec. 91
I.E. V = 1/8 read No. 5
The hypodermic injections were continued, but on the date 12th Dec. 91, it was decided to give Sub- cutaneous injection also, and in 6 days after 3 s. c. inj. the following observation had taken place:
RE. V = 1/6 read No. 1 at 20 cm.
I.E. V = 1/6 read No. 4 .
Later after 10 s. c. inj.
RE. V = 1/7 read No. 1.
IE. V = 1/6 read No. 3
5th Jan. 92
Continuing
RE. V = 1/7 read No. 1.
IE. V = 1/6 read No. 2.
29th Jan. 92
The patient the stayed away for a fortnight, not having either hypodermic or s. c. inj. Result:
RE. V = 1/6 read No. 2 at 20 cm.
IE. V = 1/5 read No. 2 (weak) at 15 cm.
10th Feb. 92
As far she had had 100 hypodermic inj. in all, and after the last intubation she still stayed away another fortnight so that no S. c. inj. were made for a month, but when she returned March 2nd 92 they were recommenced alone (no hypodermics, as I go from now) and in 5 days after 2 s. c. inj. - an improvement had taken place from
RE. V = 1/6 read No. 2 at 20 cm.
IE. V = 1/6 read No. 2 (weak) at 15 cm.
March 2nd 92
10
RE. V = 1/3 read No. 1 at 30 cm.
IE. V = 1/4 read No. 2 at 20 cm.
March 7th 92
and after 6 s. c. inj. of the last times
RE. V = 1/2 (weak) read No. 1
IE. V = 1/4 read No. 2
16th March 92
The patient has gone on improving, her vision having become still better, the exophoria being now continued at longer intervals, and it is almost probable that she might cure as to vision, but we cannot hope that the anatomical lesion though greatly diminished will ever entirely disappear, as they were so pronounced and advanced.

This case serves to illustrate the rapid and marked benefit derived from such retinal injections, also benefit to a less extent as regards rapidity and intensity of hypodermic injections of sublimates, though after a certain number of the latter no further progress was made.

Neurotic Retinitis

Mr. M. A. C., aged 38 years; duration of the disease when he came 3½ months. In July 1891 his sight began to diminish, and he was treated by Dr. Ennis, of Paris. He ordered his mercurial injections on the simplex & prescribed Liberty of Finsbury, of which the patient took 4 grammes (about 60 grains) daily for 2 months, also carrying out the injections during this time, but without any good effect, as he came to see for advice. Dr. Ennis denied all attacks of atypical cerebral predominant, and said he was a phthisical. He had influenza in 1889; his occupation exposed him to winter chills & temperature, heat & cold. He was very irritable & apparently nervous temperament. The right eye was first affected, then being a month before the left eye, but soon the latter followed. On presenting himself here on the 7th October 1891
the following case found to be the state of his case:

R.E. V = \(\frac{1}{3}\); read No. 3 at 20 cm.

I.E. V = \(\frac{1}{2}\); read No. 3 at 20 cm.

9th Oct. 72

The field of vision was almost normal in extent, a little contracted, but there was a Central scotoma for the deep, green in each eye, while the white (cherry red in this instance) appeared gray. The other colours were seen well & clearly in each eye.

Ophthalmoscopic appearances -

The papille in each eye were large slightly reddish, hyperemic & situated in outline.

The macular regions of the R.E. presented an area of hyperemia, a slight darkish fading, but that of the I.E. was normal, showed no alterations.

He was given Hypodermic that ophtalmic injection of Sublimin, and after 3 of the former V 25%.

16th Oct. 71

and similar treatment being continued

R.E. V = \(\frac{1}{3}\); read No. 2 at 20 cm.

I.E. V = \(\frac{1}{3}\); read No. 2 at 20 cm.

3rd Nov. 71

He then went away to the country for 10 days, and during this time he had a relapse, but a rapid marked retrogression so on his return.

R.E. V = \(\frac{1}{4}\); read No. 3 at 20 cm.

I.E. V as before.

18th Nov. 71

While away he had all the time carefully cared
Le parcours de deux oiseaux dans un espace circulaire, avec des indications de refraction et d'acuité visuelle. La mention de "œil gauche" et "œil droit" suggère une comparaison ou un examen comparatif des deux yeux. Les lignes et points encerclés indiquent des points d'intérêt ou des mesures spécifiques. Une note manuscrite indique que le trait rouge représente le champ de vision et que la tâche sombre indique un certain niveau d'acuité. En dehors du contexte spécifique, il est difficile de tirer des conclusions précises de ce graphique.
out mercurial fumigations to the temples as he had been told to.

The S. p. inj. 7 hypodermic was resumed after two of each

R.E. V = ½, read No. 3 at 20 cm. 17 Feb.
I.E. V = ½, read ¾ x.

while later on, nearly two months, after he had had 16 S. p. inj. 7 and 30 hypodermic, 17 Feb.
R.E. V = ¾, read No. 2 at 20 cm.
I.E. V = ¾, read No. 1 at 20 cm. 17 Feb.

From this date the S. p. inj. 7 were only given once a week, while the hypodermic were discontinued altogether, the result being that the vision of the R.E. retrograded.

R.E. V = ½; read No. 2 at 20 cm. 13 Jan.
I.E. V = before

and that this was due to the S. p. inj. 7 having been given less frequently 4 not at the discontinuation of the hypodermic, seems clear from the further progress of the case as with the former only after a fortnight

R.E. V = ¾; read No. 1 (one word) at 20 cm. 6 Feb.
I.E. V = 1; read No. 1 (clearly) at 20 cm. 6 Feb.

and later, normal vision was reached.

R.E. V = 1, read No. 1 at 20 cm. 23 Feb.
I.E. V = 1, read No. 1 at 20 cm. 23 Feb.

while at this date there was no longer any tendency for the deep green, or the white (chalk), while with the

Optikulincoscope -

the papillae were now very slightly hyperemic or infiltrated, the cornea were much
more distinct, but there was still a displacement of the pigmentation in the macular region of the R.E.

Early in this case, when the patient first regarded an object, or for example a word, he saw the letters at the beginning only; better than this is the central, but this passed off under the treatment, but again with the R.E. after the relapse, there was a slight shadow between the eye the object looked at is small, which also later disappeared.

The patient returned to me on the 7th March, saying that his R.E. was again failing him, and on examination we found these surpriesome appearances in the vitreous in this form of the well-known sheet which was followed a days later by the same thing in the L.E. and we concluded that the case was of syphilitic origin, though denied by the patient, and that had not the mercurial treatment byunctions (general) temporal injections, hypodermic injections probably most important of all (as the patient was enjoying excellent health otherwise, all the time, it being the only local manifestation) but somet inunctions, have as promptly begun to wear out, or should have had a typical syphilitic choritis retinitis with fully developed lesions. On 7th March, after the destructive treatment with Ultrin R.E. V = 1/2 read no. 3 at 20 cm. 7th March
L.E. V = 1/2 read no. 1 (inch) in
After 1st inj. - the dust had disappeared in the R.E.
R.E. V = 1/2 read no. 1 at 20 cm.
and a fortnight later from the L.E., so that
after 6 o.c. of 5% in the I.E. + 2 in the R.E.,
he had again normal vision

R.E. V = 1, read at 12 ft. at 20 cm.  
I.E. V = 1, read at 12 ft.  

Reexamination 30 March 92

His speech is the Utmost + nothing appreciable in the fundus. From this time he has continued to go on well, not having returned.

Optic Neuritis—
Mr. O.P., aged 38 years.
The affection began about the 1st October 1891 by headache + pains in the region of the orbit when the patient adducted the R.E. At the end of 8 days he found the sight of the eye much diminished, but did not come to view till the 17th Nov. 91, 5 weeks later. He then noted that his vision was

R.E. V = (+1.50) = 3/6  
I.E. V = 1 : (normal)  

17th Nov. 91.

that there was a slight Dyschromatopsia, he not distinguishing the colors well.
The field of Vision was contracted, while there was an incomplete para-central scotoma for the green + the red. With the

Ophthalmoscope,

there was a very pronounced infiltration, hyperemia of the papilla which was swollen, while around the disc was a halo of leukiosis. The veins were dilated somewhat tortuous. There was no central margin of the papilla.

From the history the case appeared like specific in origin. The patient was treated by sub-capsular injections.
of Sublimat, & Mercureial fumations to the Temple,
and in 10 days time

R.E. V. +1.50. = ½  — 27<sup>th</sup> Nov. '91.

while the Diplophemal pain had disappeared, and
the Martile notably diminished, the Papilla remaining
dirty grey in colour;

and 10 days later still

R.E. V = 9/3 (+1.50) made to 2 at 25 cm. with

The field of Vision had by this time become almost normal.

after 7 o. c. y. m. the Vision had become

R.E. V (+1.50) = 1, made to 2 at +3.50 at 25 cm.

16<sup>th</sup> Dec '91

while with the

Ophthalmoscope, it was seen that the Papilla had
almost assumed its normal aspect, the
vessels were no longer tortuous or dilated, but there
was still a very slight halo round the Papilla, and
a fortnight later this had disappeared, though there
was still a little haziness along some of the vessels. At
this latter time when he looked at a sheet of white paper
he noticed a small greenish cloud on it, this also
disappeared later 

+1 on the 15<sup>th</sup> Jan. 1892 there
was no longer any asthenia.

The Vision remained the same up to the 31<sup>st</sup> Jan. '92,
while the fumers (Papilla) approached nearest
near to the normal, while there was nothing of
appreciable abnormality the patient has gone on
now formally since.

I may mention that with regard to his case, the
opinion stated by Dr. Barnes on its diagnosis, was
that it was a Retinal Dots Primary of an Infor-
tonic origin, but by Dr. Bannister that it was not
of the Retinal Dots form.
Examen Campimétrique

œil gauche

Réfraction
et acuité visuelle

œil droit

The Red pencil marking represents the extent of the field of vision on the 17th December 1891.
The Blue similarly on 5th December 1891.
Optic Neuritis.

M. A. L., 37 years of age.

The patient was rheumatic, having had frequent
attacks in the shoulders, knees, wrists, etc. He
antecedents of gout or syphilis. Fairly good
health generally speaking, but once some time
has suffered from headache (F. Migraine ophthalmique).
Complained of not seeing on the 8th
February '92. He was examined, and said that it
was found that there was no Diplopia of Myopic
red-eyes, etc.

R.E. -1.0 V - 1/6 read No. 14 at 20 cm.
I.E. -1.0 V - 1/6 read No. 5 - - -

The visual field was a little contracted but almost
normal in extent; there was however a central
scotoma for the Red and Green slightly acerved
(affected) only observed in the I.E.

For his treatment o-p in for gout were given, and after
the first one there was an immediate marked im-

R.E. V (-1.6) = 1/6 read No. 14 at 30 cm.
I.E. V (-1.6) = 1/6 read No. 14 - - -

Ophthalmoscopic appearances:

Very similar to those of previous case (C. P.)
Severe, lazy, hyperemic to, a granular condi-
dition of the vascular region is well 1/2 but not
extensive.

For the severe headache which had prevented
him from sleeping many nights, he was given
an Opi-cerebral injection (hypodermic into the
scalp) of strychnine, the quantity injected being
1/2 of a gr. of Strychnin 1/ to 300.
When he returned 5 days afterwards, the headache had been very greatly relieved, he had been able to sleep well at night.

On the 2nd of May, a new injection was made and after that he has not since complained of headache.

After the 2nd sf. inj:

R.E. V (-10) = ½ Read No. 1 at 20 cm.

I.E. V (-10) = ⅔ Read No. 2 at 20 cm.

On May 12th, there was further improvement in the vision, while on the 8th of March there were no more complaints for the red or green.

On the 5th of May, were all the things improved with good results so.

R.E. V (-10) = ½ (near) Read No. 1 at 20 cm.

I.E. V (-10) = ⅔ Read No. 2 at 20 cm. 7th month

Ophthalmoscope:

R.E. Papilla much less inflamed, less hyperemia, the inflammatory process much diminished.

I.E. Similar but more marked hyperemia.

Then in the R.E.

Though the vision is not far, there has improved, there has not been much further improvement in the vision, but the case has always since gone on retrograding.
Optic Atrophy
Mr. M., aged 37 years of age.
In the last 2 or 3 years he had had defective vision due to Chloris Retinitis following on which they took place some alterations of the Retinal vessels and as a result Optic Atrophy developed. Though no history of Syphilis could be elicited it is probable that the case was of specific nature. The patient complained of Chienmatics sensation when the firstcame the vision was

R.E. V = 1/8, read No. 6 at 25 cm.
L.E. V = 1/8, read No. 8.

[24 Oct. 91]

able with the
ophthalmoscope.
The papilla of each eye was very white, showing a typical stage of Atrophy. Chloris Retinitis very typical, vessels in the fundus scarcely to be seen. Points of pigment, + small foci of choroids in the periphery of the fundus.

Her treatment at this time consisted of hypotonic injection of chlorhydrate + temporal mercurial mine tonics with the result nearly 6 weeks later no improvement.

R.E. V = 1/8, read No. 8.
L.E. V = 1/8, read No. 9.

[19th Nov. 91]

Her field of vision was examined and found to be very contracted.

More than 2 months later under the same treatment

R.E. V = 1/8 (marked) read No. 8.
L.E. V = 1/8 (marked) read No. 9.

[29th Jan. 92]

Still no improvement but retinitis still the same.
injections v. not derived any benefit, it was decided to give sub-conjunctival injections in addition, and in a month's time after 10 sq. cm. there was the following satisfactory result:

\[
\begin{align*}
R. E. V &= \frac{1}{4} \text{ read No. 7 at 25 cm.} \\
I. E. V &= \frac{1}{4} \text{ read No. 8 in } \%
\end{align*}
\]

21st Dec. 92

Continuing the sq. cm. we had still further improvement:

\[
\begin{align*}
R. E. V &= \frac{1}{4} \text{ read No. 5 at 25 cm.} \\
I. E. V &= \frac{1}{4} \text{ read No. 6 in } \%
\end{align*}
\]

14th March 92

and later:

\[
\begin{align*}
R. E. V &= \frac{1}{3} \text{ read No. 3 at 25 cm.} \\
I. E. V &= \frac{1}{3} \text{ read No. 6 in } \%
\end{align*}
\]

12th April 92

The field of vision was still much contracted. There was not any very great appreciable improvement, anatomically, of the vision in the fundus, but the great progress made as regards the vision, so important to the patient, was very satisfactory. She has gone on steadily improving up to now, without any check.

This case seems to illustrate the benefit derived from sub-conjunctival injections after hypodermic injections of Temporal Phthisis had quite failed.
Optic Atrophy, of syphilitic origin.

M.M., 28 years of age, contracted syphilis at the age of 18 years (9 years ago). He gave a history of irritated chancres, but added that he had no secondary signs, that he did not go through a course of mercurial treatment. Two years ago nearly he noticed that when he looked at an object he saw it as though a cloud which was thicker in the case of the R.E. In August 1890 he went through a month's treatment of mercurial minims, but did not follow this up, and gradually his vision decreased until August 1891 when the above diagnosis was made by Dr. Abacie, the patient having come to seek his advice. It should be mentioned that in September 1890, Dr. Lazenby, an ophthalmologist, had made the same diagnosis and prescribed a course of mercurial minims to which was added atropin and locally, & electricity, but to no avail. From this treatment his sight always diminished. It was not until November 1891 that he consented to Dr. Abacie's advice to undergo a course of subgynacetic and hypodermic injections of salvarsan. At this time the state of his eyes was:

R.E. V ¼ 40; made No. 9 of 16 ambliotomists.
I.E. V ¼ 1/5; made No. 6 of 15 cans. (With difficulty) 1891.

The field of vision was a little contracted, central vision much altered without one being able to define a central absolute scotoma, his perception of objects was defective. The colours were not recognised soft blue and yellow.
Ophtalmoscopic Appearances.

The papilla were of a dull white colour and very marked atrophic excavations. The vessels did not appear to be altered or diminished in calibre. There was nothing very apprelicable in the macular region.

8 days time after 4 s. e. jg 5/8 and the hypos.

R.E. V = 1/8, read No. 8 at 20 cm.
I.E. V = 1/8, read No. 6 at 20 cm.

2nd Dec. 1891.

And 2 days later

R.E. V = 1/10, read No. 6 at 20 cm.
I.E. V = 1/8, read No. 5 at 20 cm.

4th Jan. 1892.

From this on till Feb. 6th 92 there has not much change in the vision, a slight improvement when reading (near vision).

R.E. V = 1/10, read No. 5 at 20 cm.
I.E. V = 1/8, read No. 4 at 20 cm.

Feb. 6th 92.

The field of vision had much improved, she had gained a considerable seeing now Blue yellow card. There was a slight central scotoma for white which appeared gradual.

Up to this time the patient had had 30 s. e. jg 7/100 hyperdermic, and was then able to resume his occupation, that of a hardware commissary agent.

From this on, he continued to improve and only came three times in 2 months as he found his sight increasing so satisfactorily, and on the last occasion of seeing him it was found that his vision had become enclimated to

R.E. V = 11/14, read No. 4 at 20 cm.
I.E. V = 11/18, read No. 3 at 20 cm.

4th April 92.
while with the
ophthalmoscope,

it was with great surprise found that
the papillae were no longer typical of white字符
but were now become distinctly coloured with
a slight reddish tinge.

The patient improved the least satisfactory at the
result of his case into treatment, as he had been led
to understand that that case was almost hopeless
the case, as to regaining vision hopeless, when he
left Dr. Parent.

The question must be asked here, "was the amelioration
due to s. q. inj. or to the general treatment byypes.
serum injections?" Probably by both; the jejunal
condition being normal following 8 days on 4 s. q. inj.
and the hypodermic shows, it must appear, that the
s. q. inj. was the remedial agent, as experience
has shown, and Dr. Andrews and a. D. Bauer confirm it,
that hypodermic injections do not act until after
10 at least have been given; while on the latter
information, it is probable that the hypodermic
injections produced the benefit, but that this
was rendered much more rapid by the
injections with it of the s. q. injection.

It will be very interesting to watch case if the
amelioration in the above case, as in others also,
will be permanent or not, and this remark must
apply to all the effects of the fundus so far
affected, & ameliorated by the s. q. inj. &c., but time
experience alone can prove it.
5

D = 1,53

marche dangereuse par les austères de la montagne, nous arrivâmes à la grotte du missionnaire. Nous entrâmes à travers les lievres et les girondolles; le bruit humide que la pluie avait abaissé des rochers. Il y avait dans ce lieu une ruelle de feuilles de papier, une céladine pour preuve d'eau, quelques vases de beaux, une bêche, un arbre familier, et, sur une pierre qui servit de table, un enclos et le livre des

6

D = 1,36

chrétiens. L'homme des anciens jours se hâta d'allumer du feu avec des lames sèches; il hésa du maitre entre deux pierres, et, en ayant fait un gâteau, il le mit sur un couvercle d'eau. Quand ce gâteau eut pris au feu une belle couleur dorée, il nous le servit tout brillant avec de la crème de noix dans un vase d'éphémère. Le soir ayant ramené la sévérité, le

7

D = 2,76

serviteur du grand esprit nous proposa d'aller nous asseoir à l'entrée de la grotte. Nous nous suivimes dans ce lieu qui commençait une vue immense. Les

8

D = 3,38

restes de l'orage étaient jetés en désordre vers l'orient; les feux de l'incendie allumé dans les forêts par la foudre.

9

D = 4,06

les plumes empruntent quel-que chose du ciel, dont elles sont proches.

10

D = 5,54

On voit très-fréquemment, par un calme profond, lorsqu'il se lève, les fleurs de la vallée paraissent immobiles sur leurs
Myopia Chorioiditis

Mr. G., aged 49 years.
His patient complained that her sight had failed her greatly for the last 2 years, but that she had noticed the I.E. especially so during the last 3 months. On coming to us on the 25th March 1892, it was found on examination that both eyes were very myopic, her vision being

\[
\begin{align*}
\text{R.E.} & : V \text{ with } -10.0 = \frac{1}{3} * \\
\text{I.E.} & : V \text{ with } -12.8 = \frac{1}{3}
\end{align*}
\]

21st March, '92.

10 and 12 dioptres of Myopia respectively having to be corrected before her best Vision \(\frac{1}{3}\) could be obtained on this date.

The Ophthalmoscope

confirmed the high Myopia which had been found by testing the Vision with glasses, and further revealed some distinct choroidal alterations in the macular region of each eye. Also a pronounced posterior staphyloma, quite surrounding the papilla in each fundus. Along with the choroidal staphyloma in the macular regions, there were considerable alterations of its pigmentation.

The treatment consisted of Subconjunctival injections of arsphenamin and after two had been given, in 14 days, the vision of the I.E. had improved, and it was found that its Myopia was decreased by 2 dioptres. The R.E. remained about the same.

\[
\begin{align*}
\text{R.E.} & : V = -10.8 = \frac{1}{3} \\
\text{I.E.} & : V = -10.8 = \frac{1}{3} \text{ (week)}
\end{align*}
\]

25th March, '92.

* The patient only knew the letters, did not know how to read, so could not be examined with the reading tests.
14 days later still, there was further improvement.

\[\begin{align*}
\text{R.E. V} & = 10 \times -7 \times 1/2 \text{(week)} \\
\text{L.E. V} & = 10 \times 6 \times 1/2 \text{(clearly)} \\
\end{align*}\]

\[\begin{align*}
\text{R.E. V} & = 10 \times 0 \times 7/5 \\
\text{L.E. V} & = 9 \times 3 \times 7/5 \\
\end{align*}\]

29th March, 92

and continuing, after 6 c.c. of the oil
\[\begin{align*}
\text{R.E. V} & = 10 \times 0 \times 2 \times 7/5 \\
\text{L.E. V} & = 9 \times 3 \times 7/5 \\
\end{align*}\]

2nd April, 92.

Thus it will be seen that in a fortnight the Myopia of the L.E. had been reduced by 3 diopters, at the same time its Vision had been markedly improved, a very satisfactory result. The Vision of the R.E. had also been augmented, but the degree of Myopia remained the same.

The difference in the results of the two eyes was probably due to the fact that the affection seemed, from the patient's account, to be much more recent in the case of one eye (L.E.) than in the other. Up to this time there was no appreciable change for the better in the appearance of the lesions in the fovea.

In a fortnight after the last above-mentioned dose the case remained about the same, but the patient seemed again to be regularly on the mend.

It is yet impossible to say in what way the 3 c.c. of 7% oil cause a decrease in the Myopia, which has never before been observed. The improvement in the Vision is undoubtedly due to the action of the Mercury, introduced in this way (3 c.c.) on the choroiditis, as in ordinary cases of Choroiditis.

The further developments of such cases will be of interest to observe, as time has not as far allowed of anything definite being arrived at.
Myopic Chorioiditis —

Mrs. P. da S. M...... 60 years of age.

This patient, in following the advice of her former Oculist in Paris, had, before coming here, undergone a long course of Anti-syphilitic treatment in the form of Mercural injections and taking mercural pills internally. She however stated that no benefit was derived from it, and on this account presented herself here on the 20th January, 1892.

Her vision at this time was as follows :—

R. E. V. +1.5 D. = ¾, read No. 1 at 25 cm. 20th Jan. 1892.

L. E. V. -12 D. = ½, read No. 6 at 20 cm. without glasses thus showing a very high degree of Myopia, which was confirmed by the Direct Method of examination with the Ophtalmoscope, while the

Ophtalmoscopic Appearances

were an atonic, marked, circumscribed chorioiditis affecting more especially the central parts of the Fundus, around the Papilla and in the Macular region.

Sub-conjunctival injections were also given, and 10 days later, after 2 such injections, there was a marked congestion in the veins with a lossening by 3 dioptres of the Myopia thus

R. E. V. +1.5 D. = ½, read No. 1 at 25 cm. 30th Jan.

L. E. V. -9 D. = ¾ (inch), read No. 2 (inch) at 20 cm.

It will be seen from above that the Left Eye was alone affected, there being 3/5 dioptres of Exophoria in the Right Eye which remained the
same strength.

After 3 s. of my 10 days later still, her vision was the same as on the last occasion, but
there was a further decrease in the myopia, this
time by 2 dipters.

\[ \text{R.E. V} +1.5 \text{ D. = } \frac{7}{8} \text{ read No. 1 at 25 cm.} \]

\[ \text{L.E. V} -7 \text{ D. = } \frac{7}{8} \text{ (of which) read No. 2 (clearly) at 20 cm.} \]

On Feb. 16th V. Dec. to her vision for distant
objects remained about the same.

\[ \text{L.E. V} -7 \text{ D. = } \frac{7}{8} \text{; read No. 1 at 20 cm., intent glance.} \]

The patient was ordered, as she desired other
suitable glasses, -4.0 spherical for the left eye
+1.5 spherical for the right eye.

but after getting these, no further opportunity
offered of watching her case, so as to have
not seen her since (April 3rd).
With regard to affection of the fundus of the eye, such as those described (c. Chorioiditis; c. Retinitis, &c.) we have had varying results when treated by subconjunctival injection of sublimate, such as:

(i) Complete recovery with or without anatomically total loss.

(ii) Complete recovery at once, but not complete as to vision.

(iii) Great amelioration, but not the very advanced case.

The question will arise as to whether there are not many affections of the fundus of the eye which do not improve under this method of treatment, and further whether hernia may not be done in some cases. The latter can at once be answered, as far as not a single instance has occurred in which after injury has been done or the lesion occurred, though in a few instances no appreciable benefit has been derived, unless it be that the progress of the disease has been arrested, the case remaining stationary.

At Paris, where Dr. Denier has found that 2. 3. 4. 5. 6. 7, have produced results in cases of detachment of the retina and Myopic Chorioiditis (two being very high degrees of Myopia, and as 9, 10, 11, 12 Defects, with Chorioiditis lesions in the fundus accompanying them), which have very far exceeded any of those obtained by previous methods of treatment, he has adopted this new treatment in all such cases. Dr. Denier has also that same experience with cases of Retractilher Keratitis of an origin that he supposes infections, also
According to Dr. E. L. S. (May 1891) nothing had been done or was known about the treatment for affection of the fundus, or for any external affections other than those of sympathetic ophthalmia, irido-chorioiditis, iris-cyclitis, whereas now it seems probable that a great advance has been made in that still further advances will be made, in external therapeutics generally speaking. At that time (May 1891) Dr. E. L. S. stated that much could be done as to the efficacy of this treatment, and with another year's experience it seems that much of the doubt has been removed, so that external the development of this local form of therapeutics, while time another form, perhaps, experience may lay aside all doubt & prove that this treatment is a very valuable addition to our external therapeutics.

There is no doubt now that results have been obtained by the 5. c. g. of sublimate which have hitherto been unobtainable by any former treatment, from the cases indicating it, by measured quantities of external fractures of the hypodermically given.

The results also are very often as rapidly brought about, and it is noteworthy that such a rapid marked improvement, not only in the vision but also anatomically (speaking both of external & fundal lesions) is obtained after the first 5. c. g., as to be almost wonderful, when one takes into consideration the duration of the affection, the fact that ago previous method of treatment have been carefully carried

* Archives Ophthalmologique (Soëvat) No. 7 of 1891 (Dersch) "De l' affection sur conjonctive de Schultze in Hypodermics et cetera."
out failed.
I cannot for a moment be supposed that 89. I. my 89. will cure all cases of neuralgic affections
such as have been described, but while some
instances of complete recovery have occurred,
it really seems that a new field has been opened
which is very interesting and encouraging, and which should lead
to the production of enormous benefit in the treatment
of a great many affections which have hitherto shown
poor treatability, as regards treatment. Great
amelioration has been effected, for instance, in cases
of the stoma, in cases where the lesion
has not been sufficiently far advanced so that the
structural elements of the sinuses have been destroyed,
and even thoroughly considered incurable, though of
course if advanced to this degree, one cannot hope to
effect a cure.

An interesting fact that has been observed, is
that when a subconjunctival injection has been
made in e.g. the R.E. (both eyes being affected in
a chronic catarrhal condition) there has been produced
in addition to amelioration in that eye, an amelioration in
the other (left) eye. This has led Swan to conclude
after 7 years' experience in such cases, that the sub-
conjunctival passage into the cranial cavity and also to the
other eye probably by the medium of the Ophthalmo-
Vena of course remains to be proved in that way.

One may now perhaps summarise a few facts which
have been gathered from the observations which have
favourably been made as regards this subject of
Ophthalmo-Therapeutics.

In all inflammatory infections, processes the 5 c. g. give very meager results, and in many cases where the general treatment has failed, they have produced no satisfactory result.

In affections of the Cystic Form of infection (originating after Influenza or Central Amygdales) (light forms of Tuberculosis Miliary, Tiesi & the Becker), great benefit has been derived from the 5 c. g. (Tiesi has obtained excellent results in instances, about 7 in number, of the latter Amygdales.)

The toxic amygdales, such as by Tolzacco & Alcalde are not included here, as it has been found that 8 c. g. of sublimated have not cured them, while they recover fairly rapidly by the removal of the cause, anaemia & a hypodermic injection of Sclerophone.

Not a single case has been observed where 8 c. g. of sublimated have caused any aggravation of an existing affection, or the production of any other, while they have in almost every instance produced some amelioration more or less, if only the arrest of the process.

In cases where Mercury & Salts of Potassium have indicated, they have been taken according to the duration of the eruption, but without avail as regards the Osler's affection; 5 c. g. have produced rapid amelioration; and with regard to Syphilis, local therapeutic for local manifestations of it, it seems certain that the general (constitutional) treatment is the great thing of importance, but that when it is combined with the local treatment, it acts with a much greater rapidity undoubtedly.
In the observed cases of Central Amblyopia, Nervi Ocularis Optici Trunks (Petrous Basal nerves), cases where there takes place an Atrophy of the nerve proceeding to the macula from the fibres of the Optic Trunks, which is pathologically altered, the good results have been obtained by S. c. i. j. of sublimated, where treatment by pilocarpine, atropinism, electricity have failed, though tried during 2, 3 years treatment.

Good results have followed the treatment by S. c. i. j. in cases of Cryptogenic Atrophy of the Optic nerve.

It is an Atrophy secondary to a Specific Chronic Tich, although chronic treatment had been practised for many months without benefit previously in each case with gradual retrogression.

It has been observed that there is no appreciable effect from Hyposomatic injections of Sublimated until at least 10 have been given very often more than 10, while S. c. i. j. 2 ccm is the majority of cases to act immediately.

With regard to contra-indications to S. c. i. j. a word it may be said that up to the present an absolute contra-indication has been observed, this of course may be from want of time and experience. There are however some modifications which should be mention, for example, in very acute cases where the Sympathetic circulation between the anterior & posterior segments of the ocular globe becomes blocked, by inflamed products within the channels, or causing pressure from without by the congestion of the surrounding tissues,
it has been found that the first s. g. i. m. sometimes has a bad effect coming tamponade in the conjunctiva of the neighbouring vessels, so that it is advisable to wait a few days before giving a second s. g. i. m. meantime by means of ordinary treatment, anti-inflammatory, antihistamine, or endeavouring to reduce as much as possible the inflammatory process, and then after 5 days the 2nd s. g. i. m. may be made, when it will be noticed that there is a less bad effect; wait again 3 or 4 days & it is found probably that the 3rd s. g. i. m. begins to have a good effect, which is kept up & increases, the injection the being well supported, until the current sub goes. Such cases constitute the above are

(i) Certain forms of Acute Otitis where there is much infiltration into the surrounding tissues, (ii) certain forms of ophthalmitis supporting well & deriving great benefit from, injection,

(iii) Where the choroid is affected with deeper parts even a union Ophthalmitis choroiditis this is sometimes the case.

(iv) the condition of the Conjunctiva must sometimes be taken into consideration, though no rule can as yet be laid down, as when there has been an acute conjunctiva, accompanying a deeper affection, with much vascular injection, the s. g. i. m. have been done well, whereas on the other band, the conjunctiva being perhaps normal or at any rate not acutely inflamed, the s. g. i. m. have caused considerable vascular injection with much discomfort to the patient. This however appears to be
due to individualism or severity of certain conditions such as very cold weather; against this last it has been found useful to apply cold by a bandage after the S.G. is.

The question will naturally arise, from the fact that sublimates injected into the conjunctiva have produced good effects, as to whether one could not, in cases which could seem to indicate the presence of other therapeutic agents, for instance, Iodide of Potassium, Iodide of Iodine, Strophantus &c, in a similar way, but this is yet to be determined as to the attempts made by Jones with these substances taken with Iodide of Iodine &c. Gemide of Gold has not in any case given results which would warrant the celebration of sublimates by any of these others.
In certain of these affections very good results have been obtained by sub conjunctival injections of sublimate of the same strength typically as in the case of affections of the Corneal Ulcer &c. (viz. one centiether of a centimetre of a solution 1 in 1000, i.e. 1/20 milligramme of sublimate per injection.) Good results have also been obtained when they have been combined with Hypodermic injections.

Amongst the forms which have derived great benefit from these injections are cases of Diffuse Infiltration of the Cornea, Intestinal Keratitis, Pannus Keratitis, Keratitis Punctata (occuring with Corneal Ulceration of various kinds).

Affections of the Cornea with Hypopyon, Forms of Dacryitis especially of an Infectious nature, and Ephelitic Dacryitis.

With regard to the exhibition of Atropine in cases of Corneal Ulceration or other forms of Keratitis, no general rule can be laid down, as to whether and it should be combined with the hypopyon. Many cases where the Corneal affection has been simple i.e. not complicated with any affection of the Iris, have been successfully cured without extension to other parts, the Iris retaining its power of contractility, i.e. being free from adhesions, by a gentle instillation of Atropine being given, but in all cases where the Iris has become involved or this is a risk or danger...
of it, thus atrophia is always used, while the S. ej. inf. are made, to prevent adhesions of the iris.

In all cases of iritis it is used. The S. ej. inf. seem to check at once the extension of the inflammation from the cornea; in many other parts, and though atrophia had in many cases been given in case the iris should become involved, it was in no case, so far, necessary, as after S. ej. inf. the iris has never become affected.

If when we first see the patient, the iris is affected, either as an iritis, whether simple, or a complication in keratitis, or iritis, Chorioiditis, or the S. ej. inf. reduce the inflammation, modify, condition, restore the iris back to normal condition, much more rapidly, effectually, than any other form of treatment that we know of. In those cases where constitutional inflammation of the accompanying conjunctivitis are also present, the normal anti-pyretic treatment, such as hot fomentations of Boracic Acid or are ordered in addition.
Parschymatous Keratitis — 

Mr. R. aged 17 1/2 years.

The patient came on December 21, 1871, with the chief affection of the I.E. Almost the entire Cornea was micropitized. Her vision in this eye was

I.E. V = 17.50 (4 min) — could not read No. 9 at any distance.

A red streak of Rheumatism, that of Syphilis, denied by the parents. She always had good health, looked well, and nothing to be noted as regards the health. The eye affection began in July 1871 by a simple, small infiltration of the Cornea, which rapidly increased and partly involved the vision. The R.E. has never been affected.

Dec. 21 1871.

The patient was treated for 3 weeks by Hypodermic injection of Sublimated Atropinum for the dilatation of the pupil, with no success. Subsequently a very slight improvement began almost at once. In a month the vision

I.E. V = 7/6 at 2 metres, read 10/6 at 25 cm.

Jan. 22 1872.

The immediate effect of the I.E. inj. was a clearing up of the Corneal infiltration from the periphery towards, with a concentric, centromedial, and more towards the inner & central part of the cornea, and it was noticeable that at the centre of the different patches, the Cornea really became clearer, giving instead of a large diffuse keratitis, a smaller circumscribed lesion, as with an almost clear centre there.
while her Vision was, a few days later on

I.E. V = 1 at 20 metres, made No. 7 at 25 cm.

An account of the Aphakia, her vision was then taken through Tom赔 space frames (chpleagnia) in order to cut off the peripheral rays, and for the first time since, she distinctly felt the type at the distance of 5 metres as follows

I.E. V = ⅓ at 5 metres, made No. 7 at 25 cm. Feb.

The improvement continued and after 8 sub-cutaneous 20 hypodermic injections i.e. all +

I.E. V = ⅓ (5 metres) made No. 2 at 25 cm. Feb. 9th

The % inj. was then ceased for 10 days. It was thought necessary that the hypodermic alone was not necessary, but at the end of this time she had reticulose

I.E. V = ⅓ ; made No. 6. Feb. 26th

while it was noticed that there was some increased irritation, a very slight sludging extending from around the old dense part, which was now whiter & thicker than before

Feb 26th.

In % inj. were then recommenced X soon brought about amelioration as in two days

I.E. V = ⅓ made No. 6. Feb. 26th

a little later

I.E. V = ⅓ made No. 5. March 1st

the cornea again clearing rapidly.

I.E. V = ⅓ made No. 6 (one word) March 7th.
The case remaining nearly stationary for about a fortnight as to Vision, it was decided while continuing the hypodermic injection, to substitute the massage with Carbonic Hydroxygurique (an internal compound of Equal parts of Metallic Dairy and Carbonic) for the L. eye. viz. : - the result was very satisfactory - after 3 days -

IE. V. 1 (2 letters of) read No. 3 (one word)

Later

IE. V = 1, read No. 2, 11 down, March 25th. '93

after 6 applications of Carbonic Hydroxygurique,
by massage, to the Eye.

March 25th. '93

The cornea was liminals as in the diagram,
the rest of it being perfectly clear and transparent,
while the Vision was very good, and the patient
the parents were very well pleased with the
result. The case has gone on improving since.

Here is here an illustration of the benefit derived from
a c.p. of Hydralate in such cases as the above,
proved perhaps by the fact that when discontinued
for a time, though hypodermic inj. were still made,
a retrogression took place which was rapidly amended
when the inj. inj. were resumed; and that they were
the key of the process of, the resolution re absorption
of the products of the infiltration, leaving the cornea
more rapidly than any previously known to us method
of treatment, the cornea also being much less i
extent than was formerly the case.


Intraocular Keratitis

M. A. P., 42 years of age.

Six months before he came to me on Jan. 25th, 1892, the patient noticed a prescription

signs which did not trouble him much, but some months

afterwards, in December, the sight of the eye began to fail,

while the eye itself assumed a red inflamed appearance,

and when we saw him, examination showed it to be a case

very curious of Intraocular Keratitis. There were some

purulent infiltration of the lower part of the cornea,

which corresponded to the papillae, marked vasculariza-

tion coming from the periphery and almost directly

towards the center of the collection of pus, which

seemed as though it would burst in a few days like

an abscess. The iris (the pupil being indelicate

by Atropine) seemed to be adherent to the capsule

of the lens.

Jan. 25th, 1892

The vision was very defective

I.E. V = BN

at 10 meters, r.e. = 1/500, ambli.

There was no history of Rheumatism or Syphilitic, and

the patient denied Syphilitic acquired or hereditary.

Subconjunctival injections were given, and after the

first one, in 3 days

V = BN

at 25 cm. = 1/200, could not read No. 9.

Jan. 25th, 92

after the 2nd 5 qf. inj.

V = /100; could not yet read No. 9

Feb. 1st, 92
There was very much less vascularisation, the former
but collection had become very much smaller, nearly
all absorbed, while the cornea was becoming much
clearer.

At this time it was decided to continue the hypodermic
injections with the 5 c.c. of 1:500, and on Feb. 25th after
9 c.c. of hypodermine the result was as follows:

\[ V = \frac{1}{4} \text{ at } 1 \text{ metre, } \frac{1}{20} \text{ at } 20 \text{ cm.} \]

Feb. 25th. 92.

There was no vascularisation now, the fluid had
quite disappeared, and there was only a general
warmth of the bulbus, not extending to the right eyeball.

Not seeing the patient again, there was no
opportunity of proceeding further with his case.
He was up to this time very satisfied with the
progress he had made, and it is only supposed
that he considered it not necessary to have further

From experience of these cases, of the rapidity
of action of 5 c.c. of 1:500 solution of
Corneal Aqueous, especially when instilled
in the anterior chamber, and taking into
account the fact that the hypodermic
injections here did not play an important part,
that the amelioration was solely due to the 5 c.c.

It has always been remarked that hypodermic
injections of sulphate take a long time, and many
months often, before their action is felt, affecting
becomes appreciable, whereas very often the
ameliorating action is observed at actual after
a very few days, of sometimes two or even one, this was about three times, two or three days in many instances.

**Acute Parenchymatous Keratitis**

Mr. P. M., 15½ years of age, had had the affection of the I.E. since early in November 1871, but did not come to us till the 27th Jan. 1872. 3 months later. There was much vascularisation of the Cornea. The Pupil became very difficult to dilate well under the action of morphia. The case was not rheumatic but the case was undoubtedly of a nature inherited syphilitic, as the patient presented the typical features as described by Thomson.

The mechanics showed the usual peculiarisation in shape, substance of enamel, the dentine lay exposed, while the first large molars showed similar appearance the, dentine gritty and in small pricks, quite prominent. Without enamel.

The vision was very defective.

I.E. V. = with the introduction of objects, could not count fingers, but could tell that something passed between her eye & the light when the hand was passed before the eye.

Jan. 29th 1872.

The treatment consisted of sub-conjunctival injection.
when after the first two at the end of a fortnight, 
the vascularisation had disappeared, and the 
Vision was
I.E. V = 1/40 cannot read No. 7 at 20 cm. 12 Feb. '92.

a very rapid & marked result, anatomically too 
convincing.
The bed 3 more & c jy 3/5 the next fortnight when
I.E. V = 1/8 made No. 8 at 30 cm. Feb. 27th.
and after 7 & c jy 1/4 in all, a still further great
improvement
I.E. V = 1/10 made No. 11 (some cond.) at 20 cm.

with appearance as in diagram

[Eye diagram]

Post-vascularisation - Cornea very much cleared, transparent 
from the periphery inward. Condensation of the infiltration 
into small areas, with slight Central stage of cornea.

Late after 9 & c jy 7/10
I.E. V = 1/15 made No. 6 at 30 cm. March 7th.

and a fortnight later
I.E. V = 1/20 made No. 5 at 20 cm. March 21st.

[Eye diagram]

The small endothelial patches being evidently become in: 
absorbed & absorbed, leaving only a slight hazy.

At this time (March 21 '92) it became apparent 
that the R.E. was becoming similarly affected, i.e.
Vision R.E. V = 1/4, read No. 2 at 20 cm.
thereare no vascularisation, and no symptoms to
the patient of it other than that its vision was getting
dimmed & not so good as before.
Dr. C. inj. 3c. 20 were then allotted, one day, the
R.E. next time in the In.E. 4 c.c. on 7, with the result
10 days later

\[ \text{I.E. } V = \frac{1}{4} \text{ c.c. } \text{ 30th Nov. 1st at 20 c.c.} \]

\[ \text{R.E. } V = \frac{1}{2} \text{ c.c. } \text{ 30th Nov. 1st at 20 c.c.} \]

\[ \text{April 12} \]

From this the case has continued to go favourably
the corneal haze in the In.E. being very slight.
A few days after the R.E. (the more recently affected) the object
infiltration is only appreciable by the Oblique illumi
nation (through a powerful convex lens) in the
dark room.

In this case no hypodermic injections were made
and although very great amelioration was produced
by o.c. inj. only, it seems not improbable that
had the former been given also, the affection might
not have attacked the other eye (though this is the
rule), but it is pure conjecture. The case being
doubtless specific caused, it seems true, whilst the
availability of giving general treatment in addition to
local.

Ulceration of the Cornea
Mr. V. M. aged 26 years.
This was an extraordinary instance of the rapid effect
of subconjunctival injections. He came on the 26th Oct. 92 with a small ulceration of the corne
not knowing from what cause it could have originated. He had had for several days much pain in the eye & lacrimation, with great photophobia. The conjunctiva was considerably inflamed & injected. The ulcer was in the central part of the cornea where was some slight infiltration of the cornea surrounding it.

The eye was washed, and he returned 2 days afterwards saying he was quite cured. The epithelium had completely grown over the ulcerated portion in 3 days, whereas for several days previous to his coming to us, the ulcer was getting larger & the eye generally in a worse condition. There was now no pain, the inflammatory condition of the conjunctiva with its signs of irritation had almost quite disappeared.

He was given one more inj. & told that if all went well he need not return. He has not been seen since (3 months).

It may be mentioned here that in all cases of Ulc. corneae of the cornea a solution of Hynotamine made up as follows:

Hynotamine 20 centigrammes
Sodi Bicarbonati 30 centigrammes
Distilled water 10 grammes

was used in taking the observations of the case. It has a marked affinity for the ulcerated portion of the cornea, staining the floor & margins of the ulcer green, earlier whereas there is coated epithelium.
and while it does not attain the smooth, clean epithelium, it enables us by the effect of the staining to gauge very accurately the extent of the ulceration and to observe from time to time any alternation in size or shape or direction of the ulceration or erosion of epithelium, from the size small it is likely the diagnosis to immediately settle by its aid. A drop of the Phoroneine, which is itself antisepthic, is simply placed on the Cornea by means of the lateral portion of the end of an ordinary probe which has been dipped into the Phoroneine, & the upper lid is then gently drawn down over the Cornea with the thumb to keep again, when if the epithelial erosion is wanting in any place or places it is immediately apparent.

Great aid has been rendered by this Phoroneine in taking these observations while watching the progress of cases of Corneal ulceration treated by Subconjunctival Injection of Sublimide. 

Ulcer of the Cornea—

M. C. D., 40 years of age, had had no trouble with his RE. Since January 1st, 1892. He came on with the Influenza, and therefore would consider in the head of "Infections" that is (at Paris) due to the invasion of microbes, bacteria. For 6 weeks he was treated by an Oculist in Paris, but says that he derived no benefit from it, that the eye remained always in the same bad condition. On coming here, the Ulcer was diagnosed.
in Arthusic nature, though lesion was not cheering; also denied any history of Syphilitic or Venereal. He was given Sulfate of Soda 2 grammes (32 grains) per day & Sulfad of Quinine 8 grains per day. This he continued taking for a fortnight, and while it relieved the pain in the eye & the frontal temporal neuralgia, it did not improve the ulcers, which steadily grew larger. This led to treatment by Sub conjunctival injections of sublimate, but before they were begun, the ulcers had been lightly touched with the Edwards Battery to destroy the micro-organisms which might be present.

Feb. 24th 72.

This was the appearance after a fortnight's treatment by Sulfate of Soda & the margin of the ulcer as shown in the diagram below brought on by this means. His vision was very weak, only being able to read the types at 1 metre distance. As the patient did not know how to read, he was not examined for the reading types.

After 5 & 6 of 72, in 10 days his vision had wonderfully improved, from his not having been able to see the types at 1 metre to

\[ \text{RE. } v = 14 \text{ (5 metres)} \]

March 10th 1872.

with the following appearance of the cornea.

March 10th 1872

There were not being any ulceration now, I tested by
Phthisis) but a faint melaena in the centre of the cornea, while all the surrounding haze of infiltration had disappeared, and the eye at the first glance presented an almost normal appearance.

The patient then, thinking he was cured did not come back for nearly a fortnight, when it was noticed that there was a small new ulceration in the centre of where the other had been. Subconjunctivitis were named. He has gone on very well since then being no second relapse.

\[\text{Uveation with Infiltration of the Cornea}\]

M. A. P. - Aged 63 years.

This was a very acute severe case. On the night a large ulceration of the cornea had taken place while nearly the whole stilet of the cornea was infiltrated with a matter dense deposit. He had suffered frequently from Phthisis with the wiry thread-like cells. The appearance was somewhat as in the diagram.

\[\text{March 12th 1892}\]

The tender spots representing the area ulcerated.

F.E. V. - He only saw the shadow of the hand passing before his eyes near. Could not distinguish the types or read no.

The conjunctiva was much injected, there was an unbearable photophobia, epiphora.

In addition to 1/2 gr. he was given Calomel of 2 grammers per day (32 grain) 1/2 gr. of Sulphate of Charce per day.
After 2 3/4 inj. in 5 days, a great amblyopia had taken place.

I.E. V = ⅗ (i.e. ⅗ at 1 meter), read No. 9 at 25 cm.

March 16th 192

There was now only one smaller area of ulceration, the epithelium having completely grown over all the rest of the ulcerated portion. (shown by fluorescein). The cornea had cleared to a marked extent & degree, while the conjunctiva appearing much less injected.

Later, after 4 3/4 inj. there was still further improvement.

I.E. V = ⅓ (i.e. ⅓ at 1 meter) read No. 8 at 25 cm.

March 22nd 192

and again in 3 days (5 3/4 inj. = 7 inj. all)

I.E. V = ⅓ (i.e. ⅓ at 1 meter) read No. 5 at 25 cm.

March 26th 192

No longer any ulceration, nebula as diagnosed slight, cornea still clear. Vision nearly normal.

Unfortunately the patient stayed away then too long, & when he came back 10 days after cards there was a small ulceration of the cornea corresponding to the upper part of the papil which however soon improved when the 3 inj. were again given. He is still being treated for (April 18th)
Dendritic Ulceration of the Cornea.

M. E. T., aged 32 years.

In December 1891 had a marginal ulcer of the Cornea which was treated by subconjunctival injections of 10% boric acid, and after 2 or 3 such injections he thought things were cured, so did not come back, returning to the country as he did not live in Paris. In a few weeks however he had a relapse & came again, after a few more 10% boric acid made the again went away as he thought quite cured. On Feb. 16th 1892 he once more paid me a visit when it was found that in addition to the marginal ulcer, some necrosis had taken place from it inward towards the centre of the cornea leaving a dendritic ulceration.

Feb. 16th 1892.

The patient has suffered a good deal from Rheumatism. His vision at this time in this eye was very defective:

F.E. V = Could not count fingers at 1 metre, could only see the shadow of something (e.g. the hand) passing in front of the eye.

F.E. V = Could not see to read the reading type.

For treatment, after commencing the 10% boric acid, it was decided to first touch lightly the ulceration with the Salvarsan Century.

The ulceration had almost entirely disappeared after the 2nd or 3rd inj. in 12 days, while the corneal edges of infiltration had been cleared up as only to surround for a very little distance the dendritic ulcerated portion.
Feb. 27th 1872

There was still some haze, and some of the blood vessels faint; but no ulceration, and the redness vascularised appears worse not more visible.

And a week later, after a few more s. c. j. inj. the vision was found to have become remarkably improved.

I.e. $V = \frac{1}{10}$ (at 50 miles) read No. 3 at 25 cm.

March 8th 72

While on the 11th March there was no longer any ulceration, but a slight edema corresponding to where the ulceration had been. The vision was still further improved.

March 11th 72

The case went on very well from this, and he has not been coming for further treatment.

We have here, as in the last 2 cases also, illustration of the value of s. c. j. inj. in these affections, and it seems proved on by the fact that when each of the three patients remained away from the treatment for a couple of weeks, less or more, 10 days or so, he had met with a return of the affection, or a worse form of it, which has been quickly modified in the resumption of the s. c. inj.
injection, with a great deal of discomfort to the patient, of the Conjunctiva, on account, it appears most probable, of the exposure to the water cold at the time, the Thermometer having registered 2° below Zero (Celsius) for several days past this, and it was at the same time that all the other cases occurred similarly. As a safeguard against this, it was found very useful to protect the eye with a simple loose

Ulcer of Cornea with Hypopyon - c.
Mary C. aged 60 years.

This patient came into on the 29th February 1872 with a severe form of Ulcerative Keratitis, the Iris + Anterior Chamber being also implicated.

There was a large area of Ulceration of the Cornea, the Conjunctiva was very much injected and

flamed, while the Iris was turgescent congested, and in the lower portion of the Anterior Chamber was a considerable Hypopyon, with a Coagulum of the aqueous humour on the posterior surface of the Cornea, extending from the hypopyon up to the Pupil which was almost obliterated from the view by the large dull white Coagulum, which also appeared to be in contact with the lens. The Cornea was entirely hazy, much infiltrated round about the ulcerative portion.
There was great pain in the eye, and much photophobia + epiphora. The condition had, the patient stated, come on in 3 days.

29th Feb. 1892

The anterior chamber was at times opened at by the tubercle cutaneous, but the patient continued 3 days of towards, the hypopyon being still present at first as large, the corneal simlar, I kept the case as had a before. Sub conjunctival inj. were the commended & almost immediately conjunctiva took place. After the 1st s. inj. on the 2nd day the hypopyon had much diminished, the fibrous corneal was very much smaller, had more condensation, while the cornea showed signs of healing. There was no longer any congestion appreciable of the iris which had almost assumed its normal as usual, though this appeared as probable because it was difficult to see it clearly on account of the hazy cornea. Conjunctiva still much injected with all dark symptoms still present. The patient said he felt it was much better now.

On the 5th March after two more s. inj. the hypopyon had entirely disappeared. This appeared quite normal. Cornea quite transparent, release of fluid taking place, there was no longer any pain in the eye or region of the orbit, as there had been before. The corneal still further diminished in size, also density.

8th March 92.

The corneal ulceration was smaller in area now,
and the conjunctiva much less injected, while the fleshy superficial epithelium had greatly diminished. The s. o. i. were continued, & the case progressed very satisfactorily till on March 21st the leg at first a white object, & till one thing from another the colour previously it had only had perception of light & shadow. The mucus of conjunctiva was still smaller & the legs of infiltration less apparent. Conjunctiva still a little injected. A few days later, the ulcerated portion was quite covered by new epithelium, the conjunctiva entirely disappeared, & there only remained the a hemorhe in the site of the former ulcer. The considered herself cured, & has gone on well since without treatment, no relapse so far (3 days).

Infectious Kerato-Enteritis
M. J. B. Aged 35 years.
In 1872 (twenty years ago) the patient was operated on for cataract, & instead of being performed on the nasal side a little downwards towards, with a corresponding section (corneal.) On the 6th Feb. 92 became strabio (one of the afeared of what he complained being two of 7 days standing) with the R.E. in the following condition:
The old corneal margin had become apparent, its crested tine having become swollen & gelatinous, it being now evidently a subconjunctival, through which it's secretions & products (microorganisms) had found a passage (felted through cornea), into the anterior chamber, these setting up a more severe form of infection.
Inflammation in which the aqueous humour, iris had become involved, with the formation of a considerable hypopyon and a clot of haemorrhage. An acute haemorrhagic iritis had followed, the iris being turgescent, greyish, a colour with red small haemorrhage spots on its surface.

Feb: 6th 1892

There was an extensive fibrinous exudation of the aqueous humour, which was in the form of a dirty, whitish grey deposit on the posterior surface of the cornea, almost entirely obliterating from the view the pupil and the small secondary anterior which was afterwards well seen. The cornea was entirely hazy. The hypopyon & haemorrhagic clot were not in the diagram, the latter being just near below the reflection of cornea. The conjunctiva was very much inflamed & injected, while there was great pain & burning sensation, with extreme photophobia epithora.

Subconjunctival injections of sublimate were made, the eye dressed. Protected by a bandage. After 2 o'clock the fibrinous exudation was reduced to one half its former size, the cornea was much clearer, the iris was still somewhat turgescent, of a greyish colour, while the small red haemorrhagic spots were no longer visible. The hypopyon & clot of haemorrhage had become entirely absorbed.

The conjunctiva was still very much injected, with the usual attendant symptoms.

Feb: 14th 1892
After a third 5 c.c. inj. there was still further improvement, the fibrous capsule was all drawn up, and the cornea almost entirely cleared from exudate. The iris was becoming its normal aspect again much less greenish. Conjunctiva still marked.

On the 23rd Feb. about a fortnight from the beginning of the treatment, and when 6 c.c. inj. had been given, the cornea, iris, anterior chamber had become quite normal, the corneal wound (from the old incision) was not now apparent, while the only abnormal condition left was the eye from this affection and the Conjunctiva which was still somewhat uneven.

Feb. 23 1872

From this date till the 3rd March the patient kept quiet resting, had no more 5 c.c. inj., had worn the bandage continually after bettering the eye as usual with hot Bismuth Acetate solution in the case and as well, the photophobia temporally being ceased, that he on the latter date left the bandage off & began to leave the house, his vision further being an outdoor one. After 3 days, he returned again (March 6th) with a severe relapse, all the former inflammatory conditions being rehabi; again with great severity; hemorrhage into the conjunctivas very marked. After a fortnight's treatment, by Ballingall of Eden (32 pain powder), & mercurial powder to the temple daily, which produced an improvement, the 5 c.c. inj. were again made, and after 3 more inj. there was a great amelioration to the condition. They were continued, and a week later the different affection

[Diagram of an eye]
affected began to assume a almost normal aspect while at the close another fortnight, the patient was quite cured, not seeing a particle. Superficial the cornea for it, while the conjunctiva had disappeared the eye presented a similar appearance to exhibit and before the attack came on for which he came to

The above kind of affection is known in France as "Plaie à filtration," caused by chief infection, filters through, so for example the deleterious infective (micro-organismal) products of a conjunctiva, &c., into the anterior chamber of the eye. The occurrence is not rare in France. The inflammation of the conjunctiva extends to the deep corneal wound & infiltrates the corneal tissue of it among congestion & thus allows of the filtration, &c., of deleterious matter through it. Only one opportunity was offered me, the case just quoted, of observing the effect of its treatment by subconjunctival injections, but Darius of Paris has published 5 cases similar to the above with equally good results from this method of treatment.

Infected Ulceration, Infiltration of the Cornea with Hypopyon

Mrs J. Aged 59 years.

On 7th November 1871 the patient received a foreign body on the cornea of the left eye. Two days later, on the 9th, she had an infection ulcer of the cornea very extensive, occupying almost the whole conjunctival surface with a dense infiltration immediate spreading, the entire cornea being quite non-transparent. There was a considerable hypopyon in the lower part of the anterior chamber. This was an instance of the "ulcer infected, ulcer de moriremmeurs" (infection ulcer, ulcer of the hæmorrhagia) of P. Becker. The suppuration was amongst the vessels in the folds. There was a very severe conjunctivitis, the second symptom of which prevented her sleeping at night. Marked phospho-hyaline periphery.

3rd Feb. 1872.

The area of ulceration which was brought out by tincture, corresponded to the dark portion of the diagram, partly larger than the others marked darker in the diagram.

The treatment was as follows: Paracentesis with a triangular-bladed lancet towards the lower margin of the cornea (by this about half the iris went out), Ulcerated portion of cornea touched lightly over its surface with the Galvano Current. The eye was dressed bandaged. The patient returned next day to get cab and was sent home.

*Described in the Manuel d'Ophthalmologie, par Dr. Becker: Paris 1884. pps. 214-225.
made a marked amelioration had taken place. The cornea had greatly cleared from the purplish inwards, the ulcer was much less distinct and assumed a triangular form. The hyperopia entirely disappeared, its more acute pain of which the patient had complained on many days was totally all at night. The pupil was becoming visible. Contraction still injected with considerable things less than before, photophobia repaired.

Subconj. inj. 2 cc. continued every 2 days for another week with further improvement, and the patient considered by that the affection would become cured of itself for there, stayed away for about 10 days without treatment; she however had the ulceration on account of its getting bed again, when it was found that the affection was again very sore, the ulceration having broken out anew though not nearly as extensive, and a fresh ulceration in another part. (The former ulcer having been quite covered with new epithelium.)

The two darker areas represent the ulcerations. The cornea was entirely clear. Conjunctiva much injected. There was no hyperopia. Seij 9 were commenced and very soon brought about amelioration to such an extent that all the symptoms of the second attack had passed off while only less than a fortnight (March 23) the inflammation subsiding. The conjunctiva had completely subsided.
the ulceration no longer existed, (stated by Phoebus)
the cornea was still hazy owing to inflam-
ation corresponding to the site of the ulceration.
She had no pain, photophobia or epiphora
now – March 21, '92.

It was at this time decided for the betterment to try
the Messager with Penicillin Hypoglycosique; the result
has been very satisfactory; the patient having
progressed very favourably & the cornea much
diminished in extent & density.

The last few cases have proved as much instance
of the great benefit derived from D. 30. in
various kinds of Corneal Ulcers. Their special
value seems to be in cases which are infective
i.e. due to the invasion of micro-organisms
known or as yet undescribed; the Rheumatic
cases also the results have been very rapid &
effective. In all cases it is remarkable, most
satisfactorily so, how much less Penicillin is
the Cornea remains under this treatment, both in
extent & density, than under any former method.

Firstly, this stage is reached comparatively by the Sop-
ing – as compared with what was formerly the case
under other treatments, and secondly, the term
"Reuble" could very much better express the condition
of the layers of the Cornea than Penicillin; this is
probably due to the absorption, as well as sedative,
properties of the Tabernil which alsoacted
under the conjunctiva & might to the basis of the
effusion by the lymphatic circulation, as demon-
strated by Pfliigers of Rome with coloring matters.
It will thus be seen that subconjunctival injections of sublimate have acted with great rapidity and intensity in certain infections, foremost of the cornea, iris, vascular tract, as well as of the choroid, retina, and the meninges; with regard to the last-named latter term has become convinced that there are a good number of monolateral or bilateral remnants of infectious origin, primary or secondary, due to micro-organisms situated undecorated or undecorated, and as in those remnants following Rheumatism, Scarlet Fever, Typhoid Fever, Influenza, etc., they have been apparently benefited by S. of mg. 3 that the idea of the sublimate penetrating by the lymphatic channels to the optic nerve seems sound.

In almost all forms of corneal infiltration which have for the greater part of their origin an invasion of the epithelium, which as a result of the unbalanced infectious agent, can assume the form of a diffuse corneal infiltration, dendritic Keratitis, Urtic with Urticaria, Perichorhynchetous Keratitis, etc. the S. of mg. 3 have given excellent results.

Saric has quoted in the same journal several cases of very rapid cure by S. of mg. 3 of forms of Urtic of Syphilitic, Rheumatic, & perhaps of infectious origin not yet known. Also of Sume in the eye of certain nodules which clinically might have been regarded as tubercular, very good lasting results.

Also where they have a arrested sympathetic Galitits.

Also many cases where the condition of Keratitis
Psoritische haematia present as eosinos forms of Brit. v. This condition has rapidly disappeared under the influence of S. c j. m.

One instance however came under my observation in an Indian-chloroidea of 2 years standing. The disease had been very severe and had become chronic while the Psoritische haematia had been present for 2 months at the end of the 2 years, and through the s. c. j. m. evidently prevented Psoritische haematia from setting in, and caused a very

The Psoritische haematia, they did not entirely cause its disappearance after 15 (or c. j.) injections ranging over a period of nearly 2 months.
The employment of message with 'Lanoline Hydragyrique' in the treatment of some Ocular Affections.

Before proceeding to describe some observations made in cases of certain corneal affections treated by Lanoline Hydragyrique, it must be noted that it was first brought before the notice of the Medical Profession in Paris in 1889 by Dr. Abadie of Paris, who published an article on the subject in the "Recueil d'Ophthalmologie" during that year. Dr. Abadie had in 1887 made a communication to the Congress of Ophthalmology of Paris in which he stated that "daily message of the eye with Lanoline Hydragyrique (20%) had given him unexpected results in a case of Pโต's-Chronicis of an indetermined nature, when everything had previously failed. Salicylic, Mercurial preparations (as given at that time), fibrinimports, etc., and the same Dr. Abadie the idea of trying Lanoline Hydragyrique in the above (and other) cases. The results may be judged of from some observations which follow hereafter, and from the fact that one sees constantly at the Clinique of Dr. Abadie and Dr. Paris a jar of Lanoline Hydragyrique amongst the well-known Beaine, Atropine, Yellow Oxide of Mercury Ointments of such frequent daily occurrence as it was.

It is of very simple composition, consisting of Equal parts of Metallic Mercury and Lanoline well mixed together to make an Ointment which is permanently firm, without being too firm to introduce between the lids.
The method of its application is as follows:—

One introduces by means of an ordinary probe, (or camel’s hair pencil, if, on account of heat, such as hot weather, or the temperature of the room being high, the preparation has become somewhat melted) a piece of the edge of a pea between the eyelids, preferably in the inferior ciliary-ese of the conjunctiva. This is easily done by telling the patient when the probe with the ointment has been laid on the conjunctiva, to close the eye, and then gently withdrawing the probe at the same time pressing the lids with fingers 1 thumb of the other hand against the probe, when it will be found that the piece of the ointment has remained in the eye while the probe comes out clean. The eyelids are kept closed then, by means of the thumb on the upper lid, one practises a methodical massage for 4 or 5 minutes on the ocular globe. This massage is repeated morning, afternoon, and evening as a rule, sometimes less frequently.

If it is always well done, the patient complains rarely even when cocaine is not used. It is most important to tell the patient, who can do the massage himself, if one is introduced the ointment is sometimes this can be done already by the patient, to perform the massage gently, as in one case it was found that a slight scar of epithelium had resulted, though this was in a case where after an ulceration of the cornea new epithelium had covered the ulcer, leaving a laceration.
The following few cases have, amongst others, been personally observed, and their records carefully taken from time to time, so that the description of them will perhaps serve to illustrate in some degree the use of Linoleum Hydro-cresylique with the marked benefit derived from it.

Observation I

Case of Exophthalmus, Spring 1893.

F. D., a lad of 12 years of age, had been attacked with the disease in the month of February each year for the past 2 years with the affection. The instance about to be described is the third attack. The two previous ones had lasted 3 or 4 months with great severity, had required all treatment. No good had been done with ordinary treatment, such as the application of compresses, lotion of Boracic acid or buckwheat, or the Yellow Ointment of Mercury ointment used. As spring had passed into summer the affection had just passed off of itself.

The patient came into our care on February 9th, 1893. There was a marked exophthalmus with tumescence of the upper eyelids. Conjunctivitis of a peculiar color, somewhat reddish purple with here and there yellow patches, while there was a distinct rose-colored vascular injection (scleritis the conjunctivitis) standing from this in the eyelids. The lid slightly raised, could not end, too little distance from the sense...
discharge, and a good deal of photophobia. The constant irritation had caused some swelling of the edges of the eyelids.

Manage with 2% Hyoscymine was practiced and with great benefit; the smell being most active.

A fortnight afterwards (3rd 26th) the eyes for both were similarly attacked, had assumed a normal appearance, the infiltration and exudation had completely gone, no traces of it left, while the bulbar conjunctiva right up to the margin of the cornea was quite clear but now at all injected, the cornea was quite sound. There was no lacrimation, discharge or photophobia at all longer any pain.

The papillae of the tarsal (tarsal) conjunctivas were however somewhat prominent the next time the patient came (a week later) but this was soon reduced by washing the lids being washed with a small piece of cotton wool soaked in sublimate (1 to 500) after three applications in a week. The patient was cured from this out & has had no return of the affection up to the present (April 14th). His mother could not help expressing her astonishment & delight at the result, calling them the attacks of the previous year to that long duration, all treatment the smell being of no avail, whereas in this instance a fortnight about half suffered to remove the troublesome nature of the affection.

A case similar to the above but under different treatment was observed at the Clinique of another eminent Oculist in Paris. It was in a patient.
a young man about 30 years of age. He came
commenced this year about the middle of February
and was treated with Message with Colonel
(powdered) which brought about a certain ini-
provement in the condition in 3 weeks' time, but
also caused some considerable iritation of the
eye, so that Message with powdered Brownish
acid was substituted, but without further
improvement, and a week after, i.e. a month's
abatement of the condition was still very
marked, the cornea seresteric infiltration
swelling were still present, though the bulbar
congestion was apparently almost normal.
It was stated at the time by the Doctor that
three cases of "Cataracta Proteinica" were very
difficult to cure.

They seem to be of somewhat frequent occurrence
in France during the month of February March,
while the affection is said to disappear of itself as
the summer months come on, the duration being
usually, in the former, several months, about
3 or 4 months.

This disease is the same as that described under
the name of Frühling's Cataract by Brockhaus
Darmstadt, and some allied to the Spring
Cataract of Great Britain, though it is not supposed
here, in Paris, to be at all connected with "Hay
Fever."
Case of Acute Inflammation of Conjunctiva, with involvement of the conjunctival tissue, including proliferation of the delicate fibres, resembling those seen in granulomatous inflammation. The commencement of a phthisis...

Mr. A. B., aged 60 years.

Came in on the 26th January 1892 with an affection as above described. The duration as far had been one month. There was a great deal of pain, and considerable oedema. The conjunctiva was much injected, and the eye generally had a reddened swollen appearance. Both eyes were similarly affected.

The cause of the yellowish-red infiltration with proliferative condition resembling a cornea described was between the inner canthus and the cornea, the cornea being reached but its margin scarcely discernible.

The mass of infiltration, proliferation, was raised, injected, somewhat irregular, and firm, it had grown, contracted, rapidly towards the cornea.

The treatment was as follows: Yellow oxide of mercury ointment was first put into the eye to reduce the acute inflammatory condition of the parts, and also this was some rice wheat affected, an ointment composed of 6 parts of Calomel and 30 parts of Linseed was employed with massage, but after a few applications had produced no amelioration in the condition, massage with Linseed's Hydrogypsoitic was substituted, and in a week the eye had assumed a most favourable aspect, the moistness much...
meller, less expectant to less armed, while the circulatory condition of the conjunctiva was much reduced, there was now less pain, and the eye's considerably less red nor swollen. A fortnight later there was no longer any epiphora, all redness regions of inflammation had entirely disappeared, while this was still further diminution of the hyper trophy elastic conjunctiva, hence now no longer ejected only yellowish, very small amount. After another week there was almost a total disappearance of the condition of the eye presented what one might call quite a normal aspect for a man of 60 years of age. He said he was very much satisfied felt that he was cured, and not having returned to use since, now 7 weeks, the conclusion is that the cure has apparently been permanent.

It may be mentioned here thatMassage with
Poultice Hydropygys has been found excellent in the treatment of Pharygynia where

(i) the case is seen at the commencement, so it not only arrests the progress, but causes marked diminution in the size, with total disappearance if persevered in, of the growth.

(ii) the Pharygynia has been removed by operation the healing been necessary from its age, rate of duration, hence the facts are rapidly restored from all traces of the Pharygynia guilt.

This is the experience of Doctor of Paris, he also says * he obtained a complete cure of a similar case to the above in a month, of a Pharygynia of many years standing.

*Société d'Ophtalmologie, 1889. Paris de Paris
Case of "Keratitis Schneauli" (97), probably a Sclerostising Keratitis, resembling as it were an invading Keratomatosus affection.

Mr. J. D., 37 years of age, first came under notice on the 24th December 1871: both eyes were affected and he had a very defective vision, specially in the I.E.

24th Dec: 1871.

RE. V = 1/3.

I.E. V = 1/6.

Medical advice, Hydrocortisone was carried on as treatment, and a fortnight there was the following satisfactory result.

7th Jan. 1872.

RE. V = 2/3 (clearly).

I.E. V = 1/3.

The treatment was continued right on then until the 3rd March, improvement taking place slowly, all the time.

3rd Mar. 1872.

RE. V = 7/3 (clearly).

I.E. V = 1/3.

N.d. No. 1 at 25 centin. N.d. No. 1 (weak) at 25 cent.

There was a very slight nebula, only visible by the oblique illumination, at that part of the cornea of
each eye which corresponded to the pupil. By ordinary light (day-light) one could not detect any haze in the cornea of the RE, but in the LE there still remained the leukoma-like condition, though very much diminished in area and density, in the extreme upper and lower zones of the cornea. No haze could be seen in the way over the pupil.

The patient was told to continue the massage with the Leminis Hydrargyrique, and as he has not once returned (February) it is fair to presume that the improvement advanced still further, and that he did not consider it necessary to come again.
Case of Pneuma resulting from Paraneurineter's Keratitis

Mr. R.... 17\(\frac{1}{2}\) year of age.

This case was first treated by Sub-caprical stational injection, in addition to Hypodermics of Sublimatic acid, and after the benefit derived from this treatment, a further improvement immediately took place when subjected to Manage with Sodium Hydrosyprytes, as under:

On 11th March 1872 the condition of the affected eye was

\[
\text{March 11th, 1872}
\]

I.E. V = \(\frac{1}{2}\) (clearly), reads No. 3 (one word) at 25 cent.

The case having remained stationary, cleared, for 2 weeks, under Sub-caprical stational injection, no Manage with Sodium Hydrosyprytes was begun and in 3 days the vision had improved to

I.E. V = \(\frac{3}{4}\); reads the 3 (one word) at 25 cen.

while about 10 days later there was still further improvement

\[
\text{March 25th 72}
\]

the Pneuma having visibly diminished in extent and opacity, the vision being

I.E. V = 1; reads No. 2 at 25 cen.

The case has progressed very favorably since.
Observation IV.

Case of Neurora (acute) following on Corneal Ulceration.

Mrs J... aged 59 years - after a month's treatment by sub-conjunctival injections (during which a mumps had occurred owing to the patient's not having come for about 10 days) the ulceration had been cured, but left a circular, mutton-fat infiltration, which was then treated by massage with Lanolin Hydrozopique. In this case after a week's treatment this was a very satisfactory result, the cornea being quite clear in the upper third of its diameter ball round from the limbus extending upwards for about 2.5 millimetres (the whole cornea having been previously hazy from infiltration), while the inflammatory condition of the conjunctiva had completely subsided, the no longer had any pain, lacrimation or photophobia.

March 2nd '92.  March 8th '92.

Altogether the general appearance of the eye was so greatly improved that the affection was scarcely noticeable unless carefully looked at. The patient had a fairly useful vision now, no discomfort in the eye, and having been told to continue the treatment she has evidently gone on improving, as she has not returned since (6 weeks).
Case of Eucroma following on Intestinal Keratitis

Mr. P. R., aged 24 years, had an attack of Intestinal Keratitis 6 months ago (September 1871). He was treated for it by an eminent Oculist in Paris by hot vapours, phenolic acid and repeated dressings to the eye, and in addition of Salicyl in enema (this is the patient's statement), for 2 months, but a severe affection supervened, viz. Ecto-choriitis, with purulent deposits on the Membrane of Descemet. For this he came to consult Dr. St. Denis, who gave him 1 subconjunctival and hypodermic injection of Sublimated. After 20 of the former, and 30 of the latter the purulent deposits had all disappeared, the Vision had been brought from

\[ V = \frac{1}{40} \quad \text{(1st Nov. 91)} \]  
\[ V = \frac{1}{10} \quad \text{(2nd Feb. 92)} \]

there only the remaining a keratoma the result of the old Intestinal Keratitis.

On the latter date 20 Feb. 92, massage with fluosollicine hydrogypargique was begun, and in two months the Vision was further improved to

\[ V = \frac{1}{3} \]

read no. 21. at 25 centimetre, while it was necessary to examine the Cornea by oblique illumination in order to see the nebula that remained, it being very slight.

This case was undoubtedly a specific one, due to Intestinal Eruptio, as there was no history of Keratitis, but the case afforded a typical illustration of the features pointed out by Katchemiss, ptych-shaped, absence of canal, opacity of central disk is one half (as usual) more prominent, and jutting out of two others, a first large nasal, & a temporal.
It has been observed that in the majority of cases where the inflammatory process is acute, the message is not well borne, and therefore contraindicated.

The cases which seem near to indicate this treatment are those affections of the cornea of a diffuse superficial nature as regards infiltration, also cases of Intestinal and Ophthalmial Nystagmus.

Keratitis after sub-conjunctival injections of substances have brought the leucocraia or reticulo conditiou (according to the exact report of the condition first) to that state in which they only produce a slow amelioration, though this message, which seems to cause absorption of the tincture mercury in the seat of the corneal infiltration, might be, and indeed has been, by Dacier, used in such cases from the beginning, without sub-conjunctival injections, which have been experienced elsewhere, and with much the greater rapidity and extent; thus one indication for the treatment by this message in such cases comes to be when patients refuse to have the &c. because there is some attendant pain. While with the former there is no pain or discomfort &c. the patient, if intelligent, can practice the massage himself at home.

One form of affection which is especially suited for this treatment is the "Cataracte Primary" Strong Catarach, one case of which I quoted from personal observation; while Dacier has reported two cases very similar; he, persuaded that this affection was of infective (i.e. micro-organismal)

* Société d'ophthalmologie de Paris - 1570, p. 35.
origins submitted the 2 cases to local treatment by this method, and both were completely cured in a few days. After each massage with the Lenzin's Hydrocynique the Pari-corneal inflammation (os. to speck) became paler, less distinct, less apparent, until ring quickly totally disappeared took place. With these 2 patients, the ordinary measures of treatment had produced no amelioration. One of them had had the affection for several months; the other for 6 weeks.

Darin has also quoted a case of Tzudile's keratitis in which no evident result was obtained and very rapidly by this treatment, but it seems to be certain that S. o. u. are preferable in such cases, while it is useful, as with that class of patients, mentioned above, referring to gin s. u. to have another form of treatment fairly efficacious.

Also further a case of Circumscribed (because only affected the center of the cornea) Interstitial Keratitis of 6 months standing, without appreciable cause in a man of 40 years of age, without any history of syphilis. The patient did not know if he was rheumatic or not. This case was completely cured, without leaving a trace of the affection, in a month by massage with Lenzin's Hydrocynique.

It may be mentioned that since Darin made his communication, this treatment has been practiced at the EcoClinique of the Hospital Figaro, Paris by Dr. Pouquet, whose observers have confirmed all points of the above propositions.
It is needless perhaps to state that the treatment should never be practised when, in addition to the cornea, the iris is affected, as the massage might very probably produce contraction, & opaqueness of the iris, and further the possibility of scleroma setting in. It should only be used in cases where the cornea only is affected.
- Trachoma, its Surgical Treatment -

Though it at first seemed judicious, it does not now appear to me desirable to enter into the subject of Trachoma, as casually does, with a view to discussing its historical details, its etiology, pathology, prophylaxis, &c., as this has so often been treated of, not only by the classical authors, but also by many who have made a special study of it, whether as regards its basic etiology, pathology, or with a view to its treatment. My reason for stating this is that it would be entirely too large a subject for the present tract, so that my attention has been confined here to the surgical treatment, from a clinical point of view, of the affection, and in connection with this, the publications of Dr. George Lindsay Johnson of London, and of Balter of Berlin, have been, I may almost say, interpretive, as bearing special reference to what I have written, the principles of treating the affection being in all similar, though the methods of any, if them out differing in certain particulars.

It seems beyond all doubt that Granular Synechiae, which is a local mucous-organismal affection, and clinically speaking, its affection nature is shown by its contagious, syphilitic, and only by its development, process & propensity, to recurrence.

This granular conjunctivitis, or Trachoma, only presents diagnostic difficulties at its outset, when the only treatment indicated is that by antiseptic caustics, such as Nitrate of Silver, sulphate of Copper, Cuprammonium sulphate, etc. But when it has become well-established, has become chronic, offers no difficulty in diagnosis, then the surgical treatment which will be described hereafter seems to be indicated, and perhaps to be absolutely necessary, in order to obtain a definite cure, destroying, as it does, completely, all the nodular, granular, fibrous tenacious tissue, which, being the cause of the pro-longation of the disease in into years & the many must be entirely removed.

The surgical interference must be in proportion to the extent & severity of the disease. One or two isolated cauterizations alone may be enough. With the scissors e.g., a group of them more or other of the bulbi. One only, may perhaps be referred "en masse," as I have several times seen Selegowski of Paris do, but most of the Trachoma affects the whole conjunctival surface, palpebral & very frequently, there observed, bulbar; one cannot think of ablation of the affected portion of the conjunctiva.

It is to these extreme cases that attention is made in the following treatise.
The Surgical Treatment of Trachoma.

Having ascertained, on a considerable number of occasions, at the Hôpital of which I was adopted and by Dr. Dumas in Paris and St. Denis, I was as struck with its rationality, and later with its efficacy as its results, that I felt it my duty to observe very carefully the method of Operation, step by step, and to watch the progress of the cases as they appeared from time to time after the Operation and while being subjected to the subsequent treatment. Fortunately very few opportunities were afforded me of carrying out my wishes, and I shall now proceed to describe the Operation and the subsequent treatment, as I found it practised at the Clinique of Dr. Dumas and Abadie, adding a few observations of cases, which I think to illustrate their progress and results.

The Operation.

The patient is first anaesthetised by Chloroform or Ether, as may seem preferable (In all the cases I have seen Chloroform has been used).

The bulbar conjunctiva is then completely divided to the view by means of a Speculum (ordinary spring lid elevator) and finger forceps, as to examine every part of it for granulations. If any are found they are excised as is the way described hereafter. The cornea is also now examined and if affected is similarly treated though very carefully.

The bulbar conjunctiva and cornea being disposed of,
The thorough exposure of the palpebral conjunctiva by complete evisceration of the lids (it matters not which lid is first worked, but by choice, that one which is most affected): this is only done by means of a pair of forceps, specially made for the purpose, with which the edge of the lid is zeroed horizontally, and by a rotatory motion the whole of the lid is rolled round the closed lids of the forceps and thus the highest or deepest parts of the conjunctival fornix, cul de sac, &c. are found. This portion is then treated, and gradually by rolling the lid, the whole surface of the conjunctiva down to the forceps is attended to. The forceps being then removed, that part of the conjunctiva which was protected by the bladed is also sacrificed. In this way the upper & lower palpebral conjunctivae are treated by excision and the washing is performed as follows.

Firstly, excisions, whose object is to cause the exit of the contents of the granulations from their envelope by its being incised, are performed with a three-bladed knife, the incisions being made horizontally & parallel to the edge of the lid, great care being taken not to miss the subjacent portion of conjunctiva affected with granular epithelium, but at the same time saving the conjunctiva as much as possible with a view to the after-effects such as temporary contraction with shrinking of the lid.

Then by means of a sharp curette one scoops away as completely as possible all the material...
stone, and this is greatly aided by next
brushing the surface with a small tooth-brush
with short bristles (hard or soft according to
as may appear advisable & depending on the nature
of the stone). This having been done one proceeds
with theashing of the teeth which is carried
out very freely, energetically & minutely by
means of cotton wool soaked in Cinnabar solu-
tion (1 to 500), while a plentiful stream
of the solution is allowed to flow into & drain com-
pletely the every notch & corner of the conjunctiva & its folds.

The above method applies to the bulbar conjunctiva
as well as to the palpebral, while also, but much more
lightly, with discretion to the Cornea, in the case
of the latter, the light incision & slits made from
the periphery towards towards the centre.

It is very important, when the forceps have been removed
from the lid, to ascertain to that portion of the con-
junctiva which was covered by the blades of the
forceps, and this is easily done by slightly wetting
the lid with the fingers.

On several occasions, the majority in fact, it has
been necessary, in order to thoroughly sift the
lids and thus completely expose the entire palpebral
conjunctiva and sub-acea with very deep
parts, to enlarge with a cut of the scissors the
palpebral defect at the outer canthus. Anterior
standing about 2 or 3 millimetres suffices for
this purpose, while this is no need to nature
the wound afterwards, as it heals well of itself,
and in the event of its not completely closing,
it would act as a counter-balancing agent to any tendency on the part of the lid to everted into an entropion from contraction. (This latter has however not been observed so far.)

During the operation there is almost always an excessive amount of bleeding, but it may easily be controlled by pressure and frequent mopping with pads of cotton wool soaked in the sublimate solution (1 to 2000), while instead of its being looked upon as undesirable, though one must naturally reflect considerable favourably from the measures, it is perhaps beneficial, by it meters off with it a large quantity of the granular inflammatory elements.

The duration of the operation is about 10 minutes.

The operation being completed the dressing is attended to as follows:

In the first day, ice cold compresses are applied for about an hour while the patient is recovering from the anaesthetic, and this is resumed when he has reached his home, with the addition of frequent solutions of corrosive sublimate (1 to 2000).

The next day & during the first 15 days of the subsequent treatment it is absolutely necessary to see the patient again in order to turn back the lid to detach any adherences which may have taken place between the new surfaces; for the electro-de-sec, this may be done with a probe having some cotton wool wrapped round its end, and to wash freely & minutely the whole blood-stained surface.
The coal on the probe is reddened in Sublimat (1500) as also are the cotton wool pads with which the inner surfaces of the lids are worked.

At the end of 13 days about the conjunctiva present an aspect smooth, united, still a little swollen, but no granulations can be seen, and there is no longer any secretion, while the patient is able to open his eyes easily without having the sensation of a foreign body say, in the eye, and with regard to the cornea, if there were previously a cornus or any corneal ulceration, one is struck with the remarkable cicatrization which has taken place in the cornea, the result being simply a nebula more or less faint according to the amount of the case before operation.

The patients are kept under observation during a month at least after the operation, while after this it has appeared advisable to see them once or sometimes twice a week for another month in some cases, so as to be ready to intervene immediately, should the disease show signs of disappearing, by destroying at once the first granulations which one might see appearing. If this be attended to, an energetic washing with the cotton wool soaked as above will always suffice, but when the patient is menace away too long, if the disease reappears, it will be necessary to repeat the operation. It is rare to lose that in all 130 cases about have been operated upon by the above method
by Dr. Abadie himself at his clinics within the last 2 years, and that while he has not met with one case of absolute failure, there have been a few cases of relative failure, viz. 6 or 7 patients have had to undergo the operation twice on one or both eyes, while one of these a child had to be operated upon 3 times. During the last 6 months however I have observed that no patient either previously (with) operated upon, or while I was there, has had to submit to a second operation.

The duration of the treatment lasts on an average about one month. In the first fortnight the patient must be seen every day for the dressing, after that twice a week at least, and later as above mentioned once or twice a week for a month for the purpose of observation.

Some cases which are character have been considered cured in less than a month, but others only in 1½ to 2 months, these have been for the greater part children, or weakly nourished subjects as for example of a stromous constitution.

The question as to complications arising from the operation will be asked, I must necessarily be considered.

Firstly with regard to Syblepharon, the complication which has been mostly perplexed with by others; during my observations I have not seen an instance, and I never says that he has never yet met with it, while he attributes this fact to the complete rocinoni every day.
of the eyelids, and the careful washing of the whole conjunctival surface with saline solution (1:5000), taking care to detach the adhesions which cannot fail to occur when the new surfaces have been in contact before the epithelium has become fully restored.

The cataracts, which follow as a result of the scarring process, and the nasal cartilages, cannot be avoided, they could be produced probably by any method of cure of Pachyma whether spontaneous or medical. Naturally they must if very marked produce a tendency to intropion, but I have not seen this so far. Harris however says that he has seen a tendancy to it, but not nearly sufficient for him to see it a complication capable of making him hesitate to operate on a Pachymato patient. It also tells me of a fibrous reaction which covers the entire conjunctival surface in the days following the operation on some occasions, but a case of it has not occurred during the last six months and it is difficult to ascertain a cause but when met with, it has been found to disappear in five days upon washing as usual with the saline solution.

Complications on the part of the Cornea are very rare, I have seen one case where a small corneal ulcers occurred produced, a few days after the operation, a perforation of the Cornea which however cured without sepsis on the iris, leaving a small somewhat dense circumscribed nebula.
In all cases where the Cornea has been affected, Yellow Ointment of Mercury has been used in the subsequent treatment, being applied after the washing with Saline; or each occasion, and has greatly aided the healing process of the corneal epitheli after its operative treatment.

When the patient comes for the first time, and the Diagnosis of Trachoma is made, I always prescribe a preparatory treatment before the operation, varying from 20 to 25 days according to the nature e.g. initial, acute, chronic, of the case in the following manner:

If the case is very acute with much secretion he centains once daily with a solution of Nitrate of Silver, 3%.

If the case is very granular, great proliferation of the granular elements, granulatation; she paints the entire conjunctival surface once daily with Sphacelata of Lead.

These two methods when the Cornea is not affected.

If the Cornea is affected, and there be, or least a praetale presente he washes the Conjunctival surface with Saline (1 to 500) and then applies some Yellow Ointment of Mercury Ointment.

In the very chronic cases no preparatory treatment other than cleanliness xanthoptic: precautions are necessary.
The following are a few observations of cases, personally observed, which have been submitted to the above described surgical treatment for Tranular Conjunctivitis.

They are given more or less in detail in order to show illustrate accurately, the course which is run by the eye after the Operation, its immediate subsequent result in the disease as to the Cornea, Conjunctiva and the Eyelids generally.

Observation I.

In the case of a lady of 20 years of age, who had suffered from Tranular Conjunctivitis for 6 months, when he came under my notice, the first week in January 1872. The condition was apparently acute, there was much pain, burning sensation, photophobia & epiphora. The pusations were not very numerous, but were distinct, and marked, on the par enchymal conjunctiva over the nasal conjunctiva especially, high up in the superior fornix, where the par enchymal & bullous conjunctivae united. In 2 fortnights the condition was treated by anti-ophthalmic methods, e.g. Led Procine acid solution for bathing the eye. While three times weekly the conjunctiva was treated with a solution of Clouded of Lead (i.e. a saturated solution of crystallized acetate of lead in glycerin). On the 17th January '72, the centres of the inflammation had been sufficiently subdued, to allow of the Operation as previously described, which was accordingly carried out. (It should be mentioned that in this case the Cornea was not complicated.) Two days afterwards, 19th Jan., examination
of the eye showed that there was no longer a process of ganglionic conjunctivitis, but an acute inflammation with swelling of the eyelids, attendant upon the operation. There was considerable photophobia. Vaccination, with a good deal of pain. The washing with Dubois' solution (1 to 500) was carefully carried out, the lid being soaked so far as possible to enable the solution to reach.

Two days later the inflammatory process was reduced to a great extent, while there was not nearly so much photophobia as.

(At first the child had both eyes affected, and that the patient was ordered to bathe the eyes with solution of Dubois (1 to 500) frequently every day at once).

Again, two days after this there was still further improvement; the inflammation was very much reduced. Some slight pain and photophobia still, but the conjunctiva had a very healthy, though somewhat reddish appearance, but looking very clean too.

In this way the case continued to progress favourably till the 25th January (12 days after the operation), when the following satisfactory state of the eye presented itself:

The patient kept his eye open in quite the usual normal way without effort, there being no swelling or bulging of the eyeballs, while there were now no photophobia, nor pain in the eye.

The latter matter could not express fully enough her delight and satisfaction at the result of the operation, especially as her daughter (72 years)
had had a similar affection for 5 years. Up to the present nearly, she had thought such cases incurable.

On Feb. 14th the case seemed completely cured, the patient suffered no pain or discomfort from the eye, and made no complaint whatever.

On 18th March, she came back on account of the right eye. It was found that a return of the conjunctiva threatened, so the washing, somewhat briskly, with Sublimate (1 in 500) was again resorted to, and right now (April 14th) he has remained quite cured, there having been no return of the affection.

Observation II.

J. P. the sister of the boy in the preceding observation was brought under our notice at the same time. Her age was 7½ years, and she had been a sufferer from Granular Conjunctivitis since the age of 4½ years, i.e. during the last 5 years. Both eyes were found to be in a state of Chronic Trachoma, the case being a very severe one.

In the T.E. both the palpebral and bulbar conjunctiva were affected with granulomata, the inferior cul-de-sac especially, herniating with them, and in the lower palpebral conjunctiva was a great number of granulomata also, mostly in the region of the caruncle and that part of the inferior cul-de-sac near the inner canthus. There were also several distinct granulomata on the bulbar conjunctiva near the inner margin of the cornea, which was not yet ulcerated.

In the R.E. the condition was confined to the palpebral
conjunctivitis, neither the bulbar conjunctiva nor the tarsal conjunctiva affected. After a fortnight's preparatory treatment by painting the inner aspect of the lid with Cuprous Sulphate, she was operated upon on the same day as her brother, viz. Jan. 17th, 1792, and the subsequent treatment, using Cuprous Sulphate (1/500) ve., carried out as in his case.

In a day afterwards the result was so good that it was only necessary for her to attend the clinic, where she received with Cuprous Sulphate solution twice weekly, and from Feb. 4th only once a week. On the 13th March she had not been free for a fortnight, and there had been no return of the conjunctiva, of the affectation, while she had no complaint to make in any way, and was therefore looked upon as cured.

Observation III.

J. E., aged 13½ years. The young lad had been troubled with Granular Conjunctivitis for six months previously to his coming here in January 1792. The case was extraordinary severe, there being granulations on both the palpebral and bulbar conjunctivae of each eye. They were mostly in the superior case de-see, but also in the inferior ones; in addition to this, parts over the tarsal cartilages being much affected, while there was a few granulations on the bulbar conjunctivae both on the side of the corner of each eye. In addition to the corner itself of the I.E. there was a small focus, perhaps a granulation, something like a perforating ulcer, which afterwards became closed and left a small white nebula very dense in character.
The usual operation was performed on the same date as the two previous ones Jan. 17th, 1892, after a week's preparation by the customary antiphlogistic methods, and the case progressed most satisfactorily. On Jan. 31st, 1892, the subsequent treatment by washing with salitrina (1 in 300) having been regularly carried out, there was no longer any photophobia, the patient being able to keep his eyes open without effort, which he had not before, the lids aperature of the eyes, the forced dawning also disappeared, while he had no pain or discomfort whatever now, and the inflammation swelling of the lids had been entirely subdued, the redness & blepharitis appearance of the edges of the lids being also quite disappeared.

On Feb. 27th, 1892, the patient was quite cured of his Trachoma & there only remained the small white excrustations of the former ulcers.

Observation IV.

Mrs. U. M., aged 45 years, a housewoman by occupation, had been a sufferer from Trachoma for 8 years. During this long time she had tried all kinds of treatment at different Out-patient Departments of Hospitals & Cliniques, though getting a slight benefit temporarily, she had never been cured & the disease had become very Chronic. She had used all kinds of treatments for her eyes, had had the lids painted with nitrate of silver, Bichlor of Copper, Acetate of Lead & had all without any satisfactory result, when,
almost despairing of her case, she came this morning to have the operation, which was accordingly performed on the 12th Jan. 1892. The case subsequently progressed most favourably under the usual regular care and attention, and on the 26th February, when she last came to the Clinic she was completely cured of the affection, and expressed herself in the strongest terms of gratitude and pleasure at the result of the treatment.

The palpable conjunctivitis over the nasal cartilages presented a very clean smooth appearance, of a whitish aspect, from the cicatricies following on the linear scarifications made during the operation. There was no tendency to any synchleorion, intraepi- or indeed any such complication on the last occasion of seeing the patient. (April 1892) The case the woman was not affected.

Observation V.

Mr. A. L., aged 12 years.

This young patient was a fine healthy looking girl, very robust, and with quite a fresh complexion. She had always enjoyed good health, but for more than the last 2 years had had the affection of Granular Conjunctivitis. She had no nasal trouble, but without result, by the former method, e.g. Iritis of silver, Sulphate of Copper &c., but on coming here decided (or rather her mother decided) that she should undergo the operation which was performed on March 14th 1892 in the usual way. The conjunctivae to having been daily, for a
week previous to the operation, prepared by the customary methods of treatment. The granulations are many, diffuse, but small in size, affecting both the paraxial and bulbar conjunctiva of each eye. There was for the a marked condition of Pannus in each eye, the upper portion of the cornea being especially affected, while it extended through a less pronounced condition over the whole corneal surface of each eye. The unusual extricate treatment by washing with Sublimate (1590) was carefully attended to, and on March 8th, 4 days after the operation, she said she felt her eyes already much better than they had been for the last 2 years. The cornea during the operation had been slightly excised from the periphery toward the center, and then very gently brushed, so that later when the washing with Sublimate had been done in the subsequent treatment, some Yellow Oxide of Mercury in the washing was each time placed in the eye between the lid, for the Corneal invagination, with very good effect.

On March 14th, a week after the operation, the conjunctivae were assuming their normal aspect, the inflammatory process, set up by the operation was almost subdued, and there were no adhesion sites between the Conjunctivae and cornea; the Pannus was very markedly reduced, effect to see was making excellent progress, and especially so as it was a very severe one, and the operation had been marked on account of the patient having been previously...
asked for a long time without avail.

One month after the operation, she was quite cured, thus having been no complication or arrest of the rapid progress of recovery, and her has been no threat of a return of the affection. There remains but a slight tuberculous tinge in each cornea which has diminished rapidly in the last fortnight (April 19th, 92).

Observation III.

Mrs. M., aged 17 years. This young patient was not at all sallow appearance, ratty or unhealthy looking. She not according to her mother, enjoyed very good health. When she came to us there was an erythematous skin eruption on her face, which was her mother stated that two younger children suffered from the same affection of the eyes. She had had the traction for the last 14 years, and on staff been treated by a Medical Practitioner with lotions, douches, various kinds of applications (the mother's statement), but all without beneficial result. The case had always been getting worse, as the mother brought her to us, and she was operated on in the manner before described on the same date as the preceding case, March 15th, 92. She had all the usual symptoms of Trachoma, for Diarrhoea of the eyes it was found, that in each, there were many small and diffuse granulatins, affecting both the follicle and bar conjunctibve.

The palpebral conjunctivae were very red and appeared as if they had been very mucous at not
long previously taken among cows. In the bulbar conjunctivitis of the R.E. near it below the inner canthus were two large granulations, as prominent that they were mapped off, before curating, with the scissors. There were also 3 or 4 small granulations in the bulbar conjunctivitis between the margins of the cornea & the inner canthus, a little nearer the latter while in the T.E. on the bulbar conjunctivitis were also some small granulations near the inner canthus.

After the operation, the daily washing with alkali was carefully carried out, and on March 8th, 14 days afterwards, the mother said the little girl was almost fully better than before the operation took place. The patient continued to make very satisfactory progress in a week later March 15th, the conjunctivitis presented an almost normal appearance, she had no pain & the inflammation due to the operation had nearly all subsided.

At the end of a month, she was only coming once a week, the bulbar conjunctivias were quite normal, the palpebral very clean, fornices, front and white in colour, the cicatrizations from the incision made by the 3-bladed knife showing as thin, small white streaks, mostly seen in the fields of the conjunctivitis in the region of his former fornices. She had no trouble or desire to sob with her eyes, and was practically quite cured. It only being necessary from this on to watch the eye against a relapse, or rather fresh attack, as her surroundings at home seemed to be somewhat favourable though an occasion.
Observation II.

M. L. M., aged 37 years.

This was a very chronic case. The patient had had Trachoma for the last 16 years, dating back from 1876; he had been treated by almost all known forms of methods of treatment, at different places in Paris, on Volf during this time.

At one time for 3 months he was an In-patient at the Hospital St. Anti, Paris, and was carefully treated there. He returned to bath the eye with (or: Brucia Acid) in addition of bichlorid of mercury, bichlorid of copper, & Bichlorid of Mercury, John's acid, but he derived no benefit of any form or memory from any of them. He was also an In-patient at the Hospital St. Antoine, Paris, where he also for some time he was treated by similar means and forms of methods. While in addition had applied acetic, bichlorid, bichlorid of silver to his eye himself, in fact had tried everything friends and practitioners had advised him, but all to no purpose.

(The above is the patient's statement.)

He came there on Jan. 16th 1872 and on the 12th Jan. two days afterwards was operated on in the customary manner. The subsequent treatment was fully carried out. Before the operation, he had always suffered a great deal, having great pain at times as blinding, Bichloridophthalmia & Tetrastin.

There was a marked condition of fissures in each eye, the cornea being affected in about the upper 3/4 of its length. There was much vascularisation arising from the tumour inward, and small
which.J. pre-opulation surrounding a few small
borders of epithelial tissue. The parietal and bulbar
epithelium were extensively affected with small
differ Encrustations.

The case progressed most satisfactorily and
on the last occasion of seeing him 3 months aft
the operation, the parietal epitylum looked
very healthy somewhat white and smooth, while
the bulbous epithelium were quite normal in ap
pearance. The tumors had entirely disappeared
there were no scars of the cornea, but only a
very slight nebula which was not visible except
by the oblique illumination, while the patient
had a very convincing vision. To look casually at
the eyes, one could not detect any abnormal ap-
pearance.

The patient had for years to put such a strain
on the surrounding muscles, orbicularis, concipto-
frontalis so that his forehead temples were
much wrinkled, gave him the appearance of an
old man, whereas he now looked 20 years younger,
to quote an expression used by an acquaintance of
his at the time.

Observation VIII.

Mrs. P., aged 44 years, had been troubled with
her eyes for 2 to 3 months before coming here, but
had had no other treatment than one has her mother
thought fit, i.e., by of heating the eyes, applying for
mutton and at home. This had from time to time
ceased the pain and swelling of the eyes, but did not
naturally, prevent the onset and increase of the
condition of granular conjunctivitis, which was found to be present when the first came under our notice Feb. 5th 1912. There were numerous small, but distinctly marked, granulations on the palpebral conjunctiva of both the upper and lower lids, especially in the inferior and superior fornices of each eye. There were also a few granulations on the bulbar conjunctiva between the inner canthus and the cornea. The cornea of the R.E. was slightly affected in its anterior upper portion.

After a preparation of 15 days by the usual method in the case, a solution of sublimates (1:500), some yellow oxide of mercury, continued after washing the treated lid, she was less irritable and constant to it, operated upon on the 20th Feb. as before described, the cornea being slightly emulsified where affected, but not broken as this would provoke the epithelium too much for the case. The subsequent treatment was followed and as usual, and on March 21st 1912, one month later, the R.E. was completely cured, but in the L.E. there was still some infiltration of the palpebral conjunctiva over the tarsal cartilage of the upper lid; the bulbar conjunctiva as in the R.E. was quite normal, but an ulceration, small, of the upper part of the cornea had taken place. The washing of the conjunctiva was procured with and yellow oxide of mercury. Treatment was used for the small ulceration, which seemed phlyctenal in character, though the bulbar conjunctiva was not apparently affected nor was there any epiphora to speak of.

There was however a certain degree of photophobia
which caused the patient to keep the eye partially closed. At the 32 of March, the conjunctiva was completely restored, and there remained only a small nodule in the upper part of the cornea.

In addition to the above cases, I have from time to time seen a few patients who have been operated upon by the above method and returned to me, twelve to eighteen months after the operation, at the request of Dr. Cadiz and Paris. To report themselves, so that the after-results might be observed. In each case permanent cure had been effected, while in only one case had a complication arisen, which was that a few of the cornea, although they remained no heavier than a pin-head, had become detached slightly inwardly; these were removed by gelatin and the patient has evidently not been troubled again, as we did not see him again, now some months. One patient whom I saw had come from the French Pension of Algeria a year and a half ago to be operated upon, and being in Paris about 3 months ago came to report himself at the Chri- gue, when it was found that the eye had been completely cured, without relapse or complications having arisen. And similarly with several other cases.

By far the majority of the patients have not returned, and it is perhaps fair to presume that they have found themselves permanently cured and not troubled themselves thence again.
was sustained by rest and careful feeding, and weight increased, while a careful analysis of the faeces and urine showed that no more albumen was excreted than in healthy digestion. In view of these facts, it is difficult to resist the conclusion that it is quite possible for albumen to be digested in the intestine, quite independent of the stomach or gastric secretion.

But if so, the question naturally arises - Why does the general health suffer so much in abscess and cancer of the stomach and other types of severe disease? It cannot be accounted for by pain, for pain may be entirely absent. It is possible to explain it by the fact that, in disordered digestion, the molecules of albumen split up in an abnormal and irregular manner, and that wasting and malnutrition are not produced by the non-elimination of some of the secondary products of digestion, which are now with much probability set down as the cause of many diseases. The likelihood of this being the case is further confirmed by the frequency with which leucin, tyrozin and similar compounds are found in considerable quantity in the urine and faeces of those suffering from