An inaugural dissertation on cataract : submitted to the examination of the Rev. John Ewing, S.T.P. provost ; the trustees & medical faculty, of the University of Pennsylvania, on the thirty-first of May 1800, for the degree of Doctor of Medicine / by Frederic Seip, of Philadelphia.

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AN

INAUGURAL DISSERTATION

ON

CATARACT:

SUBMITTED

TO THE

EXAMINATION

OF THE

REV. JOHN EWING, S. T. P. PROVOST;

THE

TRUSTEES & MEDICAL FACULTY,

OF THE

UNIVERSITY OF PENNSYLVANIA,

On the thirty-first of May 1800,

FOR THE DEGREE OF

DOCTOR OF MEDICINE:

LIBRARY
21384

By FREDERIC SEIP, of Philadelphia.

PHILADELPHIA:

PRINTED BY WAY & GROFF,

No. 48, North Third-street.

1800.

TO

PHILIP SYNG PHYSIC, M. D.

ONE OF THE PHYSICIANS AND SURGEONS TO THE PENNSYLVANIA HOSPITAL;

THIS

DISSERTATION

IS RESPECTFULLY INSCRIBED,

AS A SMALL BUT SINCERE TRIBUTE

OF

GRATITUDE AND ESTEEM,

FOR THE MANY

VALUABLE OPPORTUNITIES OF INSTRUCTION,

RECEIVED

DURING THE STUDIES OF

HIS AFFECTIONATE FRIEND AND PUPIL,

FREDERIC SEIP.

TO

THOMAS PARKE, M. D.

ONE OF THE PHYSICIANS TO THE PENNSYLVANIA HOSPITAL;

AS A TESTIMONY

OF

RESPECT AND ESTEEM

FROM

HIS OBLIGED FRIEND

AND FORMER PUPIL,

FREDERIC SEIP.

A

DISSERTATION

ON

CATARACT.

CATARACT, the ſubject of the following pages, appears to have been known to Hippocrates, and the ancient Greeks, by the term glaucoſis. They however had a very erroneous opinion concerning the ſeat of it; it was ſuppoſed by them to be a membrane adhering to the edge of the pupil, formed by the thickening of the aqueous humor, and thus ſtopping the rays of light.*

Galen, perhaps, was the firſt who ſpecified any difference in defining the cataract to be a film, ſituated behind the iris, and the glaucoma, a diſorder of the chryſtalline humor. It was likewiſe ſuppoſed frequently to ariſe from an opacity of the vitreous humor.

Later diſcoveries have however proven, that this diſorder is always ſeated in the chryſtalline lens, or the membrane immediately inveſting it.

Blindneſs, from this cauſe, therefore, ariſes from the interception of the rays of light, in their paſſage to the retina.

* St. Yves.

The cauſe of this opacity has never been ſatisfactorily accounted for; inflammation however appears to be occaſionally the cauſe of it. It may be produced by diſeaſes of the ſyſtem, excluſive of any injury done to the eye itſelf, as gout, ſcrophula, and the venereal diſeaſe, of which inſtances are related.* Alſo, from falls, blows, external violence, &c. done to the eye itſelf. Many caſes are to be found, in which it has been attributed to ſtrong light.

This opacity ſometimes comes on ſuddenly, of which many caſes are recorded; Mr. Pott mentions four inſtances of it, and is of opinion that where it does occur inſtantaneouſly after a blow, the capſule alone is opake; his words are, "Whether this be not an affection of the capſula merely, I much doubt, or rather am much inclined to ſuſpect that it moſt frequently is. In three of the four, which have fallen under my obſervation, the opacity has gradually diſappeared, after the inflammation, in conſequence of the blow, had gone off, and the eyes were left as clear as ever; a conſequence which I think may be accounted for by ſuppoſing the opacity in the capſula only, but cannot if we ſuppoſe it to be the corpus cryſtallinum itſelf." But ſuch occurrences are rare, and it more frequently happens, that the diſeaſe approaches in a very gradual manner, and proceeds from a ſlight degree of dimneſs to an entire loſs of viſion.

* Richter and St. Yves.

The ſymptoms, which uſually precede an opacity of the lens, are, a weakneſs of ſight, the appearance of duſt, or motes, flying before the eyes, alſo a ſettled miſt ſurrounding all objects. The patient generally being able to ſee better in a moderate than a ſtrong light.

The lens, in the forming ſtate of the diſeaſe, is but little altered, but by degees theſe ſymptoms become more and more alarming, viſion is greatly impeded, colours are hardly to be diſtinguiſhed; until at length, the patient is ſcarcely able to diſtinguiſh light from darkneſs. This however is not always the caſe, patients can very frequently diſtinguiſh a light colour from a dark one. Theſe ſymptoms are moſt frequently unaccompanied with pain unleſs ſome degree of inflammation attends.

The opacity of the lens proceeds in proportion to the degree of blindneſs that attends, ſometimes occupying the whole pupil of the eye, and ſometimes appearing like a ſpeck or ſpot in the pupil.

The colour of the lens appears moſt commonly of a light grey, though this often varies; it is ſometimes entirely white; ſome caſes are recorded, where the lens has been of a black colour, of this Mr. Ware mentions ſome inſtances in his tranſlation of Baron Wenzel.*

From this diverſity of colour in the lens, ſurgeons have endeavoured to determine the ſtate of the lens with regard to its conſiſtence. The cream coloured

* Alſo by Pellier. Bell's IV. Vol.

cataract, it was ſuppoſed, moſt frequently occurs, where the cataract is fluid. The yellow coloured, Mr. Sharp thought, always adhered to the iris, and was incurable. The firm cataract, it has been ſuppoſed, was almoſt in every inſtance of a brown colour.

The lens alſo differs in conſiſtence in different caſes, ſometimes exiſting in a fluid form, often of a cheeſy conſiſtence, and ſometimes ſo hard as to be compared to bone.* This difference in the conſiſtence of the lens has alſo given riſe to terms, ſo much relied upon by old authors, viz. the milky, purulent and cheeſy, and as they ſuppoſed were only different degrees of alteration which the lens muſt undergo, before it arrived to a full ripeneſs. Theſe characteriſtic marks of a ſoft or hard cataract, are now known to be very uncertain and not to be depended upon.

To determine whether an opacity of the cryſtalline lens, is the cauſe of blindneſs or not, we are directed to place the patient in a ſituation, in which the light may fall obliquely upon the eye; if an opacity is obſerved immediately behind the iris, and the pupil, upon cloſing the eye for a ſhort ſpace of time, is found to contract as ſoon as expoſed to the light again, we may readily infer, that it is a cataract; but this does not determine whether the opacity be ſeated in the lens, or its capſule. It has been ſaid, that this may be determined by the opa-

* St. Yves and Heiſter.

city appearing at the back part of the lens, and at a greater diſtance from the iris, when the lens alone is opake, and by its appearing more anterior, and occupying the whole pupil, where the capſule of the lens is the ſeat of it. But I believe this is not ſo readily done as ſome writers may imagine.

A diſeaſe with which an opacity of the lens is ſometimes accompanied, is gutta ſerena; this is known from the pupil of the eye not contracting, when expoſed ſuddenly to light, and from the patient not being able to diſtinguiſh the leaſt degree of light; in ſuch inſtances, it will be proper to predict the probable event of an operation, and to avoid performing it, unleſs inſiſted upon by the patient. This, however, may occur in one eye only, and the other may ſucceed; of this I knew an inſtance.

From a gutta ſerena, an opacity of the lens is diſtinguiſhed by the colour of the pupil, which is moſtly white in the cataract, and always black in the gutta ſerena, the pupil alſo remaining dilated in every degree of light. But a caſe in which it would be more difficult to diſtinguiſh occurs, where the cataract appears of a dark colour; this dark colour is ſaid to differ from the clear black, which the pupil aſſumes in a ſtate of health, and appears turbid behind the pupil. It may be diſtinguiſhed from the gutta ſerena, by the contraction of the pupil, when expoſed to light, and according to Rowley, the image of the perſon looking into the pupil, can be

perceived in the gutta ſerena, but not in the black cataract.

An opacity of the lens may be diſtinguiſhed from opake ſpots upon the cornea, by a ſide view of the eye; in which caſe, the ſpots upon the cornea will be found anterior to the iris.

The hypopion, or collection of matter in the anterior chamber of the eye, may be known, from the appearance of a white moveable liquid, floating in the chambers of it; the iris being partly or totally imperceptible, and according to Mr. Bell, from the protruſion of the cornea, giving it the appearance of a tumor.

The ſtaphyloma is a preternatural dilation and elevation of the cornea, and ſometimes of the ſcelerotica, occaſioned by the protruſion of the aqueous humour through the lamella of the cornea;* it is alſo applied to the iris, where it projects out of the aperture in the cornea, whether produced by a wound or other external or internal cauſe. There are ſeveral different names given, according to the different figure and magnitude of the tumor. The term ſtaphyloma, was given to it becauſe it was ſuppoſed to reſemble a grape. Mr. Ware is of opinion, that it ariſes from the inner lamina of the cornea, uniting and protruding through one of the external laminæ, forming a kind of cyſt.

* St. Yves.

Methods of Cure.

THE cure of the cataract may be attempted in three ways:—

Firſt, by medicine and a proper regimen.

Secondly, by the operation called couching or depreſſion; and

Thirdly, by extraction.

Where inflammation appears to be the cauſe of a cataract, it will be very proper to endeavour by a low diet, alſo by blood-letting, both general and topical, to prevent its further progreſs.

To prevent the progreſs of this diſeaſe, no medicine appears to have been more advantage than mercury exhibited in ſmall doſes: but to be effectual, it ſhould be perſiſted in for ſome length of time. "I have ſeen," ſays Rowley, "many inſtances, in which the penetrating alteratives, with cinnabarine fumigations, have produced no ſenſible good effects for ſix or eight months, particularly in the colder ſeaſons; and yet, after theſe periods, the cure of the incipient cataract, and even the gutta ſerena, has advanced rapidly." Some caſes are to be found in which hemloc has been of ſervice. Sauvage extols the white henbane as a ſpecific in this caſe. But notwithſtanding in ſome inſtances mercury has done ſervice, it is a fact to be regretted, that it fails in moſt caſes, and the only chance left for the patient, is by an operation, the object of which is to remove the opake lens or capſule

from its ſituation, and thus permit the rays of light to paſs down upon the retina.

Two methods of performing this operation have been recommended, viz. depreſſion or couching, and extraction, each of which have had their advocates.

The operation by depreſſion is of great antiquity, being known to Galen.

Extraction is of a much later diſcovery; the invention is attributed to Freytagius, but was not made public until the year 1745, by Daviel, a celebrated French ſurgeon of Paris. The extraction of the lens, when it had paſſed through the pupil into the anterior chamber of the eye, in couching, was practiſed ſixty years before by St. Yves, a French ſurgeon.

Theſe methods of operating have ſeverally been performed ever ſince their diſcovery, and it has not been decided which of the two is moſt proper.

The objections made againſt extraction, have been perhaps as numerous as thoſe urged againſt depreſſion; but thoſe urged againſt the latter operation appear to me to have by far the greateſt weight: becauſe extraction is adapted to caſes wherein that of depreſſion is not: it being alſo of great conſequence for a practitioner to adopt the method beſt ſuited to obviate every caſe which occurs, I think the method by extraction will be found to poſſeſs advantages over that of depreſſion.

It is certainly no uncommon thing to find ſurgeons ſtill perſiſting in the method they have firſt adopted, urging it as a reaſon, that they can beſt perform it in ſuch a manner; this is ſeen every day, and in no ſcience more particularly than that of ſurgery. This remark applies with particular force to the ſubject now under conſideration; for every one will admit, that practice in operating will familiariſe the operator greatly, and it is with great reluctance that he changes his mode of doing it. This, therefore, ought to induce us to conſider well the weight as well as the number of objections, made againſt any particular operation.

Extraction, I have ſaid, is adapted to caſes in which depreſſion is not. This muſt be granted. Firſt, where the capſule, as well as the cryſtalline lens, is opake; this opacity of the capſule, we know, occurs very frequently, and if the remark made by Mr. Pott be well founded, it is an accident that is likely to follow every caſe. In a note to page 193,* he ſays, "The capſula is capable of becoming white and opake, while its contents ſhall be clear and tranſparent; it becomes ſo ſometimes by being wounded by the couching needle, uſed either for the depreſſion of a firm cataract, or for the letting out of a ſoft one, and it will not unfrequently be found ſo after the operation of extraction, when no inſtrument has touched it." Now

* Vol. III.

this opacity of the capſule does frequently exiſt, and where it does not, it is likely to happen from the operation: this, therefore, cannot be remedied by depreſſion. Mr. Bell admits,* that this cauſe "ſeems *a priori* to be the moſt concluſive againſt the operation for depreſſion," but adds, "that it will not on examination be found to be ſo; becauſe it is ſo rare an occurrence." I believe this is not the caſe, and that it is a very frequent occurrence. It has been ſuppoſed by Mr. Bell, that this opacity of the capſule could not be cured even by extraction; "for though (ſays he) the opaque capſule may indeed be forcibly torn away, by inſtruments paſſed through the pupil, but not without ſuch violence being done to the eye as muſt be productive of certain blindneſs." In this he is miſtaken; the capſule may be extracted, and that too without being productive of blindneſs, as Mr. Bell aſſerts. It was done in a caſe which occurred to Dr. Phyſic laſt ſpring; the patient recovered his ſight, and is now able to read a ſmall print.

But the opacity may be ſeated in the capſule alone, and the lens remain clear and tranſparent. An inſtance of this I had an opportunity of ſeeing, in a caſe which occurred to Dr. Phyſic; the opacity was not uniform; a very ſmall part upon the upper margin of it appeared clear, which led him to expect that the capſule was opake, and accordingly he extracted it immediately after the inciſion of the

* Page 402, vol. III.

cornea was made, and without removing the lens; whereupon the pupil became clear and black, and objects visible. In such a case as this, had depression been performed, the very part which ought to have remained, would have been removed, and the opacity still have continued. It is very probable too, that this often occurs where depression is performed, and thus remains unnoticed.

Another great objection to the method of depression is, that when the cataract is soft, or in a fluid state, depression does not succeed. It is said here, that this fluid will always dissolve gradually in the aqueous fluid, and at length disappear. But, according to Mr. Pott, when the cataract is of the mixed kind, partly soft, and partly hard, the case is more unfortunate, the firmer parts eluding the attempts of the needle to depress them; here it will sometimes happen, as he admits, that the firmer parts of the lens will remain in its nidus, and still form a cataract, which may possibly require a future or re-application of the instrument. Here it must be admitted, that had extraction been performed, a second operation would have been unnecessary; and in cases where the lens is soft, or fluid, it might at once be removed, and thus be prevented from irritating the internal parts of the eye, as it probably must do; and is perhaps one great cause of the inflammation which sometimes succeeds it. In proof of the injury that is sustained from this cause, Mr.

Ware mentions a caſe in which the lens came forward into the anterior chamber; "during the time," ſays he, "that the opake cryſtalline floated in the anterior chamber, the eye was conſtantly in a ſtate of irritation, in conſequence of which the patient was repeatedly requeſted to allow the opake body to be extracted, but he always objected to ſubmit to it. The pupil remained large and clear after the cataract had diſappeared, but the irritation, which its preſſure on the iris kept up, continued ſo long, that it produced a true gutta ſerena, which totally deſtroyed viſion. Some months after this, a cataract was completely formed in the oppoſite eye, which being extracted in the uſual manner, the ſight was thereby reſtored." But caſes are recorded even by thoſe who are in the habit of couching, where the lens in this ſtate, remained for months and even years. Mr. Lucas mentions one in which the fluid cataract was not diſperſed, in leſs than a year after the operation, upon whom it had been repeated three times: and a caſe is related by Mr. Sharpe,* of a woman, whoſe cataract, after couching, became quite looſe in the eye, and in an erect poſture, ſunk to the bottom of the eye, but by ſtooping forward, ſhe could bring it quite over the pupil and remained ſo ever after.

A third objection urged againſt depreſſion, is the frequent riſing of the lens, after it has been depreſ-

* Sharpe's Surgery.

ſed. This is one of the moſt frequent occurrences attending this operation. This circumſtance has been aſcribed " to the fault of the ſurgeon or ſome other cauſe;" I believe it happens to the beſt operators, as we find from their accounts. The pain attending the repetition here, is urged as inconſiderable, but if the operation occaſions any pain, I believe a ſecond attempt will cauſe as much as the firſt, not to mention the danger from the fatigue which the eye undergoes at the time. In ſuch a caſe extraction therefore would have rendered a repetition unneceſſary.

The objections made againſt the operation by extraction are, the loſs of the vitreous humour; the cicatrix formed upon the cornea, and the injury liable to be done to the iris.

The firſt objection, viz. the loſs of the vitreous humour, appears to me to be the only one of any weight; but where it does occur in extraction, it ariſes either from an undue preſſure made upon the eye, where the capſule of the lens has not been properly punctured, or where the inciſion of the cornea has been made too ſmall. But the moſt probable cauſe of its occurrence ſeems to be, a diſeaſed ſtate of the vitreous humour; where ſuch is the caſe, the derangement of it would be moſt apt to happen in couching, as the capſule of the lens is torn nearer to the vitreous humour and out of the view of the operator; and in addition to this, the lens in couching is forcibly preſſed under the vitre-

ous humour, and in ſuch a ſtate of the eye may more eaſily produce a diſcharge of it. This diſcharge however is a rare occurrence, and may be particularly guarded againſt by a careful operator, as preſſure may be made ſo light, as not to affect the vitreous humour, where the puncturing of the capſule has been ſufficiently done. The loſs moreover of a portion of it, is not attended with the loſs of ſight; it is even aſſerted by one of the moſt candid writers* upon this ſubject, that thoſe patients who only looſe a ſmall or moderate ſhare of the vitreous humour, generally acquire a much ſharper ſight than thoſe who have loſt none of it.

The cicatrix formed after the inciſion of the cornea is one of the moſt trifling objections that can be made to this operation; for in moſt caſes where the operation in other reſpects ſucceeds, the cicatrix is ſcarcely if at all perceptible; if even it does remain ſome length of time and then diſappear, as it ſometimes does, it does not obſtruct the paſſage of the rays of light, except in a direction from below, where the inciſion is made upon the inferior part of it, which is not of ſo great importance, and certainly is not ſo diſagreeable an occurrence, as an opake portion of the cataract, or its capſule is, when left behind, and which is ſo lightly ſpoken of by the advocates for depreſſion. In a great majority of caſes, however, this cicatrix diſappears altogether.

* Richter.

The injury that the iris ſuſtains by the paſſage of the lens through the pupil, has been urged as an objection to extraction. An immobility of the iris may, in ſome inſtances, ſucceed the ſudden extraction of the lens, where it has been large, and the pupil too much contracted.* The preſſure here in moſt caſes has been too great, and done without ſufficient caution. To prevent this therefore the eye may be cloſed for a ſhort ſpace of time, and the light diminiſhed, until the lens has been extracted. As to the pain, which attends the operation, I believe it is certainly leſs than that cauſed by couching; in the one, the cornea, which in a ſound ſtate is inſenſible, gives little or no pain, whilſt in the other, the conjunctiva, which is highly ſenſible, and all the other coats of the eye are punctured; add to this, the preſſure of a foreign body upon ſo delicate a membrane as that of the retina, and it muſt certainly be admitted that the latter is moſt painful.

* Dr. Reimarus, correſpondent of the Hamburgh Society, having remarked, that a few drops of belladona diſſolved in water and applied to the eyes, cauſe the pupil to dilate in ſo extraordinary a manner, that the iris is nearly reduced to nothing, was led from this circumſtance to ſuggeſt the propriety of having recourſe to this expedient, preparatory to the opetion of couching the eye for a cataract. Of this intimation Dr. Graſmeyer, who practiſes this operation with great ſkill at Hamburgh, has made a very ſucceſsful experiment. The effect produced by the ſolution on the eye, continues about half an hour, affording by the dilation of the pupil, an excellent opportunity of performing the operation, without danger of hurting the iris; and the paſſy, if it may be ſo termed, which invades the retina, prevents the baneful conſequences which otherwiſe might accrue from too ſudden acceſſion of light.

Med. Repoſ. Vol. II No. IV.

Method of Extraction.

BEFORE the operation for extracting the cataract is determined upon, it is neceſſary to notice the circumſtances that are previouſly neceſſary to be taken into conſideration. That this operation may be likely to ſucceed, the patient ſhould be in other reſpects healthy, the eye of its natural ſize, and the cornea tranſparent; it is alſo deſirable, that the pupil preſerve its regular form, capable of contracting and dilating, and that light be diſcernible. Some think the ſeaſon of the year alſo of conſequence, ſpring and autumn being generally preferred.

To guard as much as poſſible againſt inflammation, after the operation, it is neceſſary that the patient be kept upon a low diet ſeveral days before the operation, and the uſe of laxative medicines preſcribed. Where plethora indicates it, bloodletting will be neceſſary.

Theſe circumſtances being properly attended to, and all things prepared, the operation may be proceeded upon. The next circumſtance neceſſary to be conſidered is, in what manner the eye is to be ſecured during the operation. For this purpoſe different inſtruments have been invented: the one generally made uſe of is the ſpeculum. This inſtrument does not however anſwer the intention of the operator, as it irritates the eye very much; even when applied upon a ſound eye, the irritation con-

tinues for half an hour. The preſſure of it alſo often does miſchief, and incommodes the operator greatly; it is of great conſequence too, that one hand of the operator be at liberty to hold down the under eye-lid, whilſt the inciſion of the cornea is going on. The beſt reaſon however for not uſing it is, that the eye can be held ſufficiently ſecure by the fingers of the operator and aſſiſtant, without the aid of ſuch an inſtrument.

The inſtruments neceſſary for the operation are, a knife, a ſmall pair of forceps, a ſmall ſcoop, a ſmall hook, and a needle. The beſt form for the knife is that deſcribed and made uſe of by Baron Wenzel.

The patient is to be ſeated upon a chair, ſomewhat lower than that which the operator makes uſe of, and placed in ſuch a manner that the light may fall obliquely acroſs the eye to be operated upon; for if the rays of light fall directly upon it, the reflection from the cornea will embarraſs the operator.

The aſſiſtant is to ſtand behind the patient, and ſupport his head againſt his breaſt, and with the fore and middle fingers of one hand he is to raiſe the upper lid, preſſing it againſt the orbit of the eye.

The operator is to pull down the under eye-lid, with the fore and middle fingers of the one hand, and at the ſame time, making preſſure enough againſt the ball of the eye, to ſecure it properly.

The inciſion of the cornea, which conſtitutes the principal part of this operation, ſhould be done with one cut; for this purpoſe, the broadeſt part of the knife is now directed to be as broad as one half of the cornea. The blade of the knife being conſtructed in ſuch a manner that it gradually increaſes in breadth, from the point to the heel, in order that it may fill up the inciſion, as it paſſes through, and thus prevent the diſcharge of the aqueous humour. The eye being in a favourable poſition, the point of the knife is to be made to penetrate the cornea ſuddenly, which generally ſecures it from moving, at a very ſmall diſtance from the junction of the cornea, and at the outer extremity of a line, which would run directly through the centre of the pupil. The direction of the knife ſhould be made at firſt a little obliquely inwards, ſo as to avoid making the inciſion too ſmall, as it would be if the knife ſhould penetrate the cornea obliquely outwards. As ſoon as the point of the knife has fairly entered the anterior chamber of the eye, its direction ſhould be altered, and directed in a ſtraight line to the oppoſite point of the cornea, this ſhould be done carefully, to avoid the iris. When it does approach the knife, we are directed to preſs very gently upon the cornea, with the fore finger of one hand, which will cauſe it to recede.

The knife carried in this manner, will have nearly cut through the inferior portion of the cornea, by the time it has got ſome diſtance through the

oppoſite point of it, when the aſſiſtant is to remove all preſſure from the eye, and the inciſion is to be finiſhed.

As ſoon as the inciſion has been completed, the next ſtep is to open the capſule of the lens: for this purpoſe various means are recommended; ſome expert operators perfom it at the ſame time that the inciſion of the cornea is doing, and with the ſame inſtrument, this though it may be done, is not adviſable; a ſmall ſharp needle is ſometimes uſed for this purpoſe, and a ſmall puncture is thought ſufficient; but the moſt experienced operators adviſe the puncture to be repeated, ſo that the capſule may be torn, and thus allow an eaſy paſſage for the lens, (an inſtrument uſed by Mr. Pellier called a cyſtatome,* appears very well calculated for this purpoſe). This advice appears very rational, as leſs preſſure is requiſite to detach the lens, and allow every portion of it, to be more eaſily extracted by means of the ſcoop. Richter, who adviſes this method ſtrongly, is of opinion, that it prevents the opake ſpots, which ſometimes occur after the operation, and are taken for an opacity of the capſule; which he ſays he never ſaw, and attributes to this method of opening the membrane.

When the capſule has been freely punctured, gentle preſſure ſhould be uſed, until the lens is extracted, the eye then is to be left at reſt for ſome

* Bell. Vol. IV.

time, in order to aſcertain, whether any opake portions ſtill remain, which, if ſeen, are to be extracted by means of the ſcoop.

The capſule, however, very frequently is opake, and in ſuch caſes ought always to be extracted; for this purpoſe, I think extracting it before the lens is removed, is to be preferred, for in this way, the lens ſupports the capſule, and renders it very eaſy to be laid hold of by the forceps, and effectually prevents any accident from that ſource.

The operation by depreſſion, is performed in the following manner: the patient being ſeated and the eye ſecured, as directed for extraction; a flat needle is to be introduced, about one tenth of an inch from the cornea, through the ſcelerotica into the poſterior chamber of the eye, until it is ſeen through the pupil; in order to avoid injuring the iris, the flat ſide of the needle may be made to paſs next to it, until it arrives at the lens, when the flat ſide is to be turned downwards, and in this direction, is puſhed into the cataract, which is to be carried down before, and under the vitreous humour: ſhould it, however, riſe again, it muſt again and again be puſhed down. If the cataract is fluid, all that can be done, is to lacerate the capſule properly, in order that its contents may mix freely with the aqueous humour.

After the operation is finiſhed, the eye ſhould be covered with a ſoft linnen rag ſuſpended over it, from a circular bandage round the head, and the

patient confined to bed, on his back, in a dark room, and kept upon a low diet, for two or three weeks. Every thing which may irritate the eyes, or produce coughing, ſneezing or vomiting, to be particularly guarded againſt.

Should inflammation or pain ſucceed, blood-letting, both general and topical, bliſters, and ſuch antiphlogiſtic means, as are generally employed, will be neceſſary, as an obſtinate inflammation may endanger the ſucceſs of the operation.

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