

Cataract : a familiar description of its nature, symptoms, and ordinary modes of treatment, particularly with reference to the operation performed by the author at the "Royal Infirmary for Cataract" / by John Stevenson.

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C A T A R A C T ;

A FAMILIAR DESCRIPTION
OF ITS NATURE, SYMPTOMS,
AND
ORDINARY MODES OF TREATMENT,
PARTICULARLY WITH REFERENCE TO THE
OPERATION PERFORMED BY THE AUTHOR
AT THE
“ROYAL INFIRMARY FOR CATARACT.”

BY
JOHN STEVENSON, ESQ.
MEMBER OF THE ROYAL COLLEGE OF SURGEONS;
OCULIST TO HIS MAJESTY;

OCULIST AND AURIST TO HIS MAJESTY LEOPOLD THE FIRST, KING
OF THE BELGIANS; AUTHOR OF SEVERAL TREATISES, AND
LECTURER ON THE STRUCTURE, FUNCTIONS,
AND DISEASES OF THE EYE AND EAR.

“Principiis obsta———
Nam mora dat vires———.”

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MDCCCXXXIV.

CATARACT;

A TREATISE

ON ITS NATURE, SYMPTOMS,

AND

ORDINARY MODES OF TREATMENT.

OPERATION PERFORMED BY THE AUTHOR

AT THE

OPHTHALMIC HOSPITAL FOR CATARACTS,

J. MALLETT, PRINTER,
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FOR THE BENEFIT OF THE AMOY INSTITUTION

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MDCCCXXXIX.

PREFACE.

THE author ventures to hope that the following brief, familiar, and practical account of one of the most serious “ills that flesh is heir to,” with a mode of remedy which experience has proved to be of singular efficacy, will be acceptable to the public. He is not desirous of an empirical notoriety—nothing is farther from his thoughts; nor ambitious of the fame of a Discoverer in ophthalmic science. He will be content if the present publication should be the means of diffusing information among all classes—but especially the poorer ones—on a subject so melancholy and important as that which it discusses; and of attracting attention to the charitable Institution where the author’s peculiar method of treatment is adopted on an extensive scale.

SECTION I.

NATURE AND SEAT OF CATARACT.

As the following pages, which will not, it is hoped, prove altogether uninteresting, even to the medical practitioner, are more particularly intended for general perusal, it may be useful to exhibit, in the first place, a short and familiar outline of such parts of the structure of the Eye as may enable the unprofessional reader to comprehend what is about to be advanced relative to one of its most important diseases.

The organ subservient to Vision may with propriety be regarded as a compound microscopical or optical instrument of wonderful adjusting power. It consists of three concentric coats or tunics:—the sclerotic or external, the choroid or middle, and the retina or internal;—the first—with the supplemental portion the cornea constituting the fore part of the eye—giving form to the globe,—the second, vascularity,—and the third, sensibility.

These coats, which invest each other, leave a cavity that is filled with the same number of hu-

humours; viz. the anterior or aqueous, the posterior or vitreous (which occupies three-fourths of the whole space), and the intermediate, or crystalline. These humours are obviously designed, by virtue of their transparency and respective though varying density, to transmit and converge the rays of light to a focus upon the sensitive retina—an expansion of the optic nerve originating in the brain. The impression thus made is conveyed through the medium of the continuous nervous structure to the sensorium, and there produces, but in a manner totally incomprehensible, the phenomenon of sight!

So extraordinary are the powers of this little organ, in diameter not exceeding an inch, that it enables us, in an instant of time, to perceive the disposition of a whole army, the figure of a magnificent palace, the variety of a beautiful landscape, and the glorious—the stupendous imagery of the heavens! “He therefore,” says Stuart, “must be very ignorant of its structure, or have a strange cast of understanding, who can seriously doubt whether or not the rays of light and the eye are made for each other, with consummate wisdom and perfect skill in optics.”

But if any of these humours should cease to preserve its naturally pellucid character, the function of the eye must necessarily be either interrupted or destroyed. Now the disease designated

Cataract*, on account of its frequent occurrence, the blindness it occasions, and its susceptibility of relief by a bloodless operation, has for ages been esteemed one of the most interesting among the numerous series of ocular derangements.

It consists simply in an opacity of the middle humour, vulgarly termed the apple of the eye, which, from its limpidity and fancied resemblance to crystal, and its geometrical or lenticular shape, is called the crystalline lens†. It is, however, of so gelatinous a nature, and of such increasing firmness from its surface to its centre, as scarcely to be correctly termed a humour; but, like a double convex lens of powerfully refracting power, is admirably adapted, by its transparency and peculiarly dense structure, to converge the rays of light in their progress through it to a focal point upon the retina—the immediate seat of vision. The lens is enclosed by, or rather suspended in, a small quantity

* The epithet Cataract is derived from the compound Greek word Καταράσσω, deturbo, to confound, because it confuses the sight. By Hippocrates the disease is designated, Γλαυχωμα; by Galen, Υπόχυμα; Suffusio, by Celsus, and the Latin writers; and Gutta obscura, vel caliginosa, by Arabian authors.

† The lens (which in its healthy state looks not unlike a fragment of dried calves-foot jelly) was formerly believed to be the seat of vision; hence the scriptural expression, “precious as the apple of the eye.” That Galen imbibed this visionary and false notion is manifest from the following quotation: “crystallinus humor primum videndi

of aqueous fluid contained within the somewhat tenacious skin, called its capsule, which occasionally becoming opaque produces capsular Cataract—facts of importance to be recollected, since they must occasionally be adverted to in the course of the ensuing discussion. The crystalline lens being imbedded in a depression on the fore part of the vitreous humour, is situated in the axis of the pupil, and in its altered state must of necessity oppose itself as a barrier against the transmission of luminous rays to the interior of the eye ball, and produce a degree of blindness proportionate to the intensity of the obstructing medium.

So long as the rays of light are capable of penetrating even partially through the substance of the lens, the complaint is denominated an incipient cataract, the sight being only vitiated and impaired;

organum¹ ;” as well as his predecessor Celsus, from his ascribing to it the faculty of seeing: “*videndi facultas*.” We are indebted to the learned Kepler³ for the first clear refutation of this erroneous notion, who, in the year 1604, proved by experiments which he confirmed by sound reasoning that the crystalline, being a perfectly diaphanous body, is unfit to retain or reflect light, and that its office is simply to converge the pencils of light in their passage through it to the retina—the sensitive texture of the eye.

¹ Galen, de usu partium. L. x, cap. i.

² Celsus, de re medica. L. 7, cap. 7, p. 432. Edit. Amster. 1687.

³ Kepler, Paralipomena ad Vitellionem.

but when its density is such as to exclude the luminous pencils altogether, the patient being able only to distinguish light from darkness, or at most the indistinct outlines of external objects, the disease is said to be mature, or ripe. In conformity with these notions of the antients, a recent Cataract was supposed to be soft or unripe, and one of long-standing hard or ripe; from an erroneous belief that every Cataract passes through certain regular stages before it arrives at maturity. These ideas, being founded, however, on visionary and gratuitous assumptions, are completely refuted by experience, which proves that, while Cataract sometimes acquires considerable solidity in a few weeks, in other instances it remains soft for as many years. Some time ago I had occasion to operate upon a lenticular Cataract which had existed upwards of FORTY years, and even then, it preserved its softness of texture!

Such difference in regard to the natural progress of the disease is not less surprising than inexplicable—a circumstance that cannot excite our wonder when we reflect that the peculiar structure of the part itself—the lens, which is the source of Cataract—has not hitherto been clearly demonstrated; nor is the mode of its existence involved in a less degree of obscurity.

The pathological relations or morbid changes in the organization of the lens, exemplify, in a

beautiful manner, one of the most important laws of the animal economy. I allude to the disposition in diseased action to become stationary, except in certain specific maladies, as cancer, &c. or circumscribed and limited to the particular tissue in which it commenced or was at first set up, where it exhibits, in common with textures of a similar character, the same uniformity of symptoms and appearance in whatever situation or organ such texture may be found.

But for this salutary ordination of a beneficent and supremely wise Providence, a disease of the lens, or indeed of any other constituent part of the delicate fabric of the eye, would be liable, if not instantly arrested, to extend to the entire assemblage of structures, and involve them in one common and rapid ruin!

Fortunately, however, Cataract is a disease of a purely distinct and isolated character, occupying and being restricted to a comparatively minute portion of the small organ of vision, and induces blindness without necessarily implicating any other structure, or the mental or general physical powers of the patient.

SECTION II.

SYMPTOMS OF CATARACT.

As it is of the greatest importance, in reference to the subject under consideration, that the patient should be enabled to detect the early symptoms of Cataract, in order that he may avail himself of the full benefits of the mode of relief which it is the leading object of this publication to recommend; I shall first detail, with minuteness and precision, the symptoms that characterize the nascent or commencing disease, and then proceed to describe those which present themselves in its advanced state, or more perfect form.

The symptoms of Cataract may properly be divided into constitutional,—internal or occult, of which the patient only is conscious; and local,—external or visible, that betray themselves on the slightest inspection of the eye.

The origin of the disease, except in unfavorable cases, or in such as are the effect of accident, is seldom marked by any preceding pain, or accompanying uneasiness.

The earliest internal symptoms of the incipient Cataract, arising without any assignable cause,

and which are experienced by the patient before any opacity is discoverable in the pupil, are a slight sense of weakness or imperfection of sight, together with a settled mist, which obscures all objects, and confuses those that are minute.

A greater attention than formerly is found necessary to distinguish even near objects, and when discovered, they are seen as it were through a semitransparent or somewhat turbid fluid, such as a few drops of milk would communicate to a small portion of water, or through a glass which has been smoked, or has received the exhalation of the breath.

This apparent mist, and the indistinctness of vision, remain permanent and unaltered so long as the affected individual continues in the same situation and degree of light. The constancy and fixedness of these symptoms serve to distinguish the complaint from many occasional and transient defects of vision arising from hysterics;—the sympathy of the eye with a disordered state of digestion;—as well as from ocular spectra, the result of a derangement in the function of the retina or optic nerve, namely, the illusory appearance of black specks, flashes of light, dust, cobwebs, and other fantastic and imaginary objects which appear to the patient to float before him, in “the circumambient air.”

The affected organ becomes also at an early

period myopic*: viz. the field of vision seems to contract, or the sight begins to shorten or is restricted within narrower bounds, the patient being capable of discovering even near objects with only comparative ease and accuracy, the more distant appearing as if involved in a cloud, or fog, and are consequently very imperfectly distinguished.

This defect is probably owing to the increased density or more impervious condition of the lens, and produces the same effect as if the sphericity of the eye itself were actually augmented. At all events, on this supposition we can account for the advantage which persons labouring under Cataract usually derive, for a time, from the use of concave glasses.

As lenticular Cataract begins likewise, in by far the majority of cases, at the centre of the crystalline, those who are unhappily afflicted with the malady, enjoy a greater share of vision in a moderate, than in a brilliant, light. Consequently, they see better on the approach of evening, or in a gloomy situation, with the back turned towards the window, or through smoked glass, than under the full influence of solar, or strong artificial, radiation.

To the same cause it is also owing, that objects

* A Greek word, signifying "mouse-eyed or mole-eyed."

placed laterally, are seen with more facility than those which are situated opposite the patient.

The above phenomena may be explained on the principle that the pupil becomes contracted or dilated conformably to the quantity of luminous rays suffered to impinge upon the eye. When few only, and those in a modified shape, are admitted, the iris sympathetically expands, and allows of their passing through the yet transparent circumference of the lens. But, when the stimulus of light is considerable, the area of the pupil becoming in the same ratio diminished, the opaque nucleus of the crystalline effectually resists their transmission to the bottom of the organ of vision.

On the contrary, an eye recently affected with an incomplete palsy of the optic nerve, or retina, (constituting amaurosis, gutta serena, or nervous blindness) has its sensibility excited by exposure to a vivid light, by the aid of which, external objects, as well as the morbid appearance of ocular spectra, are rendered somewhat more perceptible.

Again, to a patient with incipient Cataract, the flame of a candle does not appear distinct and clear as formerly, but as if surrounded by a whitish circle or vaporous halo, which seems broader, and the object less defined, the farther he is removed from the light. Should the Cataract at the same time be complicated with a morbid affection of the retina, the flame seems to be equally involved in a

mist ; but, unlike the white cloud just described, it exhibits a variety of brilliant colours, or a radiant glory ; and is frequently also accompanied with a sense of dull pain or weight at the bottom of the eye, or around the orbit.

Such is a practical account of the internal symptoms of Cataract, the indistinctness and dulness of vision which accompany the constitutional and most frequent species being perceptible, by the affected party, for some time before any other manifestation of deranged local action, or visible alteration in the structure of the lens.

Even when the patient finds that he can no longer distinguish external objects with his former and previously accustomed accuracy and precision, the eye itself betrays no outward sign of the internal formation of that disease which will probably terminate in the extinction of vision ! So nearly indeed does the pupil sometimes preserve its natural aspect and appearance, that it requires much experience in ophthalmic affections to be able to estimate the nature and tendency of these internal, obscure, and early symptoms of Cataract.

Under the influence of this melancholy defect of sight, the approach of which is usually so silent and insidious as to give no intimation of its existence, the child stumbles and commits various grotesque and ludicrous mistakes in its abortive attempts to seize upon different objects ;—the

school-boy is subjected to frequent reproof, if not to actual chastisement, for apparent carelessness or stupidity in poring over and neglecting to perform his daily task;—while the adult, besides many other and greater inconveniences and annoyances, incurs the reproach and displeasure of his most intimate friends for a supposed intentional affront in passing them unnoticed, because unobserved, in the street!

The foregoing symptoms indicate the formation of the disease which will, probably, ere long disclose its general character by external and visible signs that cannot be mistaken; namely, a somewhat opaque and muddy appearance in the naturally black and cloudless pupil, increasing still more the previous impairment of sight. This constitutes the important moment—the crisis—when, the early and infant state of Cataract having developed itself, and produced a very perceptible deterioration of the visual powers, the patient may without delay, and with the almost certain anticipation of success, avail himself of the plan of treatment hereafter explained.

Such, in fact, is MY conviction of its value, deduced from long and most satisfactory experience, that I cannot but feel anxious for ALL who are the victims of a disease which, without discrimination or respect of persons, is liable to assail the rich and poor—the indolent and laborious—the old, the young, the middle aged, and even the infant at

birth—to partake of its beneficial effects so soon as the lens, or its capsule, is so far disorganised as to occasion only an imperfect eclipse of vision.

By having recourse to the means proposed at this early period of Cataract, much anxiety on the part of the patient will be prevented, many dangers avoided, and useful, substituted for defective, sight, which, if suffered to proceed without interruption, would in the sequel usher in great, if not total, blindness!

As, however, the patient too often passes over this infant stage of the disease quite unconscious of the nature of his ailment, or if casually apprised of its character, is, at the same time, taught to believe that it is not susceptible of relief by an early, simple, and efficient operation; I shall point out more fully the concurrence of symptoms which characterise the advanced state, or more perfect form of the disease.

In addition to the accession of a greater degree of blindness as the Cataract advances, the opacity in the axis of the pupil assumes in proportion a more or less milk-white or amber colour; appearances which serve to indicate (though they cannot be depended upon as infallible criteria) the condition of the diseased lens.

Around this turbid substance is a black ring encircling the opaque nucleus of the morbid crystalline, which is most apparent when the pupil

is largely dilated, either naturally or by artificial means.

The appearance of this central speck sufficiently distinguishes Cataract, on the one hand, from gutta serena, in which the cloudiness, sometimes observable behind the pupil, is more deep seated, and its appearance more concave; and, on the other, from those complaints in which the obstacle preventing vision is placed in the cornea, or in the anterior chamber, constituting one species of what is termed spurious cataract.

From the centre, the opacity gradually extends itself to the circumference or edge of the crystalline, the imperfection of sight going on in nearly the same proportion; until, by the density of the whole lens, every object is rendered in a greater or less degree obscure, or altogether invisible.

As the opacity increases, the fore part of the lens becomes more conspicuous, which appearance led the ancients to believe that Cataract moves forward, and actually approaches the pupil. This is however a mere delusion, the Cataract itself remaining stationary; the phenomenon is wholly referable to the external superficies being more opaque—the same object which reflects a greater light, seeming to be placed nearer on that account.

Hence, the more the light is reflected, as the complaint advances, the less in proportion is transmitted to the retina. At this period the patient

is still capable of distinguishing the light of the sun from absolute darkness, but cannot discern the colour and forms of bodies.

When the obscurity no longer increases, the Cataract is said to be mature or ripe; a term used to express its firm consistence, and supposed fitness for an operation.

SECTION III.

MEDICAL* TREATMENT OF CATARACT.

HAVING, in the preceding pages, pointed out the nature, character, and symptoms of Cataract, it will be proper, in the next place, to direct the reader's attention to the several methods which have been adopted for its cure.

From the foregoing view of the subject, and from the lens having been long since ascertained to perform no higher function in the economy of vision than that of a powerfully refracting medium†, the loss of which can be supplied by an external and artificial substitute, viz. a double convex lens, formed into Cataract spectacles,—and the organ being in other respects free from disease, it might be inferred that the mechanical displacement of the crystalline, after having lost its transparency and become an obstructing instead of a transmitting agent, would prove available to the restoration of sight.

What theoretical reasoning suggests, experience verifies: for it has been decided by the most irrefragable facts, that the opaque lens is not

* As contradistinguished from the *surgical* treatment. Section IV.

† See note, page 4.

only capable of being removed, but that such removal, by again allowing the rays of light to impinge upon the sensitive retina, is productive of a return of vision !

The great, the important problem to be solved is, by what means this object can be accomplished with the least present pain and danger, and with the greatest probability of eventual success.

Different methods have been recommended for the purpose of relieving, or obviating altogether, the blindness occasioned by an opacity of the crystalline lens, or its capsule. These may be considered as dioptrical or mechanical, medical, or chirurgical.

The dioptric aid, before the operation, consists of concave glasses, in general but of temporary use on account of the increasing opacity, although they may be strongly indicated by the short sightedness with which it is usually associated. After the removal of the Cataract, spectacles of a different description are required to compensate for the loss or abstraction of the crystalline lens ; namely, such as are furnished with convex, or double-convex, glasses of proper focal powers.

As various morbid derangements of internal parts or organs are frequently alleviated or subdued, and those organs restored to their pristine and healthy state by appropriate general and local

remedies, so the disease under consideration might be expected to yield to judicious medical treatment.

Accordingly, a great deal has been written on the subject, by several antient* and modern authors, in recommendation of certain medicines which, being internally exhibited, or externally applied, are represented capable of exerting a specific influence over the disease,—by effecting the absorption, or, as it was termed, the dissipation of the Cataract,—to the extent of curing not only the recent complaint, but also when further advanced, and even in its state of maturity.

Among the variety of remedies employed with that intention, some are wholly destitute of any active medicinal properties. Others, again, are as certainly possessed of real and tried energy in several morbid conditions of the system, and as such may be supposed not absolutely inefficacious in the incipient stage, at least, of Cataract.

* “*Suffusio cum recens incidit, medicamentis sæpe discutitur.*” Celsus, *de re medica*, l. vii.—Fabricius ab Aquependente, *de morb. oculor. cap. de suffusione*.—Boerhaave, *de morbis oculorum*, p. 119, Paris, 1748. Stoll, *Ratio medendi*, tome iii, edit. octav. 1787.—Hovius, *Tractat. de circul. humor. in oculo motû*, p. 112, intimates, that he knew and practised a peculiar and effectual method of curing Cataract, of whatever species or duration, without an operation—an assertion which the candid Heister ascertained to be only a vain and empty boast.—Sauvages, *Nosol. Method.* pagin. 724, edit. 1763.—Lemoin, *Thèse aux Ecole de Médecine*, Paris, 1728.—Ware’s Translation of Wenzel, p. 13.

Our judgment, however, on these occasions may be much misled : for, independently of the difficulty at all times of ascertaining the actual existence of the incipient disease, its progress is most uncertain and precarious ; at one period it advances with rapidity, while in the majority of instances it proceeds with very tardy steps, and at intervals remains apparently stationary. Another frequent source of deception, in estimating the effect of medicinal agents, arises from this protean disease assuming many different forms, and, though often imputed to a variety of fancied causes, more frequently occurring without any that can be assigned.

Allowing, however, that occasional cures have been effected by local applications, with, or without, internal remedies, such a result can have occurred in those cases only in which the nature of the exciting cause, or the attendant phenomena, justify the suspicion that a lymphatic congestion of the cornea,—which I have often known misapprehended for incipient Cataract,—or else latent or chronic inflammation of some of the textures of the eye constituted, or was connected with, the primary source of the ailment.

Again, mechanical injury* is not only the occa-

* The instances published by the late Mr. Ware, with a view to

sional cause, but may prove ultimately the cure of Cataract.

It may not be uninteresting to state that when Cataract is the offspring of mechanical violence inflicted upon one eye, the other rarely becomes secondarily affected, unless severe symptoms of inflammation should supervene and be propagated to the sound organ. It ought at the same time to be added, that the opacity of the crystalline produced by severe external injury, is rarely a simple complaint, several textures of the eye frequently participating in the mischief. Two persons, suffering under this species of Cataract, applied to me for advice this day (April 14th) at the Infirmary, in both of which, in addition to the opacity of the lens, extensive and irreparable structural disorganization has been produced—in the one instance by a violent blow, in the other by the penetration of a sharp instrument, with great concussion of the organ.

The anterior portion of the capsule of the lens having been punctured by a sharp instrument, ruptured by a sudden and violent blow, or its contents enucleated, or partially discharged, the crystalline, under any of these circumstances,

elucidate the supposed efficacy of local stimulants, in causing the dissipation of Cataract, appear to be of the above description.

loses its vitality, and becomes opaque; constituting traumatic* Cataract. Being in contact with the aqueous humor, the disorganised lens is rendered amenable to the laws of absorption, which taking place spontaneously, the total removal of the opaque lens may be gradually accomplished, and the patient regain his sight. Should local applications be used under these circumstances, they might obtain the unmerited reputation of curing Cataract without an operation; just as a variety of medicines have been unjustly supposed to possess specific power over gall-stones, from their having been casually administered at the time the inspissated bile—the cause of the painful paroxysm—escaped from the common duct into the duodenum with the immediate subsidence of all the symptoms; but, in the resolution of which, the remedy simultaneously employed had, in fact, no share.

In illustration of the manner in which the effect may thus be attributed to the wrong cause, the following case will afford a lively example. Some time ago I was requested to visit a youth who became the subject of Cataract in consequence

* From *τραυμα*, a wound. Celsus must have been acquainted with this form of Cataract, from the passage—"vel ex morbo, vel ex ictu, concrescit humour'."

¹ Celsus, De Suffusione, l. vii, cap. vii, sect. xiv.

of a penetrating wound of the cornea. After a minute examination of the affected organ, and the discovery that the capsule of the lens had been transfixed by the instrument which inflicted the injury, and that a considerable portion of the opaque crystalline projected through the incision of the capsule into the anterior chamber, the greatest surprise, amounting indeed to incredulity, was expressed, by the party and his assembled friends, on my intimating to them that he would probably recover his suspended vision by the unassisted efforts of nature! In the course of a few weeks I had the satisfaction of receiving a letter from the medical attendant, informing me that my prediction was completely fulfilled; his young patient having regained his sight by the entire solution and absorption of the opaque crystalline! Had topical and general remedies been prescribed, might not the cure, which was effected by a natural process, have been surreptitiously ascribed to such medical agency?

I have, in the course of a lengthened practice, had repeated opportunities of witnessing instances similar to the case just narrated, which the ignorant and interested would gladly proclaim "Proofs strong as holy writ" in confirmation of Cataract having been cured by the sole aid of medical treatment! Such cases are indeed calculated to

“Amaze the unlearned, but make the learned smile.”

Mankind in general recoil with horror from the idea of a surgical operation, and will prefer enduring a hundred-fold more suffering from treatment which affects to dispense with, and is declared to be an effectual substitute for, instrumental aid, than would be sustained by its almost momentary application. By falling in with and taking advantage of this universal feeling, the mercenary and unprincipled turn the fears and prejudices of the timid to a lucrative account. Under the pretext and assurance that an eventual cure may confidently be anticipated from the regular administration of a favorite nostrum or local remedy, the too credulous patient is induced to pay the required daily visit for the purpose of having the wonder-working drops properly applied by the hands of the empiric who makes such seductive promises. The party may think himself fortunate if his diurnal attendance terminate in the sacrifice only of his time and pecuniary resources!

By such temporizing practice, and too frequently officious and ill-adapted topical applications, the disease, which at an earlier period and by appropriate treatment might have been easily managed, is liable to be converted into one of the worst and most intractable character. The irritation almost incessantly kept up by these

local and generally acrimonious remedies excites a morbid action in the vascular texture of the eye, and, instead of repressing, accelerates the progress of, the Cataract; inducing at the same time such a complication of the symptoms as eventually bids defiance to the most skilful surgical efforts, or which, even if at last resorted to, can prove only incidentally or partially successful.

The newspapers abound with the most unblushing offers to cure Cataract without an operation, by male as well as female pretenders alike ignorant of the first rudiments of medical, anatomical, or surgical science—with the nature and rational mode of treating the disease—or even with the qualities of those remedies they exhibit without discrimination, or the chance even of success.

With such melancholy facts before me, I should hold myself inexcusable and guilty of a gross dereliction of duty, were I to remain silent, on the present occasion, and forbear to guard the unwary against listening to promises which never can be realized, or adopting remedies either wholly useless, or what is worse, calculated to entail, perhaps, lasting sufferings, or irremediable blindness!

In the course of my investigations relative to Cataract, preparatory to writing the present little treatise on the subject, my attention was accident-

ally called to a recent publication*, in which FIVE CASES are related as attesting the efficacy of a certain "new mode of curing Cataract without an operation."

The plan consists, says the writer of the work in question, in the application to the eye of a solution (but in what proportion† is not stated) of the powerful and deliquescent caustic, the "Potassa cum calce‡;" a chemical preparation which, applied in its natural strength to the living fibre, is even more destructively active than quick lime, and not less uncontrollable in its effects!

In the first of the cases, the 11th of the series, it is stated that "Mrs. P. having caught cold one evening after leaving the opera last summer, was seized with a violent ophthalmia, which lasted three

* Curtis,—on the Physiology and Diseases of the Eye.

† This omission on the part of the scientific author is much to be regretted; since, from reasoning on the probable medicinal effects deduced from the chemical composition of the remedy, one could hardly venture to apply a medicament exceedingly dangerous when brought into contact with the delicate structure of the human eye, without the most precise instructions relative to the strength of the caustic solution, and the proper mode of using it, on attention to which latter point particularly it seems, "the dissipation of the Cataract much depends."

‡ "Potassa cum calce—formerly called calx cum kali puro, causticum commune fortius, and lapis infernalis sive septicus. This is in common use with surgeons as a caustic, to produce ulcerations, and to open abscesses."—*Hooper's Medical Dictionary*, last edition.

months; at the expiration of which time, opacity of the cornea ensued in the right eye, which made her completely blind. On examination, I found," says the narrator, "IT was a true Cataract, although IT had much the appearance of amaurosis!*"

This confused, not to say utterly contradictory, description, represents the alleged opacity of the cornea to be a Cataract, and that either this said opacity of the cornea, or the Cataract itself, bore a resemblance to amaurosis—palsy of the retina—a disease so widely dissimilar from either of those ailments, that it is particularly distinguished, among other phenomena, by the perfect transparency instead of even the nebulosity of the cornea;—and by the limpidity of the lens, the opacity of which constitutes the true Cataract! Notwithstanding these apparent discrepancies and incongruities, and the imaginary existence of Cataract, our author told the patient "that he would endeavour to dissipate the Cataract without an operation, by occasionally touching it with the drops!"

By some marvellous, some mystic power, this remedy, applied by the author externally to the cornea, is declared to have come in contact with, and that it actually dissipated, the Cataract situated near—if it existed at all—the middle of the inside of the eye! an effect as impossible to be produced, as

* Vide Cases, page 210.

that an embrocation, for example, rubbed externally upon the left side, should penetrate through the intermediate parietes, and reach the heart placed within the cavity of the chest !

'The next case of alleged Cataract, under the initial Mr. G.—though not a symptom is described to enable the reader to infer its identity with that disease—may be passed over in silence, since, if the point be conceded that the case in question was really an instance of Cataract—a circumstance not a little problematical—it may properly be arranged in the same class with the cases alluded to at page 21 and 22; which being, like the one under consideration, the result of accident, frequently get well by the spontaneous and unassisted efforts of nature.

However, whether the case was real or supposititious, whether a cataractous or corneal affection, the author asserts that he did what no other practitioner ever dreamt of accomplishing—"he *touched* the CENTRE of the Cataract every morning with the solution of the potassa cum calce, and, although when he first saw Mr. G. he did not give him much hope of cure," yet so unexpectedly irresistible was the influence of the above remedy, "applied to the centre of the Cataract, by means of a camel's hair brush, that in a few weeks he was quite well!"

I cannot conclude my strictures on this case

without animadverting in strong terms on the introduction of the following passage, which, though in a parenthesis, is calculated to excite the greatest, but happily unfounded, alarm in the minds of the timid, as to the possible result of an operation for Cataract.

The author states that "Mr. G. was very averse to an operation (his uncle having died in consequence of an unsuccessful one performed on him some years since)."

Now really this is so serious, so frightful a charge, that surely the mere allusion to, such a fatal catastrophe ought not to have been made in a work designed for general perusal, without at least substantiating the assertion by the most unquestionable authority.

Who was the unsuccessful operator alluded to, and under what extraordinary circumstances—for such they must have been—did the operation, however unskillfully performed, destroy the LIFE of the unfortunate individual?

These are questions which the author should be prepared to answer before he ventures, without the slightest reservation, to give currency to the above dreadful representation.

In the course of more than twenty-five years' extensive ophthalmic practice, although truth compels me to admit that I have become acquainted with many disastrous failures from extraction, I

never before heard that the injury inflicted on the small organ of vision, by that or any other operation for Cataract, either in consequence of inadvertency or want of skill, though it may have caused loss of sight and even great subsequent suffering, ever before ushered in a fatal event!

The third patient is stated to have been the subject of Cataract from measles. To say nothing of the extreme rarity of that disease becoming the exciting cause of Cataract, and of its tendency, like other eruptive complaints, to produce inflammation of the external (conjunctival) coat of the eye, and, by the subsequent deposition of lymph, to occasion an opacity of the cornea—of which I have seen a great number of cases,—not a single circumstance is related to justify the supposition that, in the present instance, Cataract was superadded to the reported “inflammation of the vessels of the eye.”

Be that as it may, and notwithstanding the morbid and vascular state of the cornea, which, in the estimation of the author, furnished no objection against the local application of his stimulant and caustic remedy, the Cataracts—for he was determined, it would appear, to conjure up two—were *touched* twice a week for some time with his favorite drops, and, in spite of every difficulty—every obstacle—nay, of the very questionable presence of Cataracts, they were nevertheless, according to the author’s declaration, dissipated!

The Cataracts imputed to Master C. in the fourth case, were, it seems, happily discovered by the author—though, as usual, he vouchsafes not to afford the smallest clue to direct us as to the real nature of the disease,—“on thoroughly examining HIM by means of a magnifying glass!”

Thus a disease which, when fully formed, may be easily recognized at the distance of many yards by a bystander who is not purblind required, it appears, for its detection, by an acute and experienced oculist, a powerful optical instrument! At all events, by this adventitious assistance it was found that this unfortunate “boy had two true Cataracts, and that “he was a fit subject for the new discovery.” Without delay, therefore, the caustic solution was called into requisition and applied to the Cataracts, as in the former instances. Should the cure be accomplished—for at present it is only in progress—this highly equivocal case—from whatever cause the defect of sight may originate—will doubtless be added to the irrefragable testimony afforded by the foregoing instances of the inestimable value and restorative influence of the author’s “new mode of curing Cataract without an operation!”

The last of the five cases intended to elucidate “the cure of Cataract without an operation,” by the sole agency of a most destructively potent caustic remedy, is that of Mr. T. who “applied with a Cataract of many years’ standing.”

In this instance, there could not surely, one might suppose, be any ambiguity in regard to the disease—the case standing plainly and distinctly revealed. Our faith in the statement must, notwithstanding, rest entirely on the credit due to the author's ipse dixit; for not a symptom is detailed to give any one an opportunity of forming an opinion on the subject.

On the present occasion, however, we are released from the necessity of such auxiliary information, the internal evidence afforded by the relation of the case itself supplying the requisite data. Enough is added to prove that the disease in question, though denominated, Cataract, so far from being an instance of that disease, was simply and manifestly an affection of the cornea; for, the author states, “as the Cataract was very unsightly, I touched it with a solution of lapis infernalis” (how terrible the reflection that “INFERNAL STONE” should have been applied to the delicate eye!) “to remove the protruding portion of the (corneal) speck!”

I dare not trust myself to designate, as they deserve, the foregoing ridiculously contradictory statements, brought forward under the appellation of CASES to illustrate and confirm a doctrine of the greatest importance to persons afflicted with Cataract. After the cursory examination of their

contents above given, I prefer leaving the intelligent reader to form his own estimate of their value, or their validity and competency to sanction and establish the inference which the author has not hesitated to draw from them—namely, as affording satisfactory proofs of the efficacy of his “new mode of curing Cataract without an operation!”

In conclusion, from extensive observation and experience, I feel warranted in restricting the purely *medical* treatment of Cataract to the instances produced by accidents,—to those which are the effect of topical inflammation,—or in which the opacity is confined to the capsule.

Under such circumstances, and in these cases, the entire dispersion of the symptoms and the resolution of the disease may sometimes be accomplished by the early and judicious application of means calculated to subdue morbid action, and subsequently to promote absorption. But when Cataract is fully established, and is the result of an occult cause, no dependance can with safety be placed in the boasted nostrums or topical applications which have been audaciously declared capable of exercising an almost specific influence over cases of this description.

Upon the whole, if the cautious and temporary use of even a *mild* application be admissible at any time and under any circumstances,—with the

reservations above pointed out,—it should be chiefly as a placebo, and with the venial, if not laudable, object of preparing and reconciling the mind of the timid and irresolute to an operation which they must feel convinced is rendered indispensable by the entire failure of all preceding measures.

SECTION IV.

SURGICAL TREATMENT OF CATARACT.

As it is now generally admitted by the best practitioners that the cure of Cataract, at least in its advanced stage, and in the absence of local injury, or inflammatory excitement, can be achieved only by *operative* surgery, the enquiries on the subject have been properly directed to the most appropriate and efficient expedients which, if properly managed, produce highly satisfactory results.

For this purpose, various ingenious operations have been at different times devised, the object of each of which, for the radical cure of the disease, must be ultimately the same: viz. *the permanent removal of the Cataract from the axis of vision.* And that mode of operating must undoubtedly be the most eligible which can be accomplished with the greatest facility,—with the smallest degree of present pain and subsequent danger;—which is available at the earliest period after the disease has distinctly developed itself,—and which effects most perfectly the object aimed at, namely, the restoration of sight;—thus combining every attain-

able benefit with the fewest avoidable inconveniences.

The physical means had recourse to for the cure of Cataract, like those employed in most other important surgical operations, have been variously modified, at different periods. My object in this little work, which, as before observed, is designed principally as a guide to the unprofessional enquirer, is not to detail all the particulars relating to the operations usually resorted to for the removal of Cataract; viz. COUCHING, and EXTRACTION.

I am desirous only of giving such a general view of their nature,—the mode of performing them,—and the difficulties and dangers contingent on each,—as shall enable an intelligent and careful reader to comprehend the force and application of my reasoning, and to form his own judgment of the respective merits of the several processes submitted to his consideration. Those who wish for more ample information I must refer to the distinguished authors who have written professedly on these subjects; as Callisen, Pott, Scarpa, Hey, and the eminent German oculists, Beer, Wilberg, and Professor Langenbeck, on couching; and to the Treatises of Wenzel, Bischoff, Demours, Wathen, Richter, with several modern publications, on extraction.

Until of late years, the cure of Cataract has

been attempted only by Couching, and Extraction. The former of these processes is of very great antiquity. Celsus*, who lived soon after the commencement of the Christian æra, is generally esteemed the inventor of the operation. It consists of depressing the diseased crystalline (by means of an instrument, which on account of its slender shape and size is denominated a needle) from its situation in the axis of the eye into the vitreous humour below the inferior margin of the pupil, in which position, the rays of light being again admitted to the retina, the patient is restored to sight.

To this process, however improved and modified, or skilfully performed, many weighty objections attach. In the first place, the displaced Cataract is liable, from various causes and at uncertain periods, indeed at any moment, to reascend and produce again and again a return of blindness. It is true that, under the supposed contingency, the needle may be re-introduced and the lens again depressed as often as it escapes from its lodgement in the vitreous humour—an operation which requires occasionally a number of repetitions, each of which is more or less hazardous, and, to say the least of them, highly distressing and alarming to the patient. Independently of this objec-

* Celsus, de Medicine, l. vii, cap. vii, sect. xiv, de suffusione.

tion, even under the successful depression of the lens, a slow and destructive inflammation is liable to follow the injury always done to the vitreous humour,—not unfrequently to the iris,—and sometimes also to the retina,—and, with much and long-continued suffering, to terminate ultimately in the extinction of vision by the subsequent dissolution of the vitreous humour,—the closure of the pupil,—palsy of the sentient nerve,—or suppuration of the eye!

If to these dangers be added the consideration of the very circumscribed number of cases to which couching can be made subservient, and its total inapplicability to those of infancy and childhood, it is not surprising that an operation so restricted in its use, and liable to so many serious ill consequences, should have fallen into discredit, and in this country, at least, been in a great measure abandoned.

Accident, that fruitful source of improvements, gave birth to the rival plan of Extraction—a method which, after many abortive attempts to render couching more successful, was matured, reduced to practice, and the whole particulars of the process published by M. Daviel, a celebrated French surgeon, in the year 1745.

We cannot wonder at the eagerness with which this new operation was embraced, when the generally unfortunate issue of couching, as then

performed is taken into account, and compared with the greater portion of success, and the apparently eradicated nature of Extraction; the alleged fair and prosperous events of which were most industriously proclaimed and exaggerated, while, as Mr. Pott observes, "its manifold failures and disastrous consequences were as carefully concealed."

The operation of extraction,

"With all its imperfections on its head,"

is still held in the highest estimation by the majority of surgeons and oculists of the present day, and especially by those of the United Kingdom.

Extraction is performed by making, with a proper instrument called a Cataract knife, an adequate opening into the transparent cornea and, after puncturing or lacerating the capsule, with the aid of gentle pressure expelling the opaque lens through the pupil and out of the eye, by way of the wounded cornea. The obstructing medium being thus removed, and the rays of light again admitted to the retina, its function is restored, and the patient regains his sight.

However simple and easy of accomplishment extraction may appear, as described in books, it is to be regretted that an operation highly imposing when it happens to be successful, should prove one of the most difficult of execution—should be found,

like its predecessor, very limited in its use and application, and, what is worse, liable to many and most serious dangers and contingencies, which neither skill nor prudence on the part of the operator can, at all times, control or prevent. To these objections must be added the impossibility of repeating it in case of failure,—of restoring parts which may be, and indeed often are, injured by the operation,—and its total inapplicability to early infancy.

After even the apparently satisfactory performance of the operation, so precarious is the result, that every ingenuous practitioner competent to form a correct judgment on the subject must admit, with the celebrated Richter one of its warmest advocates, “that extraction is always doubtful, and the most dexterous oculists can never promise with certainty a happy event, even under the most favorable circumstances. A trifling and unforeseen accident is often sufficient to destroy, in one moment, our best hopes*”

In elucidation of this statement, I beg to add that, some years ago I extracted the Cataract from the right eye of a gentleman with the most gratifying success, and without the supervention, for *four* days, of a single unfavorable symptom. At that period he was seized, in consequence of im-

* Richter on Extracting the Cataract, Translation from the German, page 146.

prudent exposure, with a severe cold, and in one of the paroxysms of coughing, the newly-healed wound of the cornea suddenly giving way, the contents of his eye were forcibly ejected, and occasioned the total loss of sight, with great subsequent inflammation and pain.

In accordance with these no less true than humiliating concessions,—and not to dwell upon the risk of wounding the iris in making the section of the cornea, or, when formed, the sudden protrusion*

* The protrusion, prolapse, or hernia of the iris, which is very apt to occur during or after the operation by extraction, “occasions,” says Bischoff, “pain for ever; which is sometimes vehement, and principally increases with the motions of the eye, the fallen part of the iris rubbing continually on the eyelids¹.” I was lately consulted by a respectable female, who had some time before undergone extraction by an experienced oculist, and was suffering most excruciating agony from this cause.

In all other great chirurgical operations it is usually a matter of indifference, at *what moment* we *begin* or *finish* the *process*; and *precision* as to the *exact place* at which the *first incision* is *made* is generally of as little consequence. Not so with extraction—if the knife be not introduced at the *very instant* when the eye is properly prepared for its reception, the opportunity for effecting it with the greatest facility and advantage may be sacrificed by the intervention of some obstructing cause. If there be the least *intermission* or *stop* in the progress of the knife, “the consequence will be,” says Mr. Wathen, “a great part or the whole of the aqueous humour will have escaped, and render it *impossible* to *finish* the section of the cornea *without wounding the iris*².”

¹ Bischoff on Extraction, p. 63.

² Wathen's Dissertation on Cataract, p. 101.

of the iris, or escape of the contents of the eye by the spasmodic action* of its muscles—the sight may be greatly impaired or wholly lost by opacity of the cornea,—by secondary Cataract,—by obliteration of the pupil,—or by the total disorganization and destruction of the globe from violent and subsequent inflammation !

Nor are these lamentable events either rare in their occurrence, or the effect only of unskilfulness on the part of the operator. Unfortunately, in the most experienced hands, their frequency, to a greater or less extent, is alike melancholy and appalling ; a fact, however to be deplored, which is admitted by the most strenuous advocates for the practice.

“ With those,” says the eminent surgeon and candid writer the late Mr. B. Bell, “ who have frequent opportunities of observing the consequences of extraction, it proves always a very deceiving operation. The removal of the Cataract is, in most instances, attended with an immediate

* Sir William Adams¹ gives two instances of failure by extraction, from the muscles of the eye having been called into very powerful action immediately after the completion of the section of the cornea.—It was under similar circumstances that the celebrated Agriculturist, the late Mr. Arthur Young, had a Cataract extracted from each eye, by a very dexterous operator, with an equally unfortunate and fatal result to his sight.

¹ Adams on Cataract, page 88.

return of vision, much to the satisfaction of both the patient and operator, but, *in a great proportion* of cases, even of those which *at first* have every appearance of proving successful, although vision may be tolerably perfect for some months, yet it generally grows more indistinct, 'till *at last* the patients become *altogether blind*. This is the result of my observation, and it corresponds with the event of the operation when performed by various good operators*."

Gooch likewise, speaking of extraction, states, "in several instances I have observed such bad consequences as could not have happened by depression (couching), particularly in one case, though the celebrated De Wenzel was the operator†."

From the statement of Mr. Saunders in his posthumous work on the eye‡, it is quite manifest that such were his misgivings in regard to extraction (in the performance of which he evinced the greatest skill and dexterity), that he is represented by the editor as questioning even its expediency in almost the only case to which it is considered peculiarly applicable, namely, the hard or ripe Cataract.

I may further add, in attestation of the truth

* Bell's System of Surgery, vol. iv, p. 251.

† Gooch's Chirurgical Works, vol. i, p. 351.

‡ Saunders on the Eye, by Farre, p. 173.

of the above statements, that cases, exemplifying the several catastrophes alluded to, are at present *out-patients* of the "Royal Infirmary for Cataract," in which the operation for extraction had been severally performed by different eminent surgeons and oculists, and not only failed in restoring sight, but has entailed upon some of the miserable patients sufferings or annoyances which, it is to be feared, will end only with the lives of the respective parties!

Such results, while they are too often inseparable from the process of extraction, proclaim, in language that cannot be misunderstood, the dangerous and objectionable nature of that operation.

It is indeed an indisputable fact, that our greatest hospital surgeons, who can achieve, without fear and with almost certain success, any other operation on the human body, however difficult and formidable, if they do not shrink from, are but too happy if they find cause to congratulate themselves on the fortunate issue of, the operation by extraction. This circumstance is solely attributable to the want of sufficiently numerous opportunities, in general practice, to acquire the skill and adroitness requisite to perform, with accuracy and success, this nicest and most difficult of operations. In illustration of this statement we may adduce the authority of the late Baron De Wenzel

—a great master of the art,—who is reported to have said “that he had spoiled a hat-full of eyes before he had learned to extract*.” The eminent Callisen also declares, when describing the operation, “that it requires such consummate dexterity, as can be the attribute of few only of the general mass of practitioners†.”

We have the testimony also of Dr. Tartra to prove that our continental neighbours are not more fortunate with extraction. In a report of that operation, as performed by surgeons of the highest professional skill and talent at a large Hospital at Paris, it is asserted by him, on the authority of his colleague Dr. Bullier, that “*two* only in *five* patients operated upon, at the Hôtel Dieu, for Cataract, recover their sight, and this,” he adds, “is pretty nearly the general result of operations for Cataract‡.”

This most discouraging statement agrees with the foregoing (far from overcharged) representation, and warrants us in denouncing the process of extraction to be one of the most difficult, hazardous, and precarious in the whole circle of operative surgery!

Would you then, it may be asked, wish for

* Travers' Synopsis of the Diseases of the Eye, p. 323.

† Callisen. Systema Chirurg. hodiern. pars posterior, p. 637.

‡ Tartra, de l'Operation de la Cataracte, Paris, 1811.

the abolition of extraction—that it should be repudiated and expunged from the list of chirurgical expedients ?

By no means. So far from feeling an inclination, in the present state of the practice, to discard either of the old operations, I concede most readily that it will be found preferable to retain them, on the principle that, on this as on other occasions, we should possess a *variety of resources*. From these, as from the goodly stores of the provident householder, may be selected the new or the old—that which, on due consideration of every circumstance and all the bearings of each respective case, may appear best adapted to answer the several indications, and the varying feature of disease. For, however sanguine my anticipation of the ultimate and complete triumph of the plan of treatment advocated in these pages (the superior claims of which, as they become more known, will doubtless be generally acknowledged), solitary cases will, nevertheless, occur, in which the old operations, notwithstanding their acknowledged difficulties and incidental dangers, can be adopted with the greatest comparative chance of success.

In those instances, for example, in which from existing phenomena there is reason to believe that the crystalline has been suffered to become indurated, and neither the form of the eye nor the ac-

companying symptoms forbid its removal through a section of the cornea, I have long been, and still am in the habit of resorting to extraction, and with an average share of success, I venture to believe, not inferior to that of the most fortunate operator.

In the condition of the opaque lens just alluded to, I operated upon a most respectable widow lady in the eighty-fifth year of her age, who enjoyed comfortable sight for nearly ten years afterwards;—her death being at last occasioned by a fit of gout!

The process of couching or extraction is sometimes justifiable,—when no other alternative can with propriety be had recourse to,—on the principle “*Anceps remedium melius quam nullum* : a doubtful remedy is better than none.” If the one selected should avail in conferring but a small and imperfect degree of sight, the acquisition will be duly appreciated by the grateful patient, who might otherwise have been consigned to total darkness.

In the mean time, and with a view to expedite the consummation of so desirable an event as the substitution of the new for the old operations, I will endeavour, in the next section, to shew that the practice of waiting for the Cataract to become hard or ripe—a condition of the lens indispensable for couching or extraction—is not only needless, but the parent of many of the frightful catastrophes above enumerated.

SECTION V.

ON POSTPONING THE REMEDIES FOR CATARACT.

DEFECTIVE and objectionable as the old operations confessedly are, on the score of the difficulties and dangers contingent on their performance, — the precariousness of their result, — and the limited number of cases to which they are respectively applicable—they are not less so on account of the length of time the unhappy patient is doomed to wait, in the agony of suspense and “hope deferred,” before he is allowed even the chance of relief by either of the common processes. For, however dissimilar the usual expedients adopted for the cure of Cataract, they have one feature in common; namely, all of them being reserved for that stage of the disease when the lens or its capsule has become opaque and more or less indurated, and vision greatly impaired or entirely destroyed.

If I may deduce an opinion from existing publications on the subject, as well as from the private practice of the most eminent surgeons and oculists, it has not, hitherto, occurred to any one to urge

the propriety of an operation in the incipient state of Cataract, or so soon as its character is sufficiently disclosed to enable us to decide upon its nature and character, though accompanied only with an inconvenient defect in vision.

The treatment indeed of Cataract has been for many ages, and still continues even in the present enlightened era, to be conducted upon principles at direct variance with those which regulate our conduct in the management of every other ailment incident to the human body.

What would be thought of a surgeon, were he to propose waiting until an occult should degenerate into an open cancer, before having recourse to the knife for its extirpation? Or what opinion would be entertained of the judgment and discretion of a physician who should inculcate the propriety of withholding the early application of remedial measures in different kinds of fevers, or other acute disorders, and say to the anxious and distressed sufferer: "Be not impatient, my good friend, but allow the disease to go on unrestrained until it has attained its full force and utmost malignity, and is become as bad as it can be, and then, but not before, we will exert our best energies to repress its fatal termination!"

"Sero medicina paratur,
Cum, mala, per longas convaluere moras."

Absurd and dangerous as such tenets and prac-

tice would be pronounced if applied to any other morbid affection, have they not been invariably adopted and acted upon in the instance of Cataract from the earliest to the present time ?

Whence then has originated, and on what grounds has been perpetuated, this negative, inert, and hazardous proceeding with regard to Cataract, and Cataract only ? It sprung from false analogy and gratuitous assumptions, and from entire ignorance of the structure, the situation, and even the function of the part affected. It was adopted nearly 2000 years ago, when the crystalline lens—the seat of Cataract—was erroneously supposed to be the source* of vision—when dissection of human bodies was prohibited—when the circulation of the blood,—and the absorbent system,—were equally unknown ! Is this the proper time — this the fountain of knowledge to which we should now revert, and seek for the foundation of our present theory and practice ?

It cannot therefore be an useless task to enquire into the origin of, and the reason for, persisting in a practice which, while it creates or augments difficulties and dangers, forms the only exception to the rule that guides us on all other occasions : viz. to reduce or remove unhealthy action as

soon as possible after it is set up, or has manifested itself in any texture, or organ of the human body.

Before the absorbent system was discovered, the management of Cataract, by the antients, was consistent with their false notions relative to the nature of the disease.

“They believed,” observes St. Ives, “that Cataract is like a fruit, which must be left to ripen on the tree: if it be gathered before it is ripe, the stalk will be broken; but when it is full ripe, it is easily plucked from the tree. If the operation,” he adds, “be anticipated or performed before the Cataract is full ripe, the needle passes without success through the body which is to be depressed by reason of its softness*.”

Convinced as the antients were, that the removal of Cataract from the axis of vision is indispensable for its cure, and having been unacquainted at the same time with any other mode of effecting that object than by the process of couching—it followed that, until the opaque lens had acquired the requisite degree of resistance or solidity to enable it to bear the downward pressure of the needle without yielding, or allowing the instrument, in the language of St. Ives, “to pass without success through the body of the Cataract to be depressed”—the

* St. Ives, on Diseases of the Eye, translated from the original French by Stockton, page 253.

operation would necessarily be rendered impracticable. This correct view of the subject furnishes a justifiable reason why the antients should insist upon the absolute necessity of the Cataract becoming ripe or hard, as a preparatory step before attempting the removal of it from its natural position in the eye, by the only method of which they possessed the smallest knowledge.

From the difficulty experienced in the removal of the soft species of the disease by couching, they imagined that the opaque lens is confined to the spot by ciliary fibres—answering to the stalk of fruit—which gradually dried, and at length spontaneously broke, as the lens assumed a hard or ripe character. Being, at this period, as they fancied, freed from its attachments, it was found readily to separate entire and in a solid form from its capsule or coat, like the kernel of ripe fruit from its shell.

The freedom with which, in their rude attempts at depression, the needle was sometimes made to traverse the yielding texture of the opaque crystalline, and to lacerate its capsule, occasionally caused the whole of them to be absorbed and disappear, in consequence of what they imagined to be a subsidence of the grosser parts of the Cataract.

Sir William Read, Oculist to Queen Anne, gives so candid and interesting an account of a

cure unexpectedly accomplished in the above manner, that I cannot deny myself the gratification of inserting an extract from the case, as an illustration of the point under discussion, and of the effect of absorption in removing a disorganized opaque lens.

After describing one of his operations by couching, he proceeds—"at the end of nine days I visited my patient, and found both her and her friends highly discontented, because she could not see so well as she did before, so that I met with nothing but bitter invectives, 'till, after pacifying them as well as I could with fair words, I came again.

"Within a fortnight after, when, art and nature having performed their mutual operations, all the cloudy vapours and rags of the Cataract were consumed and dispersed, the eyes grew clear, her sight became perfect, and so continued ever since*."

Notwithstanding the cure in these cases was incidentally accomplished, the antients being ignorant of the laws by which the absorption, or as they expressed themselves the dissipation, of the Cataract was effected, prevented their reducing that knowledge to any regular system, or adopting an

* Sir William Read's Treatise on the Eyes, page 6, 1706.

operation founded upon it. But shall practitioners of the nineteenth century, who are well aware not only that the soft and fluid forms of Cataract are the most tractable and the most favorable species for the absorbent mode of treatment, but likewise of the physiological principle on which their removal depends, rest satisfied with this valuable information without availing themselves of the advantages to which it points ?

It would, indeed, with difficulty be credited, unless the fact were generally admitted that, disregarding the improvements which such knowledge naturally suggests, as well as the species, the progress, and the tendency of Cataract, medical men should permit themselves to be so far influenced by prejudice and the sanction of antiquity, as still to insist upon the necessity of postponing the requisite operation until the patient is wholly bereaved of sight!

That the same mode of practice, originating from similar views of the subject, is universally adopted, I have ample opportunities of knowing. I cannot better exemplify the fact, and the superior advantages of the plan I am inculcating, than by the relation of the following case.

A lady had been affected with a Cataract in each eye for more than two years. Although she could not distinguish the largest printed capitals, nor the features of a person near her, and was

unable to walk without fear and even danger of stumbling and injuring herself against different objects, a well-known oculist and strong advocate for extraction, to whom she applied for relief, adhering tenaciously to the old and still prevailing notions, abruptly told her, "that she was not blind enough for an operation," notwithstanding she experienced all the inconveniences and discomforts of the most imperfect vision.

As the disease made but little progress for several months, at the next attendance she was desired "to absent herself until she could no longer find her way about," and in reply to her anxious inquiry as to the probable period when she might hope for relief, she received the vague and unsatisfactory answer, "that must be wholly uncertain, and could not be antedated."

The physician of the patient having learnt that the author is in the habit of operating during the early formation of the disease, recommended that he should be consulted on the occasion.

After a careful investigation of all the circumstances of the disease, and feeling convinced that the operation of extraction, for which she was instructed to wait, was ill adapted to her case, I did not hesitate to propose the immediate removal of the Cataract by the plan so often adverted to—a proposal to which she readily acceded, being thoroughly wearied with the time she had already

spent, and the indefinite term she was condemned to wait, for the Cataract to become ripe, and proper for extraction.

It is only needful to add that the operation perfectly succeeded, without a single drawback, and had the happy effect of completely restoring the patient to sight, and of releasing her mind, at the same time, from the torture of suspense.

Many similar cases have fallen under the writer's care, and with the same fortunate result; facts which speak volumes in favor of the new, and in condemnation of the old, modes of treatment.

That this statement is not an ideal or solitary representation, but accords with the present practice, the following quotation from a late publication will place the subject beyond a doubt.

Mr. Guthrie, the author of the valuable practical work alluded to, in reference to this circumstance, distinctly states that, "when the lens has become so opaque as to prevent the patient seeing sufficiently to find his way about, and he can only distinguish the shadows of objects, it (the Cataract) is in a fit state for operation*."

The reasons assigned for these directions are two; namely, that "no deprivation of sight can take place through an unsuccessful operation, and,

* Guthrie, on the Operative Surgery of the Eye, page 240.

what is of much more importance, there is less liability to inflammation ensuing after an operation on a Cataract which is completely formed, or, as it has been termed, become indurated (or ripe), than after the removal of a lens, the opacity of which is only commencing, or through which the patient can still see."

The first of Mr. Guthrie's reasons for postponing the means of cure until vision is extinguished, namely, that the patient cannot be made worse by an unsuccessful operation, is a truism that admits neither of argument, nor of refutation. It does not, however, follow that a failure, even under such circumstances, would occasion less distress or disappointment to the desponding patient, although it might not materially compromise or impugn the credit of the operator.

With respect to inflammation, said to be most easily lighted up by an early operation, and which is triumphantly adduced as an objection to that mode of practice, Mr. Guthrie candidly admits, that it is generally owing to a want of skill in the operator.

Are, then, these assumed unfortunate symptoms, which the opponents of the practice are constrained to ascribe to incompetency or mismanagement on the part of the surgeon, to be charged to the account of the operation?

The same author adds, "to say the least of it"

—the alleged inflammation,—“it does not occur more often than in the operation of extraction, and displacement (couching), and can almost invariably be safely subdued, provided the lens has not been allowed to remain behind, irritating the iris*.”

If, then, it be considered that, on Mr. Guthrie's own showing, the inflammation said to be sometimes induced by an early operation, arises generally from the improper or unskilful manner in which it is performed—that the frequency of its occurrence is not greater than after the operations of couching and extraction, and is readily overcome when it does happen—his argument loses its force, and leaves no ground for preferring the old processes, the difficulties and dangers of which have been already sufficiently exposed.

The charge will, however, be found gratuitous and untenable, if the proposed treatment be adopted at the early period, and conducted agreeably to the directions recommended.

Under such circumstances, the supervention of inflammation is indeed so rare a contingency, provided the operation be performed with the requisite care and address, or, in the event of its taking place, is usually so slight and easily removable, as to constitute no just cause for fear or apprehension of ill consequences.

* Guthrie, on the Operative Surgery of the Eye, page 390.

Of this fact the author is enabled to speak most decidedly from long and extensive experience, having had recourse to the practice with the most gratifying success, at almost every period of life from infancy to old age, and under every variety of circumstances.

But the long continuance of a Cataract in the eye is by no means a matter of indifference, or devoid of danger. "I am satisfied," observes Mr. Travers, "that the cataractous eye, if it becomes the subject of inflammation, is strongly disposed to go into amaurosis (palsy of the nerve of vision), and further, that the retina loses its vigour by the permanent exclusion of light. In several cases of this species of blindness ensuing upon Cataract, I have been disposed to regard the *change* in the *consistence* and *volume* of the *lens*, as *productive* of *destroying inflammation*.*."

These are most important statements, with the truth of which my own observations and experience fully coincide, and furnish the most cogent, if not irresistible, arguments in favor of the practice I am vindicating. The shorter, therefore, the period the Cataract is allowed to exist, the less tendency will there be in the vessels of the eye to

* Travers' Synopsis of Diseases of the Eye, page 313.

take on morbid action, or in the nerve to fall into a state of torpor or insensibility. Should even these symptoms supervene, they will be more manageable, and will yield with a greater degree of facility and certainty at an early, than at a later period of the disease.

What other even plausible reason can be adduced to justify the customary procrastinating mode of treating Cataract?

Perhaps the strongest, if not the most rational pretext for deferring the necessary operation is, that the patient may retain the longest possible possession of sight which, though very imperfect, may still be useful, and the total loss of which, by the casualties of an operation, would be a subject of deep and lasting regret.

If the proposed method of treatment were, in the slightest degree, likely to entail such a catastrophe, the objection would indeed be valid, and entitled to the gravest consideration. I can, however, conscientiously declare that my own experience enables me to state not only its almost total freedom from danger, but generally also from every unpleasant symptom; provided the disease be in a proper condition for the operation, and it is performed with adequate care and dexterity.

We should further bear in mind that there is scarcely an advantage that may not be purchased at too dear a rate. In the instance under con-

sideration it may be fairly asked, whether it is in reality a mark of wisdom, for the sake of a prospective and at best a contingent benefit, to risk the forfeiture of present and almost certain relief?

If a limit could be fixed beyond which it would not be required to postpone the operation of couching, or extraction, then, indeed, the intermediate delay would be less irksome and intolerable. But shew me the practitioner capable of foretelling, with an approximation even to truth, the period when the incipient Cataract will have undergone the change necessary to fit it for either of the common operations.

And what patient, already comparatively blind, or suffering under a great defect of vision, can command fortitude enough to endure, without repining or the most distressing apprehensions and misgivings, a state of existence which, though exempt from pain, is, nevertheless, associated with numberless privations and inconveniences, and the termination of which cannot be anticipated?

But, further, who dare assert that, during this gloomy interval, a variety of accidents may not arise to render couching or extraction inadmissible—complicated with more than the ordinary share of obstacles,—or, if even accomplished, almost certain of failure?

Supposing, even, that none of these contin-

gencies should, in the mean time, spring up to counteract, or render abortive our best efforts, may not the state of the eye itself, or the accession of some new and adventitious disease of the organ, forbid the adoption of couching or extraction at the time the Cataract is at length prepared for the operation ?

Many times has the author had cause to regret the mournful occasions on which it became his painful duty to declare to the wretched and heart-broken applicant that, pending the important delay in waiting for the ripening of the Cataract, such a complication of symptoms had been superinduced by some of the foregoing causes, as to contraindicate the performance of extraction, or, indeed, of any other operation !

The miserable patients, under the pressure of such unfortunate circumstances, had no alternative but that of unmitigated and irremediable blindness !

On other occasions, the author has had the gratification of reviving the drooping spirit, exhausted by long seclusion from the enjoyment of

“ Holy light, offspring of heaven, first born,”

by the immediate and successful adoption of a different mode of practice, which has happily availed in restoring to the delighted patient the fruition of renewed vision

The following cases, while they serve as illus-

trations of some important facts, shew also what it is sometimes possible to effect under very unpromising and apparently hopeless circumstances.

A clergyman, residing in a remote and retired part of the country (to whom reference is permitted), was detained—Oh, useless misery!—for more than EIGHT YEARS in nearly total darkness, that the Cataracts might acquire the character and solidity essential for the contemplated operation of extraction. This dismally tedious period of wretched existence was marked by an utter inability to discharge his clerical duties, or indeed any ordinary avocations requiring the use of eye-sight.

This worthy and intelligent rector was painfully sensible of his numerous privations, literary as well as social, and could sympathize most acutely in the poet's desolate feelings, so beautifully expressed in the following pathetic lines :

“From the cheerful ways of men
Cut off, and from the book of knowledge fair,
Presented with an universal blank
Of nature's works, to me expunged and razed;
And wisdom, at our entrance, quite shut out.”

MILTON.

During the prolonged suspension of his visual faculties, the eyes were subjected to several attacks of inflammation, which produced contraction and adhesion of the iris internally, and external enlargement of the vascular texture, with opacity, of the cornea.

These symptoms, being conjoined with the previously existing Cataracts, rendered the operation of extraction, in the anticipation of which he had performed so severe and wearisome a penance, absolutely impracticable !

Notwithstanding the complicated nature of his malady, by the assiduous application of constitutional and local treatment, and subsequently by the aid of the process already so often adverted to, he has at length obtained such a considerable accession of sight, that his son—also a clergyman—recently and personally informed the writer that “his father is again capable, among other objects, of seeing birds flying in the air.” The present sheet not having been worked off, the press is stopped for the purpose of introducing the following valuable extract of a letter from the same correspondent (received this morning, May 28th), in reference to another Cataract patient, whom the party has sent to be operated upon by the author.

Alluding to the case of his revered father, “who is returned to his preferment,” he adds :—
 “The absorption has very much advanced—the right eye is becoming nearly clear (but a small portion of the turbid matter remaining), and consequently his sight very much improved. The left is also making progress—so that the prospect before him is one most cheering. Your confident but guarded prediction is fulfilled, and your system

of treating the disease, together with your skill as an operator, crowned with another triumph. "I can only, though most ardently, wish that the time may not be far distant when a discerning and grateful public will appreciate science as it deserves."

From this statement we are fully warranted in indulging the sanguine expectation that, as the vision of the patient is daily improving, he will soon wholly regain his long-lost sight; of which, but for the means pursued, he must have been finally deprived!

The next case affords a further confirmation of the valuable character of the treatment advocated in these pages.

The foreman of the late Mr. Slark, Ironmonger, Cockspur Street, became the subject of Cataract in each eye, accompanied with great local irritation of the organ. His benevolent master at length intimated to him that, though he had retained him in his situation purely out of compassion towards his large and otherwise destitute family, he was become utterly incompetent any longer to superintend the concern, on account of his very defective vision. Under this unfortunate infliction, however reluctantly, he felt himself obliged, therefore, to provide a more efficient substitute.

This threatened bereavement induced the patient to consult several eminent practitioners, who

concurred in opinion that the symptoms were not sufficiently advanced to justify the immediate performance of an operation; nor could they hold out the hope that the required change would speedily be accomplished. He had, therefore, the heart-rending prospect of being ere long consigned, with his wife and children, to the dreaded alternative—a parish workhouse!

In this dilemma, a friend fortunately recommended him to that kind-hearted and distinguished physician, the late Dr. Baillie, who, being acquainted with the author's mode of operating at an early stage of Cataract, strongly urged him to take his opinion on the case.

Impelled by my own feelings, and the flattering approval of a man deservedly eminent for his professional experience, I determined to exert my best efforts in behalf of this pitiable object. It is most gratifying to be able to add that, by means similar to those alluded to in the foregoing case, the hopes of success with which his humane medical adviser had ventured to encourage the desponding patient were ultimately realized, his sight being so perfectly restored that he retained his appointment, the duties of which he continued to fulfil with his former punctuality and address.

It may be proper to add, as a further proof of the completeness of the cure, principally effected by means of the improved mode of operating now under description, that he wrote an excellent

hand, and read the smallest print without the aid even of spectacles—the natural prominence of his eyes superseding the necessity of those appendages, generally requisite after the extirpation of the opaque lens.

Although, in the above instances, the difficulties which were in a great measure the result of procrastination, happily yielded to the plan adopted, it too often happens that by rigidly espousing the antient and still prevailing doctrine in these cases, the opportunity of selecting the most appropriate mode of treatment, of which at an early period advantage might have been taken, is wholly lost. Nor is this the only drawback connected with the temporizing system in general use.

In the Cataract which exists at birth—the congenital species—the postponement of the requisite operation is productive not only of the loss of early education, but of a change from an easily curable to a firm, unyielding, and very uncontrollable state of the capsule—an unsteady*, involuntary, and

* The rolling, tremulous motion of the eye, usual in congenital Cataract, is not invariably characteristic of that species of the disease, nor is its absence a proof of its non-existence at birth. The vacillating motion alluded to obtains only in those cases in which the privation of sight is wholly or nearly complete, and depends probably upon the incessant attempt of the organ to acquire a correct knowledge of the figure of surrounding objects, by endeavouring instinctively to view them in every direction, until at last the motion becomes habitual and constant. That this is the most rational, and the author believes original, explanation of the phenomenon may be inferred from the fact

unassociated motion of the eye-ball, and a more or less impaired perception of the nerve subservient to vision.

A few years ago the author operated successfully upon three infants, of the same family, born blind with Cataracts, at the respective ages of six months (the earliest period at which he has hitherto performed the operation) and at about one, and two years. These early cures were accomplished not only without a single unfavourable symptom, but with the subsequent acquisition of surprisingly perfect sight, and such complete integrity of all but the affected part of the organ, as to make it impossible to discover, from any visible defect, that they had ever been blind, or had undergone an operation.

Similar results were experienced in two other infants, the offspring of the same parents, on whom equally successful operations were performed by the writer at the respective ages of eighteen months, and two years.

It is indeed a fact that cannot be too deeply impressed on the minds of intelligent mothers, that an appropriate and early operation in this description of cases is most satisfactory, in regard to its

that, very young children not unfrequently acquire the same oscillatory motion of the eye-ball, in consequence of a large central opacity of the cornea—two instances of which affection may be seen in infants, —*out-patients*, at this time (May 27th), of the Infirmary.

result—to the facility of performing it,—to the rapidity with which the Cataract may be dissipated—but above all, to the superior perfection of sight thereby obtained.

The author owes it indeed to truth and justice to declare that, among the number of instances of congenital Cataract in which he has had occasion to perform an *early* operation, not a single failure has yet occurred; and he may add that the process has been accomplished with the happiest exemption from any unfavorable contingency.

Although eventual success has also generally followed the same mode of cure applied to different subjects arrived at, or near their full growth, or the period of adolescence, not only is the process more complicated, difficult, and slow, but even after the entire dispersion of the Cataract, a considerable period usually elapses before the patient gets full command over the irregular action of the external muscles of the eye, so as to be enabled to direct it steadily and promptly to the object at which he is desirous of looking; nor is the vision probably ever so perfect as that which is gained by a much earlier operation.

But in cases of congenital Cataract, allowed to remain undisturbed until a more advanced age, the operation, however successful its performance, is eventually much more unpropitious. For, notwithstanding the retina, in these instances, on being exposed to the full influence of light, may

obtain for a limited period a considerable share of nervous energy, to such an extent that the eye may possess tolerably perfect vision, the sensorial power is apt afterwards gradually to fade away, until at last the sight temporarily acquired is altogether lost, and total blindness succeeds !

Such was the final issue of the operation upon Michael Broom, of High Wickham, Bucks, who was *born* with Cataracts, and on whom the author operated at the 44th year of his age! He derived from the process such a degree of sight as enabled him distinctly to distinguish the second marks on a watch dial, and subsequently to learn to read his Bible. The Cataracts in this case remained *too soft* to admit of removal by extraction, for which operation he had been directed to wait year after year, until he came under the author's care. Although his newly-acquired sight continued useful and indeed good for nearly two years, by almost insensible degrees it began from that time to grow more and more imperfect, until at length, without pain, inflammation, or any visible cause, but solely from a diminution and ultimately the extinction of sensibility in the retina—attributable to some unknown lesion of innervation,—he relapsed into a state little short of absolute blindness!

Whereas, if the operation (which was undertaken on the personal application of Lord Carrington, who, with his lordship's accustomed be-

nevolence, brought the patient to London, and permitted him to remain at his town house during the process of cure) had been resorted to in early infancy, it is not unreasonable to infer that the relief which the operation at last afforded would have been permanent. Though the supposition must necessarily be speculative, yet, from the nature of the symptoms, and from other analogous facts, it may be fairly and legitimately entertained, and in the event of its having been realized would have rescued him from the misery he endured for nearly HALF A CENTURY, in helpless dependance for his subsistence upon his humane benefactor!

Two out-patients applied this day (April 20th) at the Infirmary, complaining that their sight, which had been partially restored by Extraction (though at the expense of great subsequent suffering, and deformity of their eyes) is daily becoming more and more enfeebled, and that the admission of a strong light to the eye is productive of very distressing sensations.

As the accompanying symptoms indicate the existence of subacute retinal inflammation (the effect of the sudden and overpowering stimulus of light acting on the visual nerve in a state of accumulated sensibility), the greatest danger is to be apprehended that, if the most appropriate measures are not immediately and assiduously adopted, these will, ere long, be added to the melancholy catalogue

of cases, characterized by the total and irremediable abolition of even the defective vision acquired by the operation of extraction !

But it would only weary the patience of the reader to adduce additional illustrations of the dangers—direct or consecutive—contingent on the custom of deferring the cure of Cataract to the eleventh hour, or until it has arrived unchecked at its last, worst, and most inveterate stage—the facts and arguments already brought forward rendering, it is presumed, any further attempt to elucidate the subject, a work of supererogation.

We shall therefore proceed, in the last place, to offer a brief account of the beneficial effects which may be expected to accrue from the extirpation of the Cataract, by the means suggested, during its infant state, and before it has acquired the giant strength and obstinacy of maturer age.

SECTION VI.

ON THE EARLY REMOVAL OF CATARACT.

THE author's enlarged views—the result of extensive general practice,—caused him to question the validity of the apparently absurd, but still prevailing doctrine relative to Cataract—and impressed him with an anxious wish thoroughly to investigate its pretensions—to improve, if possible, the unsatisfactory treatment,—or else to substitute a more rational and efficient system in its place. To carry these desirable objects into effect, his professional zeal prompted him nearly twenty years ago to organize, under the patronage of His late Majesty, an Institution for the reception of cases of that description exclusively; and which was afterwards almost wholly supported at his own personal expense.

That Institution, in conjunction with his private practice, afforded abundant opportunities for observation, and putting to the test of comparative trials the various processes which had been devised and recommended by different eminent practitioners. By assiduously availing himself of these various sources of information, he was enabled to detect many of the causes of failure, and, by

careful alterations and modifications, in a great measure, to counteract or remove them.

Gradual and progressive improvements led to the final adoption of his present mode of practice, which seems really to possess every desirable attribute to entitle it to general approbation ; and which, if carried into full effect, would tend eventually to supplant the old operations of couching and extraction,—by rendering them unnecessary,—as vaccination has already superseded small-pox inoculation.

To his valued friend and instructor the late Mr. Saunders (who confided to the writer the only document he left on record relative to his ingenious mode of removing Cataract, and which, at the request of the widow, was subsequently published), the author is indebted for the hints and suggestions from which have emanated those alterations in his instruments—the essential deviations in the manner of using them—and particularly with regard to the PERIOD of the disease when the cure should be commenced,—which distinguish the writer's method of conducting the treatment of Cataract, from that of any other surgeon, or oculist.

But as the details of that practice would be neither interesting nor intelligible to the general reader,—for whose use this work is more particularly designed,—they are omitted. Should any one,

however, be desirous of minute instruction on these points, he is referred to the second edition of the author's "Treatise on Cataract," illustrated with a plate of his new and improved instruments.

While the plan alluded to is founded upon, and owes its origin to, a more enlarged and—the author hopes he may add—philosophical view of the resources of nature, and principally with reference to absorption, it aims at no less a purpose than the prevention of blindness, by calling into action and relying upon that class of vessels quaintly, but significantly, termed by the late Mr. Hunter "the scavengers of the human body," so soon as the lens, or its capsule, is become sufficiently opaque to render the disease distinctly cognizable.

It combines not only all the advantages of the old and customary operations—which are limited to adult subjects, and to the indurated form of the disease,—but it is preferable to both, in being equally applicable to every description of Cataract while soft or fluid, and at any period of life between infancy and old age—in being easier of execution, and nearly destitute of pain—in exciting scarcely any irritation, and consequently rarely requiring either lotions, bandages, or confinement—in protecting the eye from secondary Cataract—and, above all, in being almost invariably successful.

At the same time, also, that the appearance of the eye is neither altered nor disfigured by the process alluded to, the sight is restored to the greatest degree of perfection of which it was originally susceptible.

To infancy—a period of life to which the usual processes are confessedly inapplicable—the method under consideration is particularly valuable, not only from the shorter space of time passed in comparative darkness, but because, as happens to all our other perceptive faculties, their long and early inaction retards their future development, and renders the patient less acquainted with their powers, and with the means of multiplying their uses.

As a climax to the merit of the above mode of cure, experience has taught the author its efficacy in restoring vision in cases which had been previously operated on by extraction, and abandoned as irremediable.

Among other instances of the latter description, the following case may suffice and cannot fail to prove particularly interesting.

A young man of the name of Pither, son of Lord Suffield's butler, was born with a Cataract in each eye. About twelve years since, they were extracted; in the performance of which operation, however, the iris of the left eye sustained great, if not irreparable injury, and induced a train of ex-

ceedingly painful symptoms; while the operation in the right was productive of secondary Cataract, with contracted and adherent pupil—a state of the organ which caused the complete extinction of the previously very imperfect sight.

The experienced operator pronounced the case to be subsequently beyond the reach of art, and, as such, strictly enjoined the party on no account to allow it to be examined by any other surgeon or oculist.

The opinion of the author being notwithstanding solicited, he ventured to express his belief that the mischief inflicted on the right eye might probably be repaired by a different process, and sight be thereby restored.

The case being left to his management, the requisite operation was performed with the happiest success, and with such rapidity and freedom from pain, that the patient was not conscious of the moment when the instrument was introduced into the eye, nor of the completion of the process, until he was apprised of the agreeable fact by the sudden influx of light, and his capability of discovering surrounding objects. He felt so well after the painless operation, that he insisted on walking back again to his lodging—nearly the distance of a mile,—which he accomplished without the slightest inconvenience, or experiencing any uneasiness in the eye; nor did

he afterwards require either local applications, bandages, or confinement.

The result of the respective operations was most decisive in favor of the above process, contrasted with that of extraction. The latter was productive of violent inflammation, which confined the patient to his bed, in extreme suffering, for many weeks—a circumstance which deterred his mother from allowing any further measures of a curative nature to be adopted. It was not indeed until after her death that application was at length made to the author, in consequence of the urgent entreaty of a neighbour, upon whom, some time before, he had performed a similar and equally successful operation.

While the operation of extraction caused long-continued pain, and failed altogether in effecting the object for which it was undertaken, the plan subsequently had recourse to availed in obviating the mischief previously inflicted, and, by removing the obstacle which impeded vision, succeeded in restoring the function of the organ to a degree of perfection equal to what it usually acquires by the most fortunate operation*.

* The above particulars were confirmed—some of them indeed were personally communicated—by the father of the young man who, happening accidentally to have been in town on the day of the public meeting, held on the 22nd of April last, in behalf of the “Royal

Were the plan under consideration restricted to the relief only of such apparently forlorn cases as the one just described, it must be regarded as a valuable acquisition. Fortunately, however, its utility is of a far more comprehensive character—by proper management it may, indeed, be rendered available to every description of Cataract. So long as the morbid crystalline continues soft, or its capsule is easily lacerable, each part may be readily reduced to a state fit for removal by the natural powers of the constitution. Now the changes which disqualify these respective forms of the disease for this by far the most preferable mode of cure, are the effect of age, or of allowing the Cataracts to remain unmolested until they have undergone an unfavorable transmutation from a soft to a solid form—a period of time which varies, according to the nature and character of the disease, from several months to many years.

It is, however, of great importance, in reference to its general applicability, to bear in mind that the morbid alterations to which the crystalline is subject, and which are marked by different degrees of firmness in the consistency of the lens,

Infirmity for Cataract and other Diseases of the Eye," obligingly submitted himself to the examination of the company assembled on that occasion, which excited the liveliest interest and the warmest expression of admiration at the result of the treatment.

observe a certain order of progression, or, in other words, they gradually assume a more or less indurated character; except in the instance of fluid or milky Cataract. Hence, an opportunity is always afforded for carrying into effect the means recommended, to which every description of Cataract at its commencement, or during its formation, may be rendered amenable.

For the disease while recent,—whether it be of a simple or compound character,—of an opacity of the lens, or capsule, or of both combined—whether it be congenital, secondary, or even accidental,—is, in any of these cases, equally subservient to the agency of the needle.

A more powerful recommendation in favor of the process is, that the proposed mode of treatment may be adopted under all the varying circumstances alluded to, not only with the most trifling pain, but with the greatest probability, nay, with almost a moral certainty of success,—provided it be executed with the requisite skill and address, and the other textures of the eye, and the constitution, be at the same time free from derangement.

Is it not extraordinary that the above facts, which only require to be developed and explained to appear, like most other truths, simple and easy of application, should not long since have been discovered and turned to a practical account?

And must it not seem passing strange that, notwithstanding our intimate acquaintance with the character of the several species of Cataract, and also with the influence of the absorbents in contributing to their removal when deprived of living union with surrounding textures, and cohesion of their integrant parts, so much should have been written, and such various expedients devised—some of them by no means easy of adoption, and all very uncertain in their results—for the purpose of overcoming difficulties and dangers generally the effect of delay, and, therefore, in our power to prevent?

While however, engaged in pointing out the advantages of the new process, it will be meeting the question fairly, and contribute, at the same time, to elucidate and confirm its superior claims to public attention, to enumerate and refute the objections which have been brought against it by the abettors of the old operations.

The principal, if not the only, objections with which it has been charged, may be comprised under the following heads, namely:

First. The inflammation which the mode of treatment in question has been said to excite.

Secondly. The alleged tardiness of the cure, as compared with the immediate restoration of sight effected by couching, and extraction.

Thirdly. The presumed reluctance of the patient to submit to the proposed operation at the period when it is especially indicated.

Fourthly, and lastly. Its declared unfitness for the Cataracts in old persons, on account of the solidity of the opaque lens, and the inactivity of the absorbents, in advanced life.

First. With respect to the first charge, it is not meant to assert that the operation, notwithstanding its simplicity and general mildness, is at all times, and in constitutions of peculiar susceptibility, exempt from casualties (to which the most trivial process, even the prick of a pin, may sometimes be liable), or vascular reaction and topical excitement; but, as already observed, page 57, should such irritation incidentally occur, it is almost invariably very slight, and of a very tractable character.

The truth is that inflammation, on these occasions, generally arises either from improper violence, on the part of the surgeon during the operation, by rude and long-continued attempts to do too much at once;—from the pressure of detached portions of a hard lens against the posterior surface of the iris;—or from general distension and consequent irritation of the coats of the eye by the larger space the crystalline must of necessity occupy when divided into small fragments and diffused through the interior of the organ, than while retaining its original form and integrity.

The first of the above causes of inflammation may be avoided by an expert and cautious use of the needle—the second, by commencing the operation at an early period after the formation of the Cataract, and previously to the crystalline having acquired any considerable degree of hardness—and the last, by abstaining from the general practice, without regard to the character of the disease and the natural formation of the eye, of breaking up the lens at one operation, and allowing the comminuted portions to oppress the iris.

By guarding against these several sources of irritation, and proceeding with the requisite circumspection,—provided the constitution be sound, and no disease exist to countervail success,—the operation proposed may be accomplished with comparatively little difficulty on the part of a well-informed and experienced surgeon, and with very inconsiderable, frequently scarcely any, pain in the affected organ. Accordingly, the author has, on many occasions, commenced and finished the process without the patient being aware that he was doing more than simply examining the eye, and making the necessary arrangements preparatory to the operation.

Secondly. In reference to the second objection it may be observed, that it is not by the suddenness or rapidity with which vision may be restored by an operation, but by the comparative perfection

of the cure, and the relative proportion of cases in which that object can be obtained with the least degree of present pain and risk of future mischief, that the value of the respective modes of treatment ought to be estimated.

“The removal,” says the editor of Mr. Saunders’ posthumous work, “of the opaque lens from the axis of vision is not the sole end of the operator’s skill. ‘This great object of art may be obtained at too high a price, if parts which are essential to the perfection of vision be permanently injured. By extraction, it is accomplished at the expense of the cornea and iris—by depression (couching) at that of the vitreous humour and sometimes of the retina. In both, the advantage lies in the expedition of the cure. No one who is competent to judge of the difficulty of perfectly performing either can, for a moment, withhold the tribute of his applause from the successful operator. The degree of vision from that which is perfect to that which permits the unhappy sufferer to distinguish only day from night are so very various, that the merit of this or that operation must ultimately rest not on the time required for the completion of the cure, but on the comparative number to whom, by the aid of proper glasses, perfect vision shall be restored*.”

* Saunders, “on some Practical Points relative to the Eye,” p. 163.

But the charge of slowness, in effecting the cure of Cataract by the method recommended, is by no means invariably true. For in the capsular species, so long as it retains a yielding reticular character, whether congenital, or secondary—and to which neither of the common processes is applicable,—the relief is often as prompt and immediate as after the most successful removal of the hard lens by couching or extraction, and without any of the corresponding dangers.

When, too, the contents of the capsule are fluid, an equally expeditious cure can generally be effected by means of the needle, if it be used previously to that membrane having attained a strong cohesive character. Even the extirpation of the lenticular Cataract, so long as the texture of the only slightly opaque crystalline remains nearly uniform and freely permeable, is neither tedious nor doubtful.

For as absorption, in accordance with ample experience, usually proceeds in the ratio of the softness* of the lens, and the absence of topical irritation—which if the operation be properly performed very rarely takes place,—the process frequently goes on with such extraordinary rapidity that, in many cases of this description, not a

* Mr. Saunders ascertained “that the solubility of the lens was proportionate to its softness.”—Saunders on the Eye, p. 168.

vestige of the unabsorbed Cataract could be detected in forty-eight hours after the operation—in a few, not in half that time.

Such was the result of an operation, performed by the author upon a gentleman nearly twenty years old, who, at an early age, became affected with a soft lenticular Cataract in each eye. The intellectual faculties of this young man had never been fully developed, and he was in the habit of sitting for hours together without uttering a syllable, or moving a limb. His appearance was, therefore, calculated to excite the deepest emotions of commiseration.

The author having succeeded in restoring the patient's brother to sight under circumstances of considerable difficulty and danger, the greatest anxiety was expressed by his mother that similar comfort should, if possible, be rendered to this unfortunate object.

Having, after many fruitless attempts, at last obtained his confidence, he availed himself of a favorable moment, when the patient was not aware of his intention, to introduce his instrument into the eye, and completed the operation before the patient was conscious of what was going on. Not the smallest irritation ensuing, the following day the pupil assumed its natural character, every particle of the Cataract having been absorbed during the intermediate night.

On finding the organ in full possession of sight, the patient expressed an earnest wish that the same means should be applied to the remaining blind eye. He bore the operation without the smallest reluctance or apparent uneasiness, which proved equally successful with the former, and without the slightest untoward symptom.

His detention in town was only from Tuesday until the following Saturday morning, when he returned home, perfectly restored to sight of both eyes!

A fact connected with this interesting case ought not to be passed over in silence. The restored use of his visual organ was speedily followed by the development of his mental powers, which, while he remained in a state of darkness, seemed to be completely torpid and suspended.

As soon as he became partially acquainted with the external and visible properties of tangible substances, he evinced a strong desire to be instructed in their several names and uses, and to be taught to read. He gradually acquired such a share of general knowledge as to be able to join in common topics of conversation without committing himself, or betraying indications of mental incapacity, instead of appearing, as heretofore, more like a senseless automaton than an intelligent and rational being.

If the plan alluded to be adopted at the early

period recommended, a single operation is generally sufficient to ensure speedy and effectual relief. But, from ignorance on this point, the happy moment for carrying the measure into the most beneficial effect is too frequently allowed to pass unheeded and unimproved, and the Cataract, in consequence, to assume a more or less indurated character. In the event of its becoming very hard, the author has recourse to extraction, otherwise to a simple preparatory process which, while it is productive of a very inconsiderable degree of momentary uneasiness, guards against any tendency to inflammatory excitement, and contributes, at the same time, to accelerate the future dissipation of the Cataract.

Although, it is true, that timid and nervous patients are sometimes apt to entertain fearful apprehensions that the operation cannot fail to be productive of severe suffering, it scarcely ever happens that their anticipations, in this respect, are not found to have infinitely overrated the actual amount of pain. Indeed, it is a common occurrence for the same individuals who had allowed their minds to be harrassed with the most alarming ideas of the formidable nature of the operation before it was performed, afterwards to express their willingness again to submit to it, if required, without the smallest reluctance or misgivings.

So trifling and insignificant, in general, is the pain which it inflicts, that many persons have urgently entreated the author to repeat it, should such a step be likely to quicken, even by a short period, the perfect restoration of their vision.

If so ardent be the anxiety to lessen the duration of even partial blindness which is daily diminishing, and, without any further remedial means, would soon totally disappear, who can depict in adequate language the agonizing feelings of those unhappy sufferers who are taught to believe that they must endure—perhaps for years—the miseries inseparable from privation of sight, before the Cataract will become ripe enough for removal, at last, by the hazardous operation of couching, or extraction!

It will be consolatory to add that my experience confirms the assertion of Scarpa with regard to couching; namely, “that the symptoms of a second operation,” however mild the former may have been, “are constantly less considerable than those of the first operation*.”

Another consideration will contribute, likewise, to reconcile the patient not only to occasional delay in the recovery of sight, but also to the repetition of the operation, should it be thought expedient: namely, that immediately after the slight irritation

* Scarpa, on Diseases of the Eye; translated by Briggs; p. 390.

which may follow the operation has subsided, he will not only be free from uneasiness, but also from confinement and every other restraint, except such as ordinary prudence would prescribe.

Nor is this all. Neither anxiety nor discontent should be felt on account of the possible tardiness with which the Cataract may be dissipated, provided its absorption be progressive, though slow.

In common cases, it is of little importance whether vision be restored a few weeks earlier or later than was anticipated.

During the progress of the cure, it will not be difficult to form a correct judgment as to its ultimate issue. Should the attendant circumstances forbode a favorable result, the patient ought to submit with cheerfulness to the temporary prolongation of the cure. For he may, with truth, be assured that he will probably receive the full impression of light and external objects as soon as the eyes are in a condition to bear it with impunity.

The following cases will show, not only the rapidity with which the cure is sometimes accomplished by the process stigmatised for alleged inactivity in its restorative effects, but, that the retina is, at the same time, unfit to be suddenly exposed to the strong impression of light after it has been long excluded from the eye, by the presence of Cataract.

Mrs. C. for many years an inmate in the Duke of Newcastle's family, on whom the author operated for adherent reticular Cataract of long standing — a form of the disease to which neither of the common processes could have been rendered applicable—was enabled, instantly after the instrument was withdrawn from the eye, to see the smallest objects by the aid of convex spectacles.

The operation produced the smallest conceivable pain, and not any subsequent inflammation. She experienced, notwithstanding, the greatest distress from the sudden admission of light to the retina: and, although the successful event proved that no morbid affection existed in that, or any other part of the organ, she became capable, by slow degrees only, of enduring the stimulus of strong light, or application to reading, writing, or needle-work.

Upon Mr. Porter, also, of Bethnal Green, the author operated, under similar circumstances, with equal success, and with the immediate restoration of sight.

But, in this, as in the former instance, the same inconvenience ensued from the admission of strong light to the eyes, and for several months afterwards prevented the free and comfortable use of the organ, although it exhibited in every respect the most animated and healthful character.

Thus the *gradual* manner in which the sight

is generally restored by this method of operating, so far from affording any solid objection to the process,—as the advocates for couching and extraction allege,—is, on the contrary, one of its strongest recommendations.

Though this argument may not, perhaps, accord or harmonize with the feelings of the patient, who is usually too much disposed to look to present and immediate relief without always calculating the price at which it may be obtained, its force may be demonstrated by easily ascertainable and familiar facts.

None can be ignorant how much the eyes suffer from sudden exposure to strong light, after having been long subjected to comparative darkness. The barbarous Carthaginians availed themselves of this knowledge in the atrocious punishment they inflicted upon their unfortunate captive Regulus, the heroic Roman general, whom, after keeping for some time in a dark dungeon and cutting off his eye-lids, they suddenly brought out and exposed to the vivid rays of a tropical sun! In this horridly mutilated condition, the denuded eyes experienced the most agonizing torture, which was speedily followed by intense inflammation, and the total extinction of sight!

The custom, some years since universally prevalent, of keeping high-bred horses in dark and

heated stables, was found to be a pregnant source of blindness in those noble and invaluable animals.

Is it not probable that Amaurosis, and Cataract, —diseases frequent in hot as well as in northern countries,—are owing to the reflection of the rays of the sun; in one instance from the burning sands, in the other from the snow?

The great danger to the sight, from being obliged to look upon bright luminous objects, is strikingly exemplified by the frequency of blindness in the oriental regions, where

“ ————— vertical the sun
Darts on the head direct his forceful rays:
In vain the sight, dejected to the ground,
Stoops for relief; thence hot ascending steams,
And keen reflection, pain.”

THOMPSON.

Great numbers of the equinoctial Asiatics in the day time shew the white of the eye only, the pupil being hid under the eye-lids, lest the rays of the sun reflecting strongly on the sand should pain, or materially injure, the sight.

Nor is total loss of sight an uncommon incident among the inhabitants of the more northern latitudes, where the earth is, during the greater part of the year, enveloped in continual snow. Xenophon relates, in a passage which Mr. Boyle thought

worthy of quoting, "that Cyrus marching his army for divers days through mountains covered with snow, the dazzling splendour of its whiteness *prejudiced* the sight of *many* of his soldiers, and *blinded* some of them; and other stories of that nature may be met with in writers of good note*." To obviate the alarming, and often suddenly destructive influence of too much reflected light (when the sun is above the horizon during spring), the cautious traveller finds it expedient to cover his eyes with crape. Experience has also taught the unlettered savage the rude invention of framing a little wooden case (called by the French settlers near the Esquimaux of Hudson's Bay, *Yeux à la neige*), with only two narrow slips, which he wears over his eyes, in order to secure them from the well-known and dreaded effects of an excess of light†.

The morbid sensibility of the eye to light, accompanied with great secretion of tears and a contracted state of the pupil consequent on extraction—the premonitory symptoms, and, if not relieved, the sure harbingers of approaching blind-

* Boyle's Works, vol. i, p. 698.

† Voyez l'Histoire Général des Voyages par la Harpe, in 8vo. vol. xix, p. 214; also Ellis's Voyage to Hudson's Bay.

ness,—a result, as Mr. Bell observes*, by no means unfrequent after that operation,—may justly be ascribed to the injurious effects of the sudden influx of light to the sensitive membrane the retina, from which it had been long intercepted.

It is indeed true that danger from this cause may be in a great degree counteracted by guarding the organ, for an adequate period after the operation, from the overwhelming influence of luminous rays. In that case, it is obvious, nothing would be gained by the rapid recovery of vision, while we should have to encounter the difficulty of controlling the eager desire of the patient to allow himself the unrestrained enjoyment of pleasurable sensations from which he had been long and painfully debarred. Whereas, the visual powers of the patient not being suddenly restored by the improved mode of treatment, he is precluded from the possibility of injuring himself by their premature indulgence. The retina, being accustomed by slower but progressive degrees to its natural stimulus, is rendered capable, by the time the whole of the obstructing medium is finally removed, of bearing it not only with impunity, but without fear of subsequent injury to its function.

* See page 42.

Upon the whole therefore it appears that, notwithstanding the sight may be immediately regained by the process of couching, or extraction, the eye is not in general available for the various purposes of life at an earlier period, than by the practice under consideration; the advantages of which, in every other respect, are decidedly in favour of the latter mode of treatment.

Thirdly. To the objection—namely, the alleged reluctance of the patient to submit to the proposed operation at the period when it is particularly indicated,—many of the arguments already advanced will strictly apply.

It should be further added that the disease, when fully formed, is incapable of resolution, or is beyond the reach of medical agents*. Hence permanent blindness, or the chance of restoration to sight by an operation, is the only alternative.

And, as it is inconceivable that any one can “love darkness rather than light,” we may infer the willingness of the patient to submit to that process which is calculated to prevent or remove

* “In all examples of true Cataract,” says the learned Professor Samuel Cooper, in a Lecture on this subject, delivered at the University of London, and published in the 21st number of the “London Medical and Surgical Journal,” May 24th, 1834, “it is only by an operation that sight can be restored.”

such a dreadful catastrophe in the mildest and most efficient manner.

Are not the facts already interspersed throughout this little work sufficient to convince those who are, unhappily, threatened with the dire calamity of approaching blindness from Cataract, that they have a resource, fully competent it is presumed, to fulfil all their wishes, in the plan of treatment recommended ?

In truth, the great reluctance and misgivings in regard to instrumental assistance, arises principally from an association of ideas, which leads persons to believe that an operation performed upon an organ so delicately constructed as that of the eye must inevitably be productive of an exquisite degree of suffering. A supposed confirmation of this opinion is too hastily entertained, from the violent pain which accompanies acute inflammation of the eye, on the one hand—and from that which is occasioned by the casual introduction of particles of metallic or other hard angular substances beneath the eye-lids, on the other. But no real analogy exists between such cases, and the ordinary operations for Cataract. The sensibility evinced in the instances alluded to does not apply to operations performed upon the eye when free from inflammation. It is under inflammatory excitement that the cornea, as well as ligamentous and tendinous

structures (which enter largely into the composition of the tunics, or outer coats of the organ of vision), acquire poignant sensibility; but, like them, it is in a great measure, if not altogether, destitute of sensation in its natural condition*.

And the extraneous matter, which would produce agonizing pain if embraced by, and rubbed forcibly between the eye-lids, may be borne, without exciting the smallest uneasiness, if placed carefully only in contact with the exposed cornea.

Had not indeed the eye been thus constituted by our divine and most merciful Creator, how deplorable would have been our fate! How impossible would it have been for the organ, under a different arrangement of textures, to have sustained the infinitely various casualties to which it is exposed, and still less the operations rendered occasionally indispensable for the cure of some of its multifarious diseases!

The principal source of the trifling and momentary pain which is felt during the introduction of the instrument into the eye, is derived from the penetration of the fine transparent membrane

* By the minutest examination, no nerves have been detected in the cornea. Hence, Haller, in his Physiology, very justly denies its sensibility when uninflamed. “*Neque sensûs signa, aut homo, aut animal, edit.*”

called the conjunctiva, which, after serving as a lining to the inside of the eyelids, is reflected over the fore-part of the globe.

The lens itself, the seat of true Cataract, not having any nerves, is, like the nails, absolutely devoid of feeling; consequently, if the part be acted upon without injuring or disturbing the adjoining sensitive textures, the skilful performance of the operation cannot, under ordinary circumstances, produce more than a very inconsiderable degree of uneasiness.

Of this fact the reader will be readily convinced, as well as of the groundlessness of his fears on this account, by realizing in his imagination the simple mechanical apparatus with which the process is executed. In performing the required operation, the author uses only one small and very nicely formed instrument, in length and breadth scarcely exceeding in magnitude that of a common darning-needle; from which however it differs in not being round, but flat, in exact imitation of a diminutive lancet. Hence, by virtue of its reduced size, exquisitely fine point, and cutting edges, it is admirably adapted to penetrate the several coats of the eye with the greatest conceivable facility. Its introduction, therefore, in the hands of a skilful and adroit operator, is the act only of a moment. No argument can so fully prove the trifling amount

of pain produced by the puncture of the instrument as the answer some time since given by the son of a nobleman, whom the author asked, after finishing the operation, whether the pain was equal even to that of the prick of a pin? After some hesitation, the patient replied, "as near as I can form a comparative judgment on the subject, I should say not more than *half*, and with this advantage on the side of the operation, that I did not feel disposed to shrink from it as I should instinctively have done from the expected infliction of a wound by the latter."

Although the very general success which attends the operation as performed by the author is very much to be ascribed to the peculiar and diminished size and very delicate shape of his instrument, it cannot be indiscriminately recommended. For serious accidents might happen from using it, unless the operator possess, in addition to the requisite anatomical and surgical qualifications, and a practical acquaintance with the resistance the coats of the eye usually afford, an exceedingly steady hand, acute vision, and a large share of firmness, promptitude, and decision of character.

In this, as in all other nice operations—supposing of course the case to be proper for the process, and no constitutional or external causes in-

terfere to countervail their effect—success or failure must very much depend upon the skill and manual dexterity displayed in its performance. An operation which, if carefully achieved, might have ensured a happy issue, under different circumstances, would probably be the cause of a very adverse and disastrous event.

In favorable cases, therefore, the operation, if properly performed, is found to be exceedingly mild, especially if the surgeon have learnt, by long experience, to steady the eye without the aid of any instrumental contrivance, which, however well adapted for the purpose, never fails to occasion more or less pain, contusion and irritation of the eye, while at the same time it renders the operation more complicated in itself, more formidable to the patient, and more embarrassing to the operator.

To elucidate still further the present topic of enquiry, the following is a brief sketch of the author's proceedings with regard to his preparations for, and the actual performance of the operation—a representation which he is prompted to submit to his readers in the hope that it will tend effectually to disabuse them of any fears they might otherwise, from imaginary notions of its character, be induced to entertain on the subject.

The writer, contenting himself with such

domestic accommodations as are usually to be met with in the house where he is called to operate, seats himself on a firm chair, and the patient on a cushion or footstool before him. The latter is then directed to recline and rest the back part of his head upon, or between the knees of the operator who, steadying the eye with the fingers of one hand, is prepared with those of the other to execute the necessary manipulations. Matters being thus arranged, without a moment's hesitation the instrument is introduced into the affected organ, where the requisite steps of the process are usually completed in the space of from one to three minutes, the patient rarely, except in very complicated cases, exhibiting, during its performance, indications of more than very trivial uneasiness.

He almost invariably rises from the easy position in which he had been placed during the operation with the greatest cheerfulness, and with expressions of wonder that it could have been effected with so little inconvenience.

To place the subject in still stronger contrast, we will suppose that the respective operations have been completed in the most satisfactory manner, and enquire what is the condition and after-treatment of a patient subjected to the new, compared with one who has undergone the old, operation?

No sooner in general is the former released from the process than he is, at the same time, in

a great measure absolved from further trouble and annoyance, and allowed to sit up and enjoy the social converse of his friends, unfettered by bandages, severe dietetical, or other, restraints.

There is, for the most part, so little subsequent irritation as rarely to demand compresses, or any other local application than the use of warm water, to obviate the slight sensation of stiffness and soreness in the eye, occasioned chiefly by unavoidable pressure in steadying the organ.

In the absence of febrile excitement, the appetite is scarcely ever impaired, or the sleep destroyed.

Hence, in the course of from three to six days, in cases adapted for the operation, the patient is frequently restored to sight, and in a condition to resume his customary avocations.

Should vision not be regained in so short a period, the ultimate absorption of the disorganized opaque lens is seldom prolonged beyond as many weeks; the time required for the completion of that process depending upon the nature of the disease—the manner in which the operation has been performed—and the inherent powers of the constitution. This interval is marked, however, with perfect freedom from pain, and the necessity of confinement.

And, what is a fact of the highest importance, the operation usually proves the means of restoring vision to a far greater degree of perfection than

the most successful operation by extraction is capable of conferring. This distinguishing feature of the improved mode of treatment is probably owing to the cornea being left whole and untouched, while the obstructing medium in the interior of the eye being, at the same time, completely absorbed and dissipated, the rays of light are again enabled to pass, without the smallest interruption, to the sensitive retina.

By Extraction, on the contrary, a breach being made in the continuity of the transparent cornea to the extent of nearly its semi-diameter, the lips of the incised wound can rarely or never be so accurately adjusted as not to leave, after their union and cicatrization, more or less corrugation, partial contraction, and irregularity of its external superficies, and, in consequence, a vitiated refraction of the luminous rays impinging upon it.

The capsule also of the lens being usually allowed to remain in its original situation, a slit or central aperture only being formed in its anterior layer of sufficient size to admit of the hard and opaque crystalline being propelled through it, must offer a greater or less impediment to the pencils of light in their passage to the immediate seat of vision, and occasion the comparatively defective vision consequent on even the most fortunate operation of extraction.

The retained capsule—divested of its contents

—from the injury inflicted upon it by the operation, becoming sometimes opaque, is the source of secondary Cataract—a form of the disease less manageable than its predecessor, the lenticular species, and accompanied by at least an equal degree of blindness.

The above is a short but faithful representation of the general result of the mode of treating Cataract under consideration; to which there will doubtless be occasional exceptions, arising from the more or less complicated character of the malady, and peculiarities in the habit and constitution of different individuals.

The author is not, however, aware that he has exhibited a too favorable or exaggerated statement of the operation. Its development, in the fourth edition of his 'Treatise on Cataract, is declared, by the editor of the "Edinburgh Journal of Medical Science," in concluding a long and very elaborate analysis of its contents, to constitute "no unimportant era in the annals of ophthalmic surgery."

Within the last year, forty-eight cases of Cataract, consisting of different descriptions of the disease—in persons of both sexes, and at various periods of life—have been operated on by the author at the infirmary, agreeably to this simplified and eminently successful process, without a single failure.

Facts such as these, confirmed as they are by many similar instances in the author's private practice, surely justify an exalted opinion of its intrinsic value, if not of its even national importance.

That the process might be subjected to the ordeal of minute investigation by competent judges,—many physicians, surgeons, and other highly respectable and intelligent individuals, have had frequent opportunities of being present at it, and never failed to express their unqualified approbation in terms too laudatory for recapitulation in this place.

Among other irrefragable testimony to the same effect, the author will content himself with the following from a writer of acknowledged talent, of inflexible honor and integrity, and who is intimately acquainted with the subject.

Dr. James Johnson, in reference to this point, states, so long ago as in the January number of his *Medico-Chirurgical Review* for 1831: "We have visited Mr. Stevenson's Institution, with other medical gentlemen, and have witnessed several most successful operations."

To persons in every rank of life afflicted with this mournful disease, the above information cannot but prove, in the highest degree, acceptable and consolatory; but to the poor especially, who are compelled to earn their subsistence by daily labour, the advantages derivable from the

early treatment of Cataract are, indeed, incalculable.

Let us next endeavour to pourtray the various circumstances connected with the operation of Extraction.

And, first, the preparatory arrangements for this nicest of processes are of a character, it must be confessed, calculated to inspire the stoutest heart with feelings of awe, if not of trepidation.

An airy, quiet sleeping apartment must be selected for the purpose, with a fire-place not addicted to smoke, and a window capable of affording, by its size and position, the requisite degree of light.

A firm seat of convenient height, or a table of proper length, breadth, and altitude, with hard pillows, should be provided, on one or other of which the patient must sit or recline, as the surgeon may deem most advisable, during the operation.

The necessary instrumental apparatus, as well as an experienced assistant on whose aid implicit reliance can be reposed at the moment of performing the operation, must also be in readiness.

And, that the mind of the surgeon may be fully impressed with a vivid recollection of every minute step, and prepared for the various casualties of so important an operation—on the success or failure of which depends the future restoration,

or permanent loss of one of the most valuable organs of our senses,—he may, perhaps, deem it expedient, in imitation of the custom of the late Mr. Ware, privately to read over on the morning of the intended operation, the “TWENTY-FOUR MEMENTOS” which that experienced practitioner compiled for his own use, and left as a legacy for the benefit of future “Operators in extracting the Cataract*.”

The above and all other preliminaries being duly arranged, and the patient having exchanged his daily habiliments for his night clothes and dressing gown, the solemn moment of performance succeeds at length to the previously busy scene of rehearsal and preparation.

At this point, however, we must pause, partly because a description of the actual operation is foreign to our present design, and in part lest the details should lacerate the feelings of the general reader, or alarm the fears of the unfortunate subject of Cataract.

Drawing, therefore, a veil over the immediate surgical performance of the process, we will admit, for the sake of argument, that the consummate skill and dexterity of the oculist have triumphed over every difficulty and danger, and that the Cataract has not only been safely extracted,

* Ware's Chirurgical Observations relative to the Eye, vol. ii, p. 33.

but also deposited for preservation, as an emblem of success, in a vial charged with alcohol.

Vision, though of course in a most imperfect degree, being partially restored by the removal of the obstructing opaque lens, and the enraptured patient permitted to take a hasty glance at surrounding objects to convince him that he is released from his previous blindness, the eye is closed with compress and bandage, and his head enveloped in a night-cap.

Thus equipped, with the utmost circumspection he is placed, in nearly an upright attitude, in the bed already prepared, *secundum artem*, for his reception. The curtains being drawn, the room darkened, perfect quietude and silence enjoined, he is consigned to the care of a matronly nurse, who is instructed to watch his every movement, to guard against every source of injury, and particularly "that he may not rub the eye with his hands," should that

"Sweet composer, balmy sleep,"

kindly come to his relief and bury, in temporary oblivion, the exciting and engrossing perils from which he has happily escaped.

For some days the patient must be content to live by suction, and cautiously abstain from talking, eating, coughing, or sneezing; any of which natural acts might compromise the result of the operation.

On or about the third day, should no alarming symptoms in the interim occur to lead to the suspicion of impending mischief, with almost trembling solicitude the first dressings are removed, when, if not before, the probable issue of the operation will be revealed.

In the event of the edges of the incised wound being agglutinated, the pupil circular and freely moveable, the external vessels of the eye neither enlarged nor red, and the function of the organ restored, the case will afford just cause for congratulation.

Had such been the ordinary result of extraction, the author would gladly have spared himself the trouble and anxiety of many years of indefatigable study, in pursuit of means more certain in their effect, and less difficult of accomplishment.

But, alas! few comparatively are the opportunities afforded of witnessing a result so singularly fortunate as that just described. The majority of instances, it cannot be fairly denied, present a very different aspect.

While the patient, cheered by the even imperfect revival of his sight, and the absence of pain, and, unconscious of the impending catastrophe, is fondly cherishing the belief that all is well, the sagacious practitioner is aware, from some unavoidable injury inflicted on the eye by the operation of extraction, that a train of formidable symptoms will be

speedily lighted up to annihilate his hopes, and plunge him in misery and despair!

Instead of the favorable circumstances above enumerated, a few hours of tranquillity and fancied security will be succeeded by deep-seated and occasionally darting pains in the affected organ, extending to the head and around the orbit, accompanied with great restlessness, feverish irritation, and a copious flow of scalding tears—sure indications of violent local mischief.

On inspecting the eye, it will be found exceedingly inflamed—intolerant of light, and exquisitely sensitive to the slightest pressure,—the iris being, at the same time, contracted or distorted, protruding, perhaps, through the wound of the cornea—symptoms of the most dangerous tendency, and which, if incapable of immediate alleviation, as is too often the case, will, with great suffering, end in the total disorganization of the eye, and the complete and irremediable extinction of vision!

The patient must think himself lucky should he, under such circumstances and from so perilous a situation, escape with even a very small share of vision, obtained at the expense of an irreparable disfigurement of the eye, by a more or less deranged state of the pupil and opacity of the cornea.

The reader is, by this time, made acquainted not only with the nature and symptoms of Cataract, but also, it is presumed, with a sufficient body

of facts to enable him to form a correct judgment of the character and relative value of the several modes of treating that disease.

“The bane and antidote are both before him.”

He will perceive the groundlessness and futility of those imaginary terrors with which it has been too much the custom to invest the Absorbent practice, and the indulgence of which might deter the timid from availing himself of the advantages derivable from its early adoption. At the same time, he will be able to appreciate the numerous inconveniences and dangers he will have to encounter, should he prefer waiting for an indefinite period, and in a state of comparative blindness, until the Cataract is become in a fit state for either of the old operations. After weighing every circumstance, he can make his own election.

Fourthly. But it has been asserted that the Cataracts in old people cannot be removed by the absorbent plan of cure, owing partly to the unusual solidity which the opaque lens is supposed to acquire, and to the decaying powers of the constitution, in declining years.

Are there not, however, circumstances of the greatest weight which render either couching or extraction highly objectionable, and sometimes even impracticable, at that period of life?

A considerable quantity of the fluid contents of the eye-ball becomes occasionally absorbed,

leaving the organ proportionably diminished in size—a state of parts very unfavorable to those processes.

The cornea is liable to become, from the same cause, less convex as old age advances, and the anterior chamber, in consequence, to be reduced in its dimensions—a change highly adverse to the performance of extraction.

A disorganized condition of the vitreous humour is, by one author, said “to occur so frequently in old persons, that he is inclined to consider it as one of the attendants of old age*.” Although experience does not warrant the conclusion to the extent represented, yet whenever that condition of the humour happens to exist, it constitutes a case obviously ill suited to the operation either of couching or extraction.

That opaque circle around the basis of the cornea termed, from its form and frequency in advanced life, *arcus senilis*, occasionally encroaches so much upon its surface as to forbid the section of the cornea.

The pupil, in those individuals particularly who have been long accustomed to exercise the eyes upon minute and dazzling objects, is very liable in the decline of life to become permanently

* Sir William Adams, on the Eye, p. 210.

small and contracted: in which case it would be exceedingly hazardous to attempt the removal of the Cataract through an artificial opening in the cornea.

The above is a list of some of the difficulties which apply to the common operations for this disease occurring in elderly persons; all of which may be avoided by the adoption of the plan proposed.

That absorption is equally energetic in advanced as in early life, it would be preposterous to contend; but that this process goes on and is capable of removing a comminuted Cataract, is a fact which has been confirmed by sufficient experience. It is in truth owing to the activity of the absorbent vessels outstripping the powers of the secreting arteries, that the cylindrical bones in aged people are found to be specifically lighter than those of the same size and description in youth; the old interstitial ossific particles being carried away more rapidly than new ones are deposited.

This fact accounts for the greater tendency to fractures in old, and to dislocations in young, subjects. Hence, too, the small quantity of adipose substance, and the consequent general extenuation, with relaxation and wrinkles of the skin, in advanced age. From the above statements, we might infer the capability of the absorbents in old persons to act upon and remove an opaque lens,

so long, particularly, as it is of a soft and uniformly permeable texture.

Accordingly, the author has operated, under the circumstances just stated, upon a considerable number of individuals of both sexes who had attained their seventieth year, and upon the late highly-respectable Mrs. Moneypenny, of Guilford Street, when she had reached her eighty-fourth year, not only without any unfavorable symptom, but with the most satisfactory results.

From the disposition, however, in the crystalline of those who have passed their meridian to become indurated, and for the various reasons already assigned, it is the more desirable to assail the disease at a very early period after its commencement.

It may be added, that the proneness to inflammatory action seems to diminish with advancing years—a fact that might be inferred from the nervous system becoming less sensitive, and the vascular less irritable, in the decline of life.

Although Cataract most frequently attacks persons about the period of their climacteric, I cannot acquiesce in the representation of Boërhaave* as to its almost universal prevalence among

* “Homines, raro ad ultimam perveniunt senectutem, quin, in uno vel altero oculo, parvâ vel magnâ Cataractâ laborant.”—Boërhaave de Morbis Oculorum, p. 16.

aged persons; in which calculation he must have included diseases that bear, in many respects, an imposing resemblance to Cataract.

The only remaining topic to which the attention of the reader is requested, on the present occasion, is the important enquiry, whether an operation should be performed on a Cataract existing in one eye only, the other being free from a similar infliction, and in possession of unimpaired sight?

Would it be proper, it may be asked, in such a case, to resort to the curative process recommended, or to postpone the operation until the disease may have extended to, and become fully formed in, both organs? This is a question on which different opinions have been entertained.

That the late Mr. Saunders was an advocate for the affirmative may be deduced from the following passage: "On cases of Cataract of one eye, the other being perfect, whether the Cataract was primary or arose from injury, he operated with the happiest result*."

Mr. Travers observes, in reference to this point, "it has been the custom with oculists, when a person has a full-formed Cataract in one eye, and

* Saunders, on some Practical Points relative to the Eye, p. 209.

retains the vision of the other, to advise the postponement of the operation until that also is dark ; this advice I think erroneous*.”

He grounds his opinion on the tendency of the cataractous eye to produce amaurosis, if it become the subject of an accidental inflammation ; and in the disposition of the retina to lose its vigour by the permanent exclusion of light†. The subsequent necessity of wearing glasses he regards as a trivial and altogether subordinate consideration.

Similar views of the question had been previously entertained and acted upon by Maitre Jan‡, St. Ives||, and the Baron Wenzel¶, without hesitation, and with the most complete success.

Diversity, in the refractive powers of the two eyes, under the different circumstances of the removal of the lens from only one of them, whilst it is retained in the other, and, in consequence, an apprehended confusion of vision, is the argument usually urged against the practice.

Under this change in the foci of the respective

* Travers', Synopsis of Diseases of the Eye, p. 313.

† See quotation at page 58 of this work.

‡ Maitre Jan, *Maladie de l'Œil*, t. ii, p. 196.

|| St. Ives, on the Eye, translation, p. 216.

¶ Wenzel's Treatise on Extraction, by Ware, 1798.

eyes, agreeably to the laws of optics, double or confused vision must indeed ensue.

Such, however, is the adjusting and correcting powers of this wonderful organ that, contrary to what theory suggests, experience proves that the alleged defect, even after extraction, is not, in such instances, either considerable or permanent*.

In cases of lenticular Cataract in one eye treated by the absorbent practice, observation has convinced me that the even occasional inconvenience alluded to is still more trifling and transitory in its duration. This fact is probably attributable to the gradual recovery of sight by that process, during which the affected eye is enabled to accommodate itself to the focal inequality in the sound one.

Professor Cooper asserts that confused vision, said to arise from the cause under consideration, "is a gratuitous supposition, inconsiderately transmitted from one author to another†."

I may add, which is a point of great moment to be understood, that the patient has uniformly assured me that the operation performed under these circumstances has never failed to afford him very perceptible improvement, both in regard to the power and sphere of vision. This fact is fully

* Wathan on Cataract, p. 57.

† Cooper's Surgical Dictionary, article Cataract, page 297.

corroborated by the representation of a patient at the infirmary, who for 12 years had been blind with Cataract in one eye—the effect of accident—the other remaining perfect, who was instantly restored to sight by an operation performed by the author last week, and who declares that his vision is not only greatly improved, but that, except for a few hours, he did not experience the smallest confusion in the visual function.

As little cause is there for the apprehension entertained by some highly respectable practitioners, that the formation or the progress of Cataract in the eye that is scarcely or not at all visibly affected, may be accelerated if an operation be had recourse to for the removal of the opaque lens from the diseased eye.

On the contrary, Professor Cooper asserts that “the continuance of a Cataract in one eye not only gives a disposition to the origin of the same kind of opacity in the other, but permanently impairs the sensibility of the retina itself, for want of exercise*.”

It is indeed an undoubted fact that the most intimate sympathy or consent of parts exists between the two eyes, and that inflammation, having

* Professor Samuel Cooper's Lecture on Cataract, delivered at the University of London, 1833.

been excited in one, is very liable to be transferred to the other. And, if a Cataract should appear spontaneously, or from an internal or unknown cause in one eye, a similar disease will also, in the majority of instances, sooner or later assail the other organ.

The same result sometimes takes place when the single Cataract is the effect of violence. In this latter instance there cannot be any ground for ascribing the supervening of the opacity of the crystalline, in the uninjured eye, to any latent or constitutional origin. It must be ascribed to a similarity of texture in the corresponding parts of the respective organs; in consequence of which, the altered structure in one is apt to introduce a like derangement in the mechanism of the other.

So far then are facts from countenancing the too prevalent notions alluded to above, that they seem to establish a directly opposite doctrine. For, if there be any risk of morbid action being propagated or communicated by sympathy from a part of one eye to a part similarly organized in the other, that danger must surely be obviated rather than increased by the removal of the presumed exciting cause; namely, the presence of an opaque lens. By such an expedient the chain, or concatenation of sympathetic movements being at once dissevered, the morbid action which might be anticipated will probably not take place in the

second eye, or, if it have actually commenced, may perhaps be suspended, or a healthy one be excited in it so as to supersede and annihilate the nascent derangement.

Accordingly, I am warranted by experience in stating that, by operating at an early period after the formation of Cataract in one eye, the commencing disease in the other has, in some instances, been immediately arrested.

From what has been advanced, it may fairly be inferred that the too prevalent practice of postponing the operation for Cataract in one eye until the same disease shall have invaded and extinguished the sight of the other, is based upon a narrow and erroneous view of the subject, and is not unfrequently the source of much subsequent risk and unnecessary suffering.

FINIS.