Cataract; its nature, symptoms & cure. With reference especially to the restoration of sight, by a peculiarly mild and successful operation, applicable to every variety of the disease, in its early as well as its late stages, and at any period of life. Illustrated with cases ... / [John Stevenson].

Mr. STEVENSON ON CATARACT.

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ITS

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BY

A PECULIARLY MILD AND SUCCESSFUL OPERATION,

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EVERY VARIETY OF THE DISEASE,

IN ITS EARLY AS WELL AS ITS LATE STAGES,
AND AT ANY PERIOD OF LIFE.

Illustrated with Cases.

By JOHN STEVENSON, Esq.

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"Principiis obsta
Nam mora dat vires ————."

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PREFACE.

WHEN the Author, by a favorable concurrence of circumstances, was enabled to realize a wish he had long cherished—namely, to concentrate on the ophthalmic and aural branches of his profession, the accumulated medical and surgical information he had acquired by extensive general practice—his mind became impressed by deep research, deliberate observation and reflection, with the incongruity and absurdity of the ancient and prevailing tenets relative to Cataract. Frequent and disastrous failures also proved that its treatment was, in many respects, so highly obnoxious, so repugnant to common sense, and so uncertain and dangerous in its effects, as loudly to call for great reformation, or entire abandonment, and the substitution, if possible, of a more rational, generally applicable, and efficient process.

An elaborate investigation of the subject in its

several relations and bearings, added to the numerous opportunities which his public and private ophthalmic practice afforded of putting to the test of comparative trials, the various operations which at an early or late date had been devised by different ingenious practitioners in this and other countries, evinced the futility and hopelessness of attempting any important amelioration of the existing expedients. These, and other facts and considerations of great weight, led to the plan developed in four consecutive editions of the Author's Treatise on Cataract, written in a scientific form, and addressed particularly to medical readers. The first of those publications was dedicated, by special permission, to H. R. H. the late Duke of York, and the last, by command, to His Majesty George IV., who, as well as the late King, and several other members of the Royal Family, graciously condescended to patronize the "Infirmary for Cataract," founded and superintended by the Author.

Four subsequent editions of the Work—under its present designation and arrangement, and composed chiefly for general perusal—have diffused among a different class, and to a wider extent, a knowledge of the principles and practice inculcated; while the sale of so many impressions

furnishes the best evidence of the estimation in which the production is held.

Instead of appealing, in further confirmation of its value, to numerous applauding Reviews, and the flattering testimonials of Practitioners of the most distinguished reputation in the United Kingdom and on the continents of Europe and America, the Writer prefers, and will content himself with quoting a recently expressed verbal opinion on the subject by one of the first Surgeons of the age, whose universally acknowledged practical and operative skill have been most beneficially exercised for more than half a century!

In reply to an inquiry, by a most respectable lady, as to which of the operations usually resorted to, he deemed most advisable for the removal of her Cataract—after expatiating with great candour and perspicuity on the respective merits and defects of each—observed, Couching is so decidedly objectionable, that it need not be further noticed; and with regard to Extraction, although an easy operation as described in books, it is liable to so many contingencies and dangers both at the time of performance and afterwards, that "If"—he emphatically added—"I had fifty eyes, and each had a Cataract, I would not submit one of them to that process!"

but he would not hesitate, under such an affliction, to avail himself of the modern operation—promulgated in the following Treatise—which the Author applied to the patient alluded to—the day after the above conference—with the most satisfactory success. The above eminent Practitioner had previously—in company with Viscount Clive (now Earl Powis), and other noblemen, Sir Matthew Tierney, and Dr. James Johnson—seen the Writer perform his operation in two instances, and immediately afterwards, with the distinguished visitors, minutely examined the case of a man whose sight the Author had restored to the highest attainable perfection, after having been blind for ten years, with traumatic Cataracts. The assembled party honoured the Author with their unqualified approbation, and expressed their unanimous and warmest admiration at the simplicity, nearly painless character, and eradicative nature of his operation, and at the rapidity with which it was completed.

38, Conduit Street, Hanover Square,
August 15th, 1839.

CONTENTS.

SECTION I.

PAGE.

NATURE AND SEAT OF CATARACT..... 1

SECTION II.

SYMPTOMS OF CATARACT..... 9

SECTION III.

MEDICAL TREATMENT OF CATARACT 20

SECTION IV.

SURGICAL TREATMENT OF CATARACT 37

SECTION V.

FACTS AND ARGUMENTS IN REFUTATION OF THE OLD, AND IN CONFIRMATION OF THE NEW MODE OF TREATING CATARACT. ... 56

SECTION VI.

THE SUPERIOR ADVANTAGES AND GENERAL SUCCESS OF THE NEW SYSTEM, CONTRASTED WITH THE DISASTROUS EFFECTS AND FREQUENT FAILURES CONTINGENT

PAGE.

ON THE REMOVAL OF CATARACTS BY THE OLD OPERATIONS OF COUCHING, OR EXTRACTION 93

SECTION VII.

EXAMINATION AND REFUTATION OF THE ONLY OSTENSIBLE OBJECTIONS WHICH CAN BE URGED AGAINST THE AUTHOR'S SYSTEM OF TREATING CATARACT 106

SECTION VIII.

THE PROPRIETY OF OPERATING ON A CATARACT EXISTING IN ONE EYE ONLY, WHILE THE OTHER CONTINUES PERFECT, AND FREE FROM THE DISEASE..... 154

SECTION IX.

CONCLUSION 166

SECTION I.

NATURE AND SEAT OF CATARACT.

As the following pages—which will not, it is hoped, prove 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, gives

form to the globe,—the second, vascularity, —and the third, sensibility.

These coats—which invest each other, like the layers of an onion—leave a cavity that is filled with the same number of 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 densities—to transmit and converge the rays of light to a point on the posterior and internal sensitive membrane, the retina, which is 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 to our finite capacities 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 starry firmament! "He, therefore," says Stewart, "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 prevalence, the blindness it occasions, and its susceptibility of relief by a bloodless operation—has for ages been esteemed one of the most interesting and insidious among the numerous forms of ocular derangements, which tend to impair, or wholly to destroy sight.

Cataract consists simply in an opacity of the middle humour, vulgarly termed the

* 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.

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, that it cannot, in strictness of phraseology, be correctly termed a humour; but like a double convex lens of singularly refracting power, is admirably adapted—by its locality,

* The lens—which in its healthy state looks not unlike a fragment of dried calf's-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 but false notion is manifest from the following quotation: "crystallinus humor primum videndi organum[1];" as well as his predecessor Celsus, who ascribed to it the faculty of seeing: "videndi facultas[2]." We are indebted to the learned Kepler[3] 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.

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. "Does it not," observes Dr. Roget, in the Bridgewater Essays, "argue the most profound knowledge and foresight in the Divine Artist, who has so admirably hung the crystalline lens in the axis of a spherical case, in the fore part of which He has made a circular window for the light to enter, and spread out, on the opposite side, a canvass to receive the picture?"

The lens is enclosed by, or rather suspended in, a small quantity of limpid fluid —termed liquor morgagni—contained within the enveloping and somewhat tenacious membrane, 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 with its capsule—being imbedded in a depression on the fore part of the vitreous humour—is situated in the axis of the pupil, and in its opaque 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 morbid lens, the complaint is denominated an incipient cataract, the sight being only vitiated and impaired; 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 those notions of the ancients, 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, the Author had occasion to operate on a lenticular Cataract which had existed upwards of forty years, yet even then, although opaque, it was found to possess a yielding and nearly natural texture!

Such differences in regard to the 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 lens—the seat of Cataract—has not hitherto been clearly demonstrated; nor is the source of its nutrition,—its manner of growth,—or the mode of its connexion with surrounding parts,—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; namely, 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 the 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 strictly local affection, occupying and being restricted to a comparatively minute portion of the small organ of vision, and induces blindness without necessarily implicating any other texture, 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 system developed in the following pages—that the patient, or his friends, should be enabled to detect the early symptoms of Cataract, in order that the afflicted may be enabled to participate in the full benefits of the mode of relief which it is the leading object of this publication to recommend; the symptoms characterising the nascent or commencing disease will be first detailed with minuteness, and afterwards those which present themselves in its advanced, or matured state.

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, which 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 an assignable cause, and which are experienced by the patient before any opacity is discoverable in the pupil—are a slight sense of weakness and imperfection of sight, together with a settled mist, which serve to obscure all objects, and confuse 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 communicate to a small portion of water—or through a glass which has been smoked—or has received the exhalation of the breath.

The apparent mist and 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 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, visual hallucinations, or the ideal perception of black specks, flashes of light, dust, cobwebs, and other fantastic and imaginary objects, which, to the deluded apprehension of the patient, float before him in the circumambient air, and interrupt his sight.

The affected organ becomes also at an early period myopic*, or near-sighted: viz. the field of vision is contracted, shortened, or restricted within narrower bounds, the afflicted 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, which renders them very imperfectly distinguishable.

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

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

this supposition we can account for the advantage which persons labouring under Cataracts usually derive, for a time, from the use of concave glasses.

As lenticular Cataract begins likewise, in by far the majority of instances, at the centre of the crystalline, those who are 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—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 placed laterally, are seen with more facility than those which are situated directly 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, which causes external objects, as well as the morbid appearance of ocular spectra, to be 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, broader and the object less defined, the farther he is removed from the light. Should the Cataract, at the same time, be combined 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 appears as if scattered into rays like a star, or is surrounded by, and confused with prismatic colors, re-

sembling a radiated glory ; this complicated form of disease being frequently also attended with a sense of dull pain, or weight at the bottom of the eye, or around the orbit.

Such is a plain and 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 slow and insidious that its accession and progress scarcely excite either attention or alarm—if a child be the subject of the disease, he stumbles and commits various grotesque and ludicrous mistakes in his abortive attempts to seize upon different objects;—if a school-boy, he is subjected to frequent reproof, or even 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 incipient form of the disease, which will, probably, ere long, disclose its more ripened 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 in-

fant 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.

So firmly convinced is the author of its value—deduced from long and most satisfactory experience—that he cannot but feel anxious that all who are victims of a disease which, without discrimination or respect of persons, is liable to assail the rich and the poor, the indolent and laborious, the old, the young, the middle-aged, and even the new-born babe, should partake of the beneficial effects of the practice recommended, so soon even as the lens, or its capsule, is so far disorganized as to occasion an imperfect eclipse of vision.

By having recourse to the means proposed at an 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 otherwise suffered to proceed without in-

terruption, might usher in great, if not total, sometimes irremediable blindness!

Since, however, the patient too often passes over this infant stage of the disease wholly unconscious of the nature of his ailment, or, if casually apprised of its character, has been taught to believe that it is not susceptible of relief by an early, simple, and efficient operation; it will be expedient to point out more fully the concourse of symptoms which characterize the advanced, or more perfect form of the disease.

In addition to a greater degree of blindness as the Cataract advances, the opaque substance in the axis of the pupil gradually assumes a more or less clouded, milk-white, or amber colour;—appearances which serve to indicate the varied and altered character, and enable us to form a judgment of the nature of the disease—though they cannot be depended upon as infallible criteria of the precise condition of the disorganized lens.

Around this turbid substance is an apparently black ring, encircling the opaque morbid crystalline, which is most discern-

ible when the pupil is largely dilated, either naturally, or by artificial means.

The character and locality of this central opacity distinguish Cataract, on the one hand, from that affection of the vitreous humour—termed glaucoma—or of the retina, in one species of amaurosis, in each of which the cloudiness, observable behind the pupil, is more deeply seated; and on the other, from those complaints in which the obstacle preventing vision is placed in the pupil, or the anterior chamber, constituting, what are denominated, spurious Cataracts.

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 ocular delusion, the Cataract itself re-

maining stationary. The phenomenon is wholly referable to the external superfices 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. Even at the period of the disease having made considerable progress, the patient is still capable of distinguishing the light of the sun from absolute darkness, but cannot discern the colour and form 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 alleged fitness for an operation.

SECTION III.

MEDICAL* TREATMENT OF CATARACT.

HAVING, in the preceding pages, pointed out the nature, situation, and symptoms of Cataract, it will be proper, in the next place, to direct the attention of the reader 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; namely, 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

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

† See note, page 4.

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 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 shortsightedness 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 ancient*

* "Suffusio cum recens incidit, medicamentis spe discutitur." Celsus, de re medica, l. vii.—Fabricius ab Aquapendente, de morb. oculor. cap. de suffusione. —Boerhaave, de morbis oculorum, p. 119, Paris, 1784. Stoll, Ratio medendi, t. iii, ed. oct. 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, like many similar ones of modern date.

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, alleged 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, might be supposed not absolutely inefficacious in the incipient stage, at least, of Cataract.

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

—Sauvages, Nosol. Method. pagin. 724, edit. 1763. —Lemoin, Thèse aux Ecoles de Médecine, Paris, 1728.—Ware's Translation of Wenzel, p. 13.

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 satisfactorily assigned.

Allowing, however, that occasional cures of defective sight—similating the disease in question—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 and the attendant phenomena justify the suspicion that an increased secretion of aqueous humour, causing a distention of the globe,—a lymphatic congestion, or haziness of the cornea,—which have been occasionally misapprehended for incipient Cataracts,—or else subacute or chronic inflammation of some of the internal textures of the eye-ball constituted, or were connected with the primary source of the ailment.

Again, mechanical injury* is not only the occasional cause, but may also effect the ultimate and spontaneous cure of Cataract.

As a valuable practical fact, 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 the disease be subsequently induced by sympathetic inflammation. 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, lately applied to the author for advice, in both of whom, besides opacity of the lens, local and irreparable structural disorganization had been produced; in the one instance by a violent blow causing great concussion of the organ, in the other by the penetration of a sharp instrument.

The anterior portion of the capsule of

* The instances published by the late Mr. Ware—with a view to elucidate the supposed efficacy of local stimulants in causing the dissipation of Cataract—are decidedly cases of the above description.

the lens having been punctured, ruptured, or its contents enucleated, or partially discharged by a sudden and violent blow, the crystalline—under any of these circumstances—loses its vitality and becomes opaque; constituting traumatic* Cataract. Being in contact with the aqueous humour, the disorganized lens is rendered amenable to the laws of absorption, by which natural process, the total removal of the opaque lens is occasionally accomplished, with the subsequent restoration of sight. In the event of local applications having been, at the same time, conjointly used, they might obtain the unmerited reputation of curing Cataract without an operation; with no greater truth than that a variety of medicines are erroneously supposed to possess specific power over gall-stones, from their casual administration at the moment the inspissated bile—the cause of the painful paroxysm—escaped from the common duct into the

* From τραυμα, a wound. That Celsus must have been acquainted with this form of Cataract, may be inferred from the following passage in his chapter on that disease—"ex ICTU concrescit humor."

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

duodenum, with the immediate subsidence of all the symptoms, but, in the resolution of which, the remedy simultaneously employed had 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, the author was requested to visit a youth in a midland county, who became the subject of Cataract in consequence 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 the intimation that he would probably recover his suspended vision by the unassisted efforts of nature! In the course of a few weeks a letter was addressed by the medical attendant to the writer, stating that his prediction was completely

fulfilled; the young patient having regained his sight by the spontaneous solution and absorption of the opaque crystalline! Had topical applications been simultaneously prescribed, might not the cure have been erroneously imputed to remedial agency, and added another to the already numerous fallacies of a similar description? A gentleman lately consulted the author for a lenticular Cataract in his right eye, the adherent capsular disease in the other—which, with the extinction of sight, had existed twenty-seven years—having been cured and vision restored by the same violent blow that caused the lens to become opaque in the last affected organ!

In the course of a lengthened practice, the author has had repeated opportunities of witnessing instances resembling the case above 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 contingencies are indeed calculated to

"Amaze the unlearned, but make the learned smile!"

Influenced, unfortunately, rather by the

name, than the reality, mankind in general recoil with horror from a surgical operation, and prefer enduring protracted and infinitely greater suffering from treatment which affects to dispense with, and is surreptitiously declared to be an effectual substitute for instrumental aid, than would be momentarily sustained by its judicious application. Falling in with, and taking advantage of this universal feeling, the mercenary and unprincipled—destitute of medical knowledge and of the skill requisite for the performance of a delicate and difficult operation—turn the fears and prejudices of the timid to a lucrative account. Under the pretext and assurance that an eventual cure may be confidently anticipated from the regular administration of a boasted and dangerous nostrum, or local remedy—which is represented to be beneficial in proportion to the torture it inflicts—the credulous patient is induced to submit to the pain and expense of daily visits, for the purpose of having the alleged wonder-working and infallible drops properly applied by the hand of the empiric, in the fallacious hope of the ultimate fulfilment of his seductive pro-

mises! The party may congratulate himself, if such diurnal attendance terminate in the sacrifice only of his time and pecuniary resources! However incredible the infatuation, even persons of fortune and intelligence crowd the cottage of a certain noted female peasant in the north, eager for the administration of her nostrum to their eyes, three or four times a day—though productive of the greatest agony—under the groundless anticipation that it will remove Cataract, and the worst organic sources of blindness!

By such temporizing and injurious practice, and too frequently ill-adapted topical appliances, 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 stimulating 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 symptoms as bids defiance to immediate and most judicious surgical efforts,

or which, even if at last resorted to, can prove only incidentally or partially beneficial.

The daily prints abound with the most unblushing proffers to cure Cataract without an operation, by male as well as female pretenders avowedly unacquainted with 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 generally painful, and too often dangerous remedies which they exhibit without discrimination, or the chance even of success!

With such melancholy facts before him, the author would hold himself inexcusable and guilty of a gross dereliction of duty, were he to remain silent, on the present occasion, and forbear to guard the unwary against listening to promises which never can be realized, or submitting to treatment wholly useless, or, what is worse, calculated to entail lasting sufferings, or irremediable blindness!

The author dares not trust himself to designate, as they deserve, the chicancery and mal-practices adverted to, nor waste the

time of his readers by animadverting on and shewing the worthlessness and inadequacy of the statements adduced, and—under the above imposing but delusive character—brought forward to illustrate and confirm a doctrine of the greatest importance to persons afflicted with Cataract! After the cursory statement of the above facts, the intelligent reader can form his own estimate of their irrelevancy and failure to establish the vaunted claims of the respective pretenders to the discovery of a mode of curing Cataract without an operation!

In the present state of our knowledge, it is perfectly warrantable to restrict the purely medical treatment of Cataract to the instances produced by accident—and to the spurious species—the effect of internal inflammation of the organ of vision. Under such circumstances, and in cases of that description, the entire dispersion of the symptoms and the consequent resolution of the disease, may frequently be accomplished by the early and judicious application of remedial measures.

The latter fact was satisfactorily exemplified and substantiated by the two follow-

ing, among many similar instances, which, at different periods, have fallen under the care of the writer. One of the patients alluded to was a respectable seal-engraver residing in Wells Street, Oxford Street—the other, a military officer from Holland. In these cases, acute internal ophthalmia (rheumatic iritis) produced a copious effusion of lymph into the chambers of their eyes, which filled up the whole area of their contracted pupils—constituting one species of spurious Cataract—and caused the total extinction of sight!

By active depletion and the subsequent free exhibition of mercury, the whole of the extravasated deposits was re-absorbed, and the local application of belladonna having caused the iris to resume its healthy size and function, vision was, in both instances, restored to the highest degree of perfection; although the symptoms were most alarming, and, at one time, apparently hopeless.

Some time since, a little child—the only daughter of a respectable yeoman—was brought from the country, on the highest medical recommendation, to the author,

that he might perform, on the unfortunate infant, an operation, for what was declared—by several physicians and surgeons of distinguished and well-known reputation for general professional acquirements—to be Cataracts! On minute examination, however, the writer found that the nature of the disease had been altogether misapprehended; for, although there appeared indeed an opaque substance visible through the pupil in the interior of the eye-ball—the presence of which led to the mistake—its relative situation, added to its peculiar aspect and other accessory phenomena, indicated the existence, in its early stage, of that dreadful and incurable malady, MEDULLARY CANCER, which rapidly increasing, protruded through the coats of the eye, and formed a large external fungus. The afflicted victim fell a sacrifice—after enduring incredible sufferings—to the relentless disease, in the course of about a year after her return from the metropolis!

In further elucidation of the errors that are occasionally committed through ignorance of the real nature and character of Cataract, the writer has, on various occa-

sions, been applied to, that he might perform an operation for a disease which, on careful inspection, was found to be a dimness, or central and circumscribed opacity of the outward or corneal coat of the eye; an appearance precisely corresponding with the vulgar and generally prevailing opinion respecting Cataract; namely, that it consists of a film or thick skin growing over the sight! This cause of imperfect vision is popularly ascribed to the presence of Cataract; and as it admits of easy removal by means of various topical stimulants, such instances of recovery are industriously cried up—by the uninformed and by those who have an interest in propagating the misrepresentation —as proofs of Cataract being cured without an operation!

The foregoing statements point out some of the various sources of error which cause Cataract to be confounded, or identified with other diseases of the eye. The unprincipled and avaricious—availing themselves of popular prejudices and fears—impose on the credulity of the timid and unwary, by affecting to cure Cataract by local means only, without the intervention

of surgical expedients! The futility of such pretensions has already, it is hoped, been sufficiently animadverted on and exposed to prevent their recurrence.

In conclusion, it may be confidently stated that, when Cataract is matured and the result particularly of an internal and occult cause, no reliance can be placed in the boasted nostrums, or topical applications, unhesitatingly but fallaciously declared capable of exercising a specific influence not only over the incipient, but even the most inveterate forms of the disease!

SECTION IV.

SURGICAL TREATMENT OF CATARACT.

It being 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 inquiries on the subject have been properly directed to the several expedients best calculated to carry that object into effect, and which, if properly managed, produce highly satisfactory results.

For this purpose, various ingenious operations have, at different times, been devised, the aim of each of which, for the radical cure of the disease, must be ultimately the same: namely, 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 accom-

plished 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 restoration of sight;—thus combining every attainable 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, at different periods, variously modified and improved. It would be foreign to the character of this small work—which, as before observed, is designed principally for the use of, and as a guide to the uninitiated inquirer—to detail all the particulars relating to the operations usually resorted to for the removal of Cataract; viz., COUCHING or DEPRESSION, EXTRACTION, or the method advocated in the following pages.

On the present occasion, the author is desirous only of giving such a general view of their nature,—the modes of performing them—and the difficulties and dangers contingent on each,—as will enable an intelligent and careful reader to comprehend the

force and application of his reasoning, and to form a correct judgment of the respective merits and defects of the several processes.

Those who wish for more ample information are referred to the works of the distinguished individuals who have written professedly on these subjects; as Callisen, Pott, Scarpa, Hey, and the eminent German oculists, Beer, Wilberg, and Professor Langenbeck, &c., on Couching; and to the Treatises of Wenzel, Bischoff, Demours, Richter, Wathen, and Ware, with several more modern publications, on Extraction.

Until of late years, the radical cure of Cataract was attempted only by Couching or Depression, and Extraction. The former of these surgical processes is of very great antiquity. Celsus,* the celebrated Roman physician, who lived at, or about the commencement of the Christian era, describes, and is generally esteemed the inventor of the operation. It consists in removing the opaque lens, which forms the Cataract,

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

from its situation in the axis of the eye, into the vitreous humour below the inferior margin of the pupil, whereby the rays of light are again admitted to the retina, and—provided it is sensitive, and the other organic textures and humours are perfect—the patient is restored to sight. The operation is performed by a slender instrument, from its general form, usually denominated a needle.

When we reflect on the ignorance of our ancestors, concerning the exact seat and true nature of Cataract—the relative situation of the parts which should be particularly avoided in the operation—the place at which the puncture can be made with the greatest safety—and, lastly, the direction which the instrument ought to take when introduced into the eye, added to its ill-constructed form, and their rude mode of using it—we must cease to wonder, that an operation, thus circumstanced, should prove highly hazardous and painful, and only incidentally successful. Even that eminent surgeon and anatomist, Fabricius ab Aquapendente,* who flourished in the 17th cen-

* "Primum igitur vidi Chirurgos hujusmodi operationem privatim profitentes, quos merito Ocularios ap-

tury, speaks with great despondency of the immediate and consecutive sad effects of the operation of couching.

Professor Raw used to observe in his lectures, "that he regarded the operation of Couching as the most uncertain in all surgery." Heister says, "Though the operation is easy to be performed, the success of it is so very precarious, that amongst the great number of persons couched by the most distinguished oculists of his day, very few met with the desired success; and that of the vast numbers of patients upon whom the celebrated itinerant Taylor operated,

pellamus, interdum bene et feliciter operatos fuisse, sæpenumero etiam infeliciter, quia interdum ab ipsis uvea tunica nimium diducebatur, interdum rumpebatur, ex quo vel admodum amplificatum, vel distortum etiam pupillæ foramen redditum est, cum visûs læsione; interdum sub operatione, oculus universus intus conturbatur cum cæcitate ejusdem oculi. Non raro succedebant postea magnæ inflammationes similiter cum ipsius visûs ablatione; nonnunquam si nihil apparebat in oculo, tamen male omnino homines videbant, neque causa ulla patebat. Propter hos omnes eventus, credidi Chirurgos propositos potius casu, quam arte operari, et fortuito eventus provenire."—*Fabric. ab Aquapend. de Chirurg. Operat.* p. 23.

not one in a hundred recovered his sight!" He adds likewise, that "he saw in several different places, many miserable objects in tormenting pain, arising from inflammation consequent upon the operation: and that of those who regained their vision, there was scarcely one in ten who did not, sooner or later, lose it again!"* The above, we may presume, faithful representation of the lamentable effects of couching—as practised at the period, and in the very defective manner alluded to—proved the necessity of great reformation, or a total change in the process which, for many preceding ages, had been exclusively adopted in cases of Cataract.

To the process of couching, however improved and modified or skilfully performed, many weighty objections attach. In the first place, the dislocated Cataract is liable—from various causes, and at uncertain intervals—to reascend, and produce a return of blindness! It is true that, under such a contingency, the needle can be re-introduced and

* Heister, Med. Chir. et Anatom. Observat. p. 5 and 6.

the lens again depressed; an operation which requires, occasionally, a number of repetitions before it proves finally, if at all, successful; each of which is more or less hazardous, and to say the least of them, highly distressing and alarming to the patient. Independently of the alleged catastrophe, and even when the depressed lens does not emerge, 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 the dangers above enumerated 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 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 be surprised at the eagerness with which the then new operation was embraced, when the generally unfortunate issue of couching—in numberless instances during many successive centuries—is taken into account, and compared with the confessedly greater portion of success, and the apparently eradicative 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."

* Une nouvelle methode de guerir Cataracte par l'Extraction du crystallin.—Memoir de l'Acadamie royal de Chirurg. p. 337, plat. 19 et 20.

The operation of Extraction,

"With all its imperfections on its head,"

is still preferred, and 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 cutting the transparent cornea half open, and, after puncturing the capsule of the opaque lens with an instrument adapted for the purpose, and introduced at the wound into the middle of the eye, causing, by gentle pressure, the Cataract to escape from its investing membrane, and to advance through the pupil, and out of the affected organ. The obstructing medium being, by these means removed, and the rays of light again admitted to the retina—in the event of no collateral defect existing in any other part, or texture of the eye—its function is restored.

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 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 unavoidably 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 favourable circumstances. A trifling and unforeseen accident is often sufficient to destroy, in one moment, our best hopes."*

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

In elucidation of this statement, the author begs to add that, some years ago, he extracted the Cataract from the right eye of a gentleman with the most gratifying success, and without the supervention, for five days, of a single unfavourable symptom. Being then called to a distant part of the country to perform an operation for Cataract, he found on his return that his patient had been seized, during his absence—in consequence of imprudent exposure—with a severe spasmodic asthma to which he was occasionally subject, 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 violent inflammation and pain, with the subsequent and total loss of sight.

The protrusion, prolapse, or hernia of the iris—which is very apt to occur during, or after the operation of 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 eyelids."* The author was lately

* Bischoff on Extraction, page 63.

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 the operation is begun or finished; and precision, as to the exact place at which the first incision should be 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, the opportunity for effecting the corneal flap 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."*

In accordance with these no less true than humiliating concessions,—and not to dwell upon the risk of wounding the iris in

* Wathen's Dissertation on Cataract, page 101.

making the section of the cornea, or, when formed, the sudden protrusion of the iris, or escape of the contents of the eye by the spasmodic action of its muscles—accidents liable to occur, and which neither surgical skill nor foresight can prevent—the sight may be greatly impaired or wholly lost, by subsequent opacity of the cornea, from the healing of the wound—by secondary cataract—by obliteration of the pupil—or by the total disorganization and destruction of the globe from the supervention of intense inflammation!

Sir William Adams * 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 the sight of both organs!

Nor are these lamentable events either

* Adams on Cataract, page 88.

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; facts, however deplorable, fully 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 return of vision, much to the satisfaction of both 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 patient becomes altogether blind. This is the result of my observation, and it corresponds with the event of the operation when performed by various good operators."*

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

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

From a statement in the posthumous work of Mr. Saunders,† 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.

In attestation of the truth, and as exemplifications, of the above statements, it may be added, that patients occasionally made application at the "Royal Infirmary for Cataract," urgently entreating the author to afford relief for some of the several catastrophes alluded to—the sad effects of the operation of extraction performed by different eminent surgeons and oculists—which

* Gooch's Chirurgical Works, vol. 1, p. 351.

† Saunders on the Eye, page 173.

not only failed in restoring sight, but had entailed on the miserable individuals severe sufferings or annoyances wholly irremediable, and that could 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 rarely fortunate issue of the operation of extraction!

This circumstance is partly 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 elucidation of the fact just stated, the authority of the late Baron de Wenzel—a great master of the

art—may be adduced, who is reported to have said "that he had spoiled a hatful 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 likewise 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 in 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"‡ by extraction!

This very discouraging report agrees with

* 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 foregoing—far from overcharged—representations, and warrant us in denouncing the process of extraction to be one of the most difficult, hazardous, and precarious in the whole circle of operative surgery!!

The following statement and admission of a respectable and recent author, and avowed advocate of the old and unreformed practice,* afford such complete confirmation of the above points, that the writer cannot forbear inserting the quotation in this place.

"We unfortunately find," says Mr. Lawrence, "as we might expect, that so large and penetrating a wound of the globe (inflicted by the operation of extraction) often produces serious inflammation. When," adds the same writer, "we consider the violent distention of the iris on the escape of the lens, its exposure by the large section of the cornea, and the mechanical irritation which it sometimes undergoes from the contact of the instruments used in the operation, we shall not wonder that iritis should occasionally follow the operation of extraction! It generally commences about the fourth day, with severe pain in the head,

* Lawrence, on Diseases of the Eye, p. 427.

which is aggravated during the night. Closure of the pupil, or obstruction of it by an adventitious membrane, is its frequent consequence, and produces, should the symptoms not be immediately arrested, the total loss of sight"!*

The author feels, however, the liveliest satisfaction in the consciousness that the afflicted are no longer constrained to resort to an operation pregnant with such disastrous effects as those described, and that the ancient prejudices are rapidly succumbing to the more rational, mild, and eminently successful system advocated in these pages.

In the mean time, and with a view to expedite the consummation of so desirable an event as the general substitution of the new for the old operations, the next section will shew, with other illustrations of the subject, that the custom of waiting for the Cataract to become hard or ripe—a condition of the lens indispensable for couching or extraction, although the parent of many of the frightful catastrophes above enumerated,—is not only needless, but even adverse to the plan of treatment recommended.

* Vide description of extraction, at p. 45.

SECTION V.

FACTS AND ARGUMENTS IN REFUTATION OF THE OLD, AND IN CONFIRMATION OF THE NEW MODE OF TREATING 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 agonies 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, their reservation for that stage of the disease when the

affected lens has become very opaque, dense, more or less indurated, and vision greatly impaired, or entirely destroyed!

If an opinion may be deduced from existing publications on the subject, as well as from the private practice of the most eminent surgeons and oculists, it had not occurred to any predecessor, or contemporary of the author, to urge the propriety of an operation in the incipient stage of Cataract, or so soon as its symptoms sufficiently disclose the true nature and character of the disease, 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 practice 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, such a 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 that the remote and unenlightened era to which we should now revert for the foundation of modern and improved theory and practice?

It cannot therefore be a useless task to inquire into the origin of, and the reason for, a proceeding 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 so 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 ancients 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

* Vide note, page 4.

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."*

As the ancients were convinced that the removal of Cataract from the axis of vision was indispensable for its cure, and being unacquainted with any other mode of effecting the object than by couching, it followed that, until the opaque lens had acquired the requisite degree of 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 operation would be rendered abortive and impracticable. This view of the subject furnished a justifiable reason for our ancestors insisting on the absolute necessity of the Cataract becoming ripe or hard, as a

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

preparatory step before attempting the displacement 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 dislocation of the soft species of the disease by couching, it was erroneously believed that the opaque lens is naturally confined to the spot by ciliary fibres—answering to the stalk of fruit—which, gradually drying at length spontaneously broke, as the lens assumed an indurated or matured character. The Cataract having undergone the alleged change in its texture, is released, as they fancied, from its attachments, and becomes readily separable in an entire and solid form from its capsule or coat, like the kernel of ripe fruit from its enclosing shell.

The Cataract, however, sometimes disappeared in consequence of the freedom with which—in their rude attempts at depression—the needle was made to traverse and break up the yielding opaque crystalline, and to lacerate its capsule; a result imputed to the supposed subsidence of its grosser parts.

Sir William Read, Oculist to Queen

Anne, has given so candid and interesting an account of a cure unexpectedly achieved in the above manner—by accident rather than by design—that the author cannot deny himself the gratification of inserting an extract from the case, in illustration of the point under discussion and of the removal of a disorganized opaque lens by the process of absorption.

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 of the cases

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

alluded to was incidentally accomplished, the ignorance of our ancestors respecting 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 operation founded upon it.

But shall practitioners of the nineteenth century, who are well aware not only of the soft and fluid forms of Cataract being the most tractable and most favourable 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 fully admitted, that—disregarding the advance of medical science and the modern improvements in ophthalmic surgery—there are practitioners of the old school who still permit themselves to be so far influenced by custom, prejudice, and the sanction of antiquity, as to insist upon the necessity of postponing

the requisite operation until the patient is wholly bereaved of sight!

That this temporizing practice—originating from confined and erroneous views—is still partially adopted, the Author has ample opportunities of knowing. The truth of this statement, as well as the superior advantages of the plan about to be recommended, cannot be better exemplified than by the relation of the following case.

A lady had been afflicted with a Cataract in each eye for more than two years. Although she could not distinguish the largest printed capitals, nor the features of persons near her, and was unable to walk without the dread, and even danger, of stumbling and injuring herself by collision against different objects, a well-known oculist and advocate for extraction, whom she consulted—adhering tenaciously to the antiquated, but still cherished notions relative to the procrastinating treatment of Cataract—abruptly told her, "that she was not blind enough for an operation," notwithstanding she experienced all the inconveniences and discomforts resulting from the most imperfect vision!

As the disease made but little progress for several months, 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 time when relief might be anticipated, she received the vague and unsatisfactory answer, "the period for that purpose must be uncertain, and could not be foretold!"

In this dilemma, the medical attendant—knowing that the Author is accustomed to operate during the early stage of Cataract—recommended that his opinion should be asked on her case.

After a careful investigation and the consequent conviction of the writer that the operation of extraction—for which the patient had been instructed to wait—was ill adapted to the peculiar form of her disease, he did not hesitate to urge the immediate removal of the Cataracts by the system hereafter described. To this proposition the party readily acceded, being heartily tired with the irksomeness of waiting for the opaque lens to become ripe and in a state to admit of expulsion through an incised wound of the cornea!

It is only needful to add that the proposed operation was forthwith performed by the Author without a single unfavourable incident, and had the happy effect of completely restoring the patient to sight, and releasing her mind from the terrors of anticipation, and the agonies of suspense!

Many similar instances have occurred to the writer, and with equally fortunate results; facts which speak volumes in behalf of the new, and in condemnation of the old modes of treatment.

That the foregoing representation accords with the still prevailing practice in cases of this description, the annexed quotations, from a late publication on the subject, will abundantly prove.

Mr. Guthrie, in the practical work alluded to, distinctly states in reference to the point under consideration, 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, the Cataract is in a fit state for operation."

The reasons assigned for the injunction are two; namely, "that no deprivation of

sight can take place through an unsuccessful operation, and, what is of much more importance, there is less liability to inflammation ensuing after an operation on a Cataract which is completely formed or has become ripe, than after a 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 be extinguished, namely, that the patient cannot be made worse by an unsuccessful operation, is a truism not a little edifying, and calls neither for argument, nor refutation! It does not, however, follow that a failure, even under such circumstances, would not distress or disappoint the anxious and desponding patient, although it might not compromise or impugn the credit of the operator.

With respect to inflammation—said to be most easily lighted up by an early operation, and adduced as an objection against its performance—Mr. Guthrie can-

* Mr. Guthrie—Surgeon to the Royal Ophthalmic, and Westminster Hospitals—" On the Operative Surgery of the Eye, page 240.

didly admits, that it is generally owing to a want of skill in the operator.

Is it just that these assumed unfortunate symptoms—which an opponent of the practice is constrained to ascribe to incompetency or mismanagement on the part of the surgeon—should be imputed to the operation ?

The same author adds, "to say the least of 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 can be readily overcome when it does hap-

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

pen—his objection loses its force, and leaves no ground for preferring the old processes, the difficulties and dangers of which are always imminent, and often uncontrollable.

The charge will, however, be found altogether inapplicable to the proposed treatment, if it 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.

Of this fact the Author is enabled to speak most decidedly, having—during many successive years, and in numerous instances—had recourse to the practice with the most gratifying success, at almost every period of life between infancy and old age, and under every variety of circumstances.

But, furthermore, 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 and instructive statements—with the truth of which the observation and experience of the writer fully coincide—and furnish the most cogent, if not irresistible arguments in favour of the early removal of Cataract—the presence of which is liable to induce such serious mischief. The shorter, consequently, the period the disease is allowed to exist, the less tendency will there be in the vessels of the eye to 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—sup-

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

posing them to admit of control—with a greater degree of facility and certainty at an early, than at a later period of the disease.

Can any additional or even plausible reasons be adduced to justify the procrastinating treatment of Cataract, still too frequently adopted by practitioners accustomed to, and prejudiced in behalf of the old operations?

The strongest, if not the most rational pretext for deferring the operation is, that the patient may retain, to the latest period, possession of such sight as, though 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.

Were the proposed plan likely to entail the extinction of vision, the probability of such a sad catastrophe would indeed furnish an objection not only valid, but entitled to the gravest consideration. The Author feels fully warranted, however, in asserting—most conscientiously—that his experience enables him fully to refute the suggestion, and to maintain its general freedom not only from immediate, but also from consecutive danger; provided the disease be in a proper condi-

tion for his operation, as well as performed with adequate science and dexterity, and proper care be afterwards taken against any imprudence, on the part of the patient, being allowed to interfere with, or to frustrate its curative effect.

It should also be borne in mind, that there is scarcely an advantage that may not be purchased at too dear a rate. In the instance under consideration 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 requisite to postpone the operation of couching or extraction, then, indeed, the misery of the intermediate delay would be less irksome and intolerable. But, is the most experienced oculist capable of predicting—with an approximation even to truth—the period that may be required for an incipient Cataract to undergo the change necessary to fit it for either of the above processes?

And what patient—already compara-

tively blind, or who experiences a very 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, the termination of which cannot be anticipated?

But, further, who dare assert that, during the gloomy interval, a variety of unforeseen contingencies—an accession of new and complicated symptoms—or more than the usual share of obstacles—may not start into existence and render the operation of couching or extraction inexpedient, or if unadvisedly performed, irretrievably subversive of the function of vision?

Supposing, even, that none of the fearful events just adverted to should, in the mean time, happen to counteract or render abortive the proposed means of relief, may not the state of the eye itself, or some adventitious disease of the organ forbid the adoption of the ordinary processes, at the very time the Cataract itself has become fit for the operation? One or other of

these catastrophes, is neither a fictitious nor imaginary, but unhappily a too frequent and real occurrence.

In many mournful instances the Author was constrained to declare to the wretched and heart-broken applicants, 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 writer has had the gratification of reviving their drooping spirits, exhausted by long seclusion from the enjoyment of

"Holy light, offspring of heaven, first born,"

by immediate and successful recourse to his improved mode of practice, which has happily availed in restoring to the delighted patients the fruition of renewed vision.

The following cases, while they illustrate

some important practical points, shew also that it is sometimes possible to afford relief—by the means so often alluded to—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 for nearly ten years in almost total darkness, being annually assured by his eminent Oculist—whom he came year by year to consult—of the indispensable necessity of such delay, that the Cataracts might acquire the character and solidity essential for the contemplated operation of extraction! This dismally tedious period of darkened existence was marked by an utter inability to discharge his clerical duties, or indeed any ordinary avocations requiring the use of eye-sight.

The worthy and intelligent rector was painfully sensible of his numerous privations—literary as well as social—and could sympathize most acutely with Milton's desolate feelings, so beautifully expressed in the annexed 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 one entrance, quite shut out."

During the prolonged suspension of his visual faculties, the eyes sustained repeated 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 such prolonged, severe, and wearisome penance—absolutely impracticable!

Notwithstanding the complicated nature of his malady, by the assiduous application of constitutional and local treatment, and subsequently by the operation so repeatedly adverted to, he at length obtained such a considerable accession of vision, that his son—also a clergyman—in a letter to the author relative to the case, stated: "The right eye of my Father is nearly clear, and consequently his sight proportionably improved. The left is also making progress, so that the prospect before him is

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."

The above imperfect outline was filled up, most satisfactorily, by the subsequent extract from a manuscript letter written in a beautifully accurate and delicately small hand by the Rector himself.

STAINBY RECTORY,
February 15, 1836.

Know, my dear Sir, that I have within the last six weeks perceived a very considerable increase of sight. I walk and ride without my glasses, and put them on only when I wish to inspect, more minutely, any occurring object, or to command a distant view of the country I am riding over, which I should have no ordinary pleasure in shewing, if your avocations would allow you to leave town. But you are better engaged in administering relief, by your

unrivalled art, to suffering humanity, an art which must supersede all others that have hitherto been practised, on many accounts, which are so well detailed in your last publication; a work that can afford much amusement even to an unprofessional reader. I am glad to hear that you are about to gratify the public with another edition, which, with the many successful cases therein enumerated, will contain also mine, of no unimportant character; and add another honor to the skilful operator, as it has conferred, in its result, an incalculable blessing on your patient.

The left eye that had been obscured by Cataract for more than ten years at the time I first applied to you, and which admitted not of the same treatment as the right, is nearly as serviceable as the other; and though now an auxiliary, will, I believe, shortly be found an equally efficient organ. I am not at all inconvenienced when I go about, even by night or cold winds. In addition to my capabilities already enumerated, I take the morning service of my church, and can sit down in my room, and receive the pleasure of reading for some

hours without intermission or inconvenience.

I am, my dear Sir,

Your faithful and obliged Servant,

GEORGE OSBORNE.

To John Stevenson Esq.

&c. &c.

The son of the reverend gentleman has just called in Conduit Street, and informs the Author that his father continues in the full enjoyment of his excellent sight, though now suffering under another formidable and very distressing malady.

From many similar and equally successful cases which have occurred to the Author, he will content himself with selecting only the following, in 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 contracted and adherent pupil, and great local irritation of the organ. His benevolent master at length intimated to

him, that, having hitherto retained him chiefly out of compassion to his large and otherwise destitute family, he was become utterly incompetent to superintend the concern, on account of his very defective vision. Under this unfortunate affliction, he felt himself obliged, however reluctantly, to provide a more efficient substitute in his place.

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, and that such was the complicated nature of the disease as rendered it highly questionable whether it would ultimately even admit of relief! He had, therefore, the heart-rending prospect of being, ere long, consigned, with his wife and children, to the dreaded alternative—a parish workhouse—totally blind!

In this dilemma, a friend kindly introduced him to that distinguished physician, the late Dr. Baillie, who, being well acquainted with the Author, and his mode of operating at an early stage of Cataract, recommended him to consult the Writer.

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 fully 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 effected by means of the improved system of practice—that the party alluded to wrote with great clearness and precision, and read the smallest print without the aid even of spectacles; the natural prominence of his eyes superseding the necessity of those external appendages generally found indispensable for accurate vision after the extirpation of the opaque lens.

The ensuing case—recorded in the words of the restored individual—affords an additional and very interesting exemplification of the beneficial effects of the author's mode of treating Cataract of the most complicated species, and the offspring even of

a terrible accident. The disease was produced by the patient stooping down, and imprudently attempting to untie her shoe-string with the aid of a table-fork, the knot of which suddenly giving way, caused the party inadvertently to thrust the prongs into her right eye, which penetrating its coats, transfixed the lens, and rendered it opaque. The mechanical injury inflicted on the organ induced acute inflammation and pain, with the subsequent adhesion of the iris to the capsule of the crystalline, and, in consequence, complete obliteration of the pupil, and extinction of sight! The patient consulted, in succession, several eminent general practitioners, who succeeded in reducing the inflammatory symptoms, but—after persevering in the use of constitutional and local measures for nearly eighteen months—failed in restoring vision, which they then concurred in declaring was irrecoverably destroyed! The young woman, after such positive assurances, ceased to entertain any further hope of relief, until encouraged to indulge it by her benevolent minister, whose son—a youth of between 8 and 9 years of age—happened at that very

period to be restored to sight by the process so often adverted to—and without either present pain or subsequent suffering—after having been previously but unsuccessfully operated on for congenital Cataract. That this unfortunate young woman might also have the opportunity to participate in a similar advantage, Mr. Holland—who was under the necessity of visiting the metropolis—generously and with his accustomed humanity offered to convey her thither, free of expense. The day after her arrival he presented her to the Author, who having—not without difficulty—ascertained that the retina still retained a degree of sensibility—proceeded, in the presence of her friend, to perform an operation like that which proved so eminently available in the case of his boy. The patient was not aware of the introduction of the instrument, nor of the completion of the necessary manipulations until apprised of the happy event by the full admission of light to the affected eye, and the perception of surrounding objects. The restoration of vision was so perfect, that she returned home capable of again en-

gaging in the active duties of a dress-maker, which she still pursues.

Raithby, near Spilsby, Lincolnshire,
Dec. 2nd, 1837.

Sir,

Through the kindness of a Gentleman—whose son about 8 years of age being born blind, under your skill had his sight restored, although he had before undergone an operation in London without the slightest benefit—I was induced to enter your infirmary for the removal of Cataract in my right eye, occasioned by running a fork directly into the eye. I am happy to state that after one operation, which took only a minute, and of which I was wholly unconscious, I found my sight so wonderfully recovered as to be enabled, with the aid of a glass to read distinctly the smallest print! It is with the liveliest emotions of gratitude, I subscribe myself to be,

Sir,

Your most humble Servant,

MARY ANN LINYARD.

To John Stevenson, Esq.
&c. &c.

Before concluding the present discussion, the Author deems it important to state that the form of Cataract caused by an opacity of the posterior lamella, or back-part of the capsule of the lens—hitherto and justly declared inaccessible to the ordinary operations of couching or extraction—is under the full control of, and can be completely eradicated by the new and improved mode of treatment. To several instances of this description the writer is allowed to give references; which serve to enhance its value, by affording further proofs of its comprehensive nature and extensive applicability to the varying character of the disease.

Although in the above instances, the respective diseases happily yielded to the plans adopted, it too often happens that, by rigidly espousing the ancient and procrastinating doctrine, 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 too 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 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 on three infants of the same

* The rolling and 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 that the complaint did not exist 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 nisus or effort 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, as the Author believes it is an original explanation of the phenomenon, may be inferred from the fact that very young children not unfrequently acquire the same oscillatory motion of the eye-ball, in consequence of a central opacity of the cornea—of which many examples occurred among infants brought, as out patients, to the " Royal Infirmary for Cararact."

family born blind with Cataracts, at the respective ages of six months—the earliest period at which he has hitherto operated—twelve months, and two years. These early cures were accomplished not only without a single unfavorable 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, by any visible defect, that they had ever been blind, or had undergone an operation!

Similar results were experienced in two other infants, the children 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 an important 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 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, indeed, feels it due 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 unfavourable contingencies.

Although eventual success has also generally followed the same mode of cure applied to different subjects arrived at, or near their full growth or period of adolescence, not only is the process more complicated, difficult and slow, but—even after the entire dispersion of the Cataracts—a considerable period usually elapses before the patient gains 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 suc-

cessful its performance—is eventually much more unpropitious. For, notwithstanding that the retina, in those instances, on being exposed to the full influence of light, may obtain for a limited period a considerable share of nervous energy—to the extent even of tolerably accurate vision—the sensorial power is apt afterwards gradually to fade away, until at last the sight, temporarily acquired, is altogether lost and succeeded by permanent blindness!

Such was the final issue of the operation on Michael Broom, of High Wycomb, 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 to distinguish with ease 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 writer's care. Although his newly-acquired sight continued useful and indeed comparatively good for nearly two years, by almost insensible degrees it

afterwards began to grow more and more defective, 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 of nearly total darkness!

Whereas, if the operation—which was undertaken on the personal application of the late Lord Carrington—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 dependence for his subsistence upon his noble and humane benefactor!

Out-patients occasionally applied to the writer, at the "Royal Infirmary for Cataract," complaining that their sight—after

having been partially restored by Extraction, though at the expense of great subsequent suffering and deformity of their eyes—was daily becoming more and more enfeebled, and that the admission of strong light to the organ was productive of very distressing sensations.

As the accompanying symptoms indicate the accession 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 may be apprehended that, if the most appropriate measures are not immediately and assiduously adopted, the cases alluded to will, ere long, be added to the long and melancholy list, characterized by the total and irremediable extinction of even the very defective vision obtained by the operation of extraction!

But it would weary the reader to introduce additional illustrations of the dangers —direct or consecutive—liable to result from Extraction, and from the custom of deferring its performance to the eleventh hour, or until the Cataract has arrived un-

checked at its last, worst and most inveterate stage! The facts and arguments already brought forward render, it is presumed, any further attempt to elucidate the subject, a work of supererogation.

A brief account therefore, in the next place, will be offered, descriptive 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.

THE SUPERIOR ADVANTAGES AND GENERAL SUCCESS OF THE NEW SYSTEM, CONTRASTED WITH THE DISASTROUS EFFECTS AND FREQUENT FAILURES CONTINGENT ON THE REMOVAL OF CATARACTS BY THE OLD OPERATIONS OF COUCHING, OR EXTRACTION.

EXTENSIVE investigation and research, added to prolonged observation and experience in ophthalmic practice, having supplied the Author with the most revolting proofs of the disastrous and horrifying effects contingent on the usual operations for Cataracts, analogical reasoning constrained him to doubt the validity of the then prevalent, but apparently absurd doctrine relative to the disease—impressed an anxious wish thoroughly to canvass 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 to organize—under the patronage of their Majesties, Geo. IV. and his successor, the late King—"The Royal Infirmary for Cataract," which the writer contributed chiefly to uphold, where he operated on numerous Cataracts, and attended, gratuitously, many thousand ophthalmic cases.

That Institution—in conjunction with his private practice—afforded abundant opportunities for putting to the test of comparative trials, the modified processes which had been suggested and recommended by different eminent practitioners in the United Kingdom, and in foreign countries. By assiduously availing himself of those various sources of information, he was enabled to detect many of the causes of failure, and—by careful alterations in the construction and mode of using his instruments—in a great measure to counteract or remove them.

Important deviations from the general routine in doctrine and practice, added particularly to the selection of the early and most appropriate period for commencing the cure of the disease, constitute the claim of the Author to originality, and dis-

tinguish his mode of treating Cataract from that of every other practitioner of ancient or modern times.

Gradual, progressive, and recent improvements led to the final adoption of his present system, possessing—the writer ventures to believe—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.

While the plan alluded to is founded upon, and owes its origin to an enlarged and more philosophical view of the resources of nature, and principally with reference to absorption, it anticipates the period, and prevents the accession of absolute blindness, by calling into action and co-operating with 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, 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 applicable to every description of Cataract, 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 effectually protecting the eye from even the possible supervention of 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 inappropriate—the method under consideration is particularly valuable, not only on account of the shorter space of time consumed in comparative darkness, but because the long and early inaction of the perceptive faculties 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 merits of the above mode of cure, experience has taught the author its competency to restore vision in cases which had been previously operated on by extraction, and abandoned as irremediable!

In addition to the instance of this description at p. 83, the following highly satisfactory one, cannot fail to prove particularly interesting, since it illustrates the severity and ill success of the ancient, as well as the lenient and efficacious influence of the modern system of treating cataract, under circumstances the most unequivocal, and which can neither be misconstrued nor misunderstood.

A young man of the name of Pither, son of Lord Suffield's butler, was born with a Cataract in each eye. They were extracted—not without great difficulty—by a very experienced oculist: in the performance of the operation on the left eye, however, the iris sustained great, if not irreparable injury,

which induced violent inflammation, with very acute and long continued pain. The equally severe symptoms from the operation on the other affected organ, sad to state, were followed also by secondary cataract, with contracted and adherent pupil; a complication that caused the complete extinction of sight, while it rendered recovery proportionably more difficult.

The well known operator and great advocate for extraction, on taking leave of the party, peremptorily insisted on the expediency of not allowing any other surgeon or oculist to examine the case, declaring that further attempts to afford relief must prove not only unavailing, but would inevitably renew the dreadful sufferings already experienced!

Notwithstanding the above injunction, the opinion of the author being solicited, at the urgent recommendation of a neighbouring Lady on whom he had successfully operated, the writer ventured—after the fullest consideration of every circumstance—to express his belief that the mischief inflicted on the right eye might still admit of reparation by his improved

process, and sight be thereby restored! The case being left to his sole management, the necessary steps were successfully adopted and with such rapidity and freedom from pain, that the patient was not conscious of the moment when the instrument was introduced into his eye, nor of the completion of the operation, until he was apprised of the agreeable fact by the sudden influx of light, and his capability of discerning surrounding objects!

The patient felt so well after the painless operation, that he entreated permission to walk back again to his lodgings—nearly the distance of a mile—which he accomplished without the slightest inconvenience, or 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 favour of the new, contrasted with the old operation. While the operation of extraction caused violent inflammation, with enduring and agonizing pain, which, after confining the patient to his bed for many weeks, failed altogether in securing the object for which it was under-

taken; the plan subsequently had recourse to—even after the injurious effects of the previous process—succeeded in restoring the function of the organ to a degree of perfection equal to what it usually acquires by the most fortunate operation.*

To the case just related, the writer will subjoin only that of Mr. Butcher, late of Epsom, as it affords, in the same individual and in juxta-position, a further exemplification of the terrible and disastrous character of the old, compared with the mild and salutary effects of the modern system of treatment! The eminent and generally-reputed adroit operator alluded to in the foregoing instance—after laying open more than the semidiameter of the cornea—occupied nearly half an hour in his fruitless endeavours to seize, harpoon, and extract the detached Cataract from the cavity of the right eye! During those harrassing at-

* The above particulars were confirmed, the leading ones personally communicated, by the father of the young man, who obligingly submitted himself to the examination of a party of noblemen and gentlemen—assembled on behalf of the "Royal Infirmary"—who evinced the liveliest interest, and expressed their admiration at the result of the treatment.

tempts, the patient was desired to beguile the tedious interval and divert, as much as possible, his protracted and acute sufferings by counting, in an audible tone of voice; and the party states that he actually enumerated 1000 before the operation was finished! The opaque lens was, however, eventually secured and withdrawn from the affected organ; and after the detention of the party at home for many weeks, and the lapse of several months, vision—though in a very imperfect degree—was at length gradually restored. In completing the first step of the operation—the section of the cornea—a considerable portion of the iris was inadvertently cut off, and the pupil in consequence has ever since remained exceedingly irregular and permanently enlarged, its mutilated condition rendering it incapable of regulating and controlling the admission of luminous rays.

The unfortunate and discouraging result of extraction having determined the patient on no account to submit to a similar operation in the left eye, he made application to the author, who—in compliance with the

urgent request of Mr. Butcher—performed his operation on the existing Cataract in the short space of less than two minutes, not only with complete success and freedom from pain, but without the slightest subsequent in onvenience, or the necessity of local applications or confinement.

The writer, in recording the foregoing and various instances of the lamentable consequences of extraction, has

"Nothing extenuated, nor set down aught in malice."

In bringing them forward—and in his strictures on the opinions and practice of others—he is solely actuated by feelings of humanity towards the afflicted. A paramount sense of public duty alone constrains him to condemn an operation which—though doubtless occasionally and partially successful—is nevertheless, in many respects, a most objectionable, if not a barbarous process—happily, no longer necessary. The examples alluded to are not adduced from any sinister or dishonourable motives, nor meant to insinuate a want of skill, professional talent, or unwarrantable violence on the part of the operators,

but as affording irrefragable proofs of the dangerous nature and untractable character of extraction, even in the most experienced and dexterous hands; and, as such, justifying—to the fullest extent—the decided and uncompromising reprobation of it!

Were the plan under consideration restricted to the relief only of such apparently forlorn cases as those just described—of which the author has met, in the course of his experience, with too many of a similar description—it must be regarded as a valuable innovation. Fortunately, however, its utility is of a much more comprehensive character.

Even when cataract has been complicated with other serious ailments of a chronic nature, it has been made available to the restoration of vision. In several instances—that can be referred to—in which the party laboured under asthma—dropsical accumulations in the abdomen—and even during early pregnancy, the author has also carried it into successful operation!

The writer has so far matured his system, as to render it applicable to every description of Cataract, and at any period

of life—in cases too, in which the disease is either congenital, accidental, or even secondary!

A more powerful recommendation in favour of the process, consists in the proposed mode of treatment being capable of adoption under 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 is conducted with requisite skill and prudence, and the other textures of the eye and the constitution are, at the same time, free from derangement.

Is it not extraordinary then 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 vital union with surrounding textures, and of cohesion between 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 ?

SECTION VII.

EXAMINATION AND REFUTATION OF THE ONLY OSTENSIBLE OBJECTIONS WHICH CAN BE URGED AGAINST THE AUTHOR'S SYSTEM OF TREATING CATARACT.

As a sequel to the statement of advantages derivable from the improved process, it will tend still more firmly, if not irresistibly to establish and confirm its superior claims to public approbation, boldly and unflinchingly to bring forward, investigate and obviate every imaginary, or even plausible objection with which the practice under review can be charged. The whole of these may, it is believed, be comprised under the following heads, namely :—

First, The inflammation which the mode of treatment recommended has been said to excite.

Secondly. Its alleged tardiness in effecting the cure of Cataract, compared with the immediate restoration of sight by couching, or extraction.

Thirdly. The presumed reluctance of the patient to submit to the new operation at the period it is particularly 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.

With respect to the first objection, the author does not presume 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 re-action and topical excitement; but, as already observed, page 69, should such irritation incidentally occur, it is almost invariably very slight, and of a perfectly tractable character.

The truth is that inflammation, on these occasions, generally arises either from improper violence in performing the operation, or from 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 the greater distention and consequent irritation of the coats of the eye produced by the crystalline when divided into 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 a proper and well adapted instrument—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 solidity—and the last, by abstaining from the too general practice—without regard to the character of the disease or the natural formation of the eye—of attempting to comminute the indurated lens, and allowing the nodules 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 other disease coexists—the operation may be accomplished with comparatively little difficulty by one

long accustomed to such a delicate surgical manipulation—and with very inconsiderable, frequently scarcely any pain in the affected organ. Accordingly, the Author has, on many occasions, actually began 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 imputation, 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 should 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."*

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

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

none of which are the common processes 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 be effected by the method proposed, if it be adopted previously to that membrane having attained a strong tenacious 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 some cases of this description, not

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

a 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 Mr. Whitehead, Bank-side, Southwark, nearly twenty years old, who, at a very 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 commiseration.

The Author having succeeded in restoring the sight of an elder brother—under circumstances of great difficulty and danger—the utmost anxiety was expressed by his mother that similar comfort should, if possible, be extended to this unfortunate object of her care and regard.

After several fruitless attempts, the writer having obtained the confidence of the patient, availed himself of a favorable moment —when the party was not aware of the intention—to introduce his instrument into

the affected right eye, and completed the operation in less time than a minute, without exciting a consciousness of what was going on. Not the slightest 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—suddenly roused from his lethargy, to a lively perception and full appreciation of the value of his newly acquired sense—expressed an earnest wish that the same means should be applied to the left blind eye; a request willingly complied with the next morning. He bore the operation without the smallest reluctance or apparent uneasiness, which proved equally successful with the former, and no less free from any untoward symptom.

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

A fact connected with this interesting case ought not to be passed over in silence.

The revived power of his visual organs, was speedily followed by the development of his mental faculties, which latter, while he remained in a state of darkness, seemed to be completely torpid and suspended.

As soon as the patient became partially acquainted with the external and visible properties of tangible objects, 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 effecting the cure with the greatest practicable expedition, is too frequently allowed to pass unheeded and unimproved, and the Cataract, in consequence, to assume a more

or less indurated character; in which state a proportionably longer period will be required to accomplish its removal. In the event of its having become hard, the author—dispensing altogether with extraction—has recourse to a simple preliminary process, which, while it is productive only of a most trivial degree of momentary uneasiness, guards against the occurrence of inflammatory excitement, at the same time that it tends to accelerate the future dissipation of the Cataract.

On common occasions, it is of little comparative importance whether vision be restored a few weeks earlier, or later than was anticipated. During the progress of treatment, it will not be difficult to form a correct judgment as to its ultimate issue. Should the attendant circumstances forebode a favorable result, the patient ought to submit with cheerfulness to any contingent retardation of his cure, under the consolatory reflection, that he will probably receive the full impression of light and of external objects, so soon as the eyes are in a condition to bear it with impunity.

The following cases will show, not only

the rapidity with which relief is sometimes afforded by the process occasionally—though without due consideration—stigmatised for alleged inactivity in its restorative effects, but that the retina is, at the same time, incapable of sustaining, with impunity, the influence of strong luminous rays after they have been long excluded from that sensitive membrane 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 her eye, to see the smallest objects, with the aid of convex spectacles.

The operation produced the slightest conceivable pain, and not any subsequent inflammation. She experienced, notwithstanding, the greatest distress from the sudden admission of light to the retina, and became capable, by slow degrees only, of enduring the stimulus of strong light, or application to reading, writing, or needle work.

Under similar circumstances, the author operated on Mr. Porter of Bethnal Green, with the immediate restoration of sight. But in this, as in the former instance, the same inconvenience ensued from the abrupt exposure of his eyes to strong light, 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. Similar effects have been not unfrequently produced on the sudden removal of Cataracts—especially those of long standing—by the operation of extraction, with incurable blindness from the subsequent accession of gutta serena!

Thus, the gradual manner in which sight is generally restored by the new mode of treatment so far from affording any solid objection to the process—as the advocates for couching and extraction insinuate—constitutes in fact one of the strongest recommendations in its favour.

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 Carthagenians availed themselves of this knowledge in the atrocious punishment they inflicted upon their brave and high-minded, but unfortunate captive, Attilius Regulus,* the heroic Roman Consul and General, whom—after keeping for some time in a dark dungeon and cutting off his eyelids—they suddenly brought out and exposed to the vivid rays of a tropical sun! In this horridly mutilated condition, his denuded eyes experienced the most agonizing torture, which was speedily followed by intense inflammation, and the total extinction of sight!

The injury produced by the custom—too prevalent some years since—of keeping high-bred horses in dark and heated stables,

* "Consul Romanus, qui pluries triumphavit, ac postremum captus est à Carthaginiensibus, qui eum, resectis palpebris, vigilando enecarunt." PLINY.

and found a pregnant source of blindness in those noble and invaluable animals, may be explained on the same principle.

Is it not propable that Cataract, and Amaurosis—diseases frequent in hot, as well as in northern countries—are owing to the reflection of the rays of light, in one instance from the burning sands, in the other from accumulated 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—frequently evert and show the white of their eyes only, the pupils being hid under their eye-lids, lest the rays of the sun, reflecting strongly on the sand, should pain, or materially injure their visual orbs.

Nor is total loss of sight an uncommon incident among the inhabitants of the more northern latitudes, where the earth, during the greater part of the year, is 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

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

† "All the workmen employed on the roads across the snowy Alps, and the guides who usually attend strangers in these passes, wear black crape over their eyes." This fact was communicated to the Writer by Dr. Beattie, Author of the beautiful and interesting work on Switzerland.

French settlers near the Esquimaux of Hudson's Bay, Yeux à la niege—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 blindness, a result, as Mr. Bell observes, see p. 50, by no means unfrequent after that operation—may justly be ascribed to the injurious effects of the sudden influx of light to the sensitive 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 eye—for an adequate period after the operation—from the strong impression of luminous rays. In that case, nothing would be gained by the boastedly

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

rapid recovery of vision, at the same time that great difficulty might be experienced in controlling the eager desire of the patient to allow himself the unrestrained and dangerous gratification of feelings, from which he had been long and painfully debarred. Whereas, the visual powers not being suddenly restored by the improved mode of treatment, the afflicted party is precluded from the possibility of injuring himself by their premature indulgence. The retina, being gradually accustomed 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 the necessity of wearing a shade to protect the eyes against risk of subsequent functional derangement.

On the whole, therefore, it appears that —notwithstanding the sight may be immediately regained by the process of extraction—the eye is not usually 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 founded on 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 normal disease—as already stated—is incapable of resolution, and beyond the reach of medicinal agents :* "Nullis medicabilis herbis." 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 the dreadful catastrophe of an extinction of vision, in the safest and most efficient manner.

Are not the facts interspersed throughout this work sufficient to convince the most

* "In all examples of true Cataract," says Professor Cooper—in a Lecture on this subject delivered at the London University—"it is only by an operation that sight can be restored."

sceptical, as well as those who are, unhappily, threatened with approaching blindness from Cataract, that they can avail themselves, by the treatment suggested, of the means of averting the impending and dire calamity?

In truth, the reluctance and misgivings which instrumental assistance excites, arise principally from an association of ideas, which lead persons erroneously to infer that an operation, performed on an organ so delicately constructed as that of the eye, must inevitably occasion an exquisite degree of torture. A supposed confirmation of this opinion is too hastily entertained, in consequence of the violent pain which accompanies acute inflammation of the eye, and of that which is produced by the casual insinuation of particles of metallic, or other hard angular substances beneath the eye-lids. But no real analogy exists between such cases, and the proposed operation for Cataract.

The acute feeling evinced in the instances alluded to, does not apply to the operation 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 produces agonizing pain when 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 accidents to which it

* 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."

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 through the coats of the eye, is derived from the penetration of the fine transparent membrane the conjunctiva, which—after serving as a lining to the inside of the eye-lids—is reflected over the forepart of the globe.

The lens itself—the seat of true Cataract—not having any nerves, is, like the nails, absolutely insensible. If, therefore, the affected part be acted on carefully—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 the score of pain, by realising in his imagination the simple mechanical apparatus with which the process is executed. In performing the required operation, the author uses merely a very

nicely constructed instrument, admirably adapted to penetrate the eye with the greatest facility; the introduction of which, is the act only of a moment!

It is, however, proper to add, that great presence of mind—steadiness of hand—accuracy of sight—and long and extensive experience—are indispensable requisites to enable even a well-educated and scientific practitioner to execute—without risk and with general success—the several steps of so delicate an operation.

No argument can more satisfactorily prove the trifling amount of pain produced by the process in question, when skilfully conducted, than the answer some time since given by the son of a nobleman in reply to the inquiry of the writer—after his completion of the operation—whether the pain was equal to that from the prick of a pin? Reflecting for a moment, the patient did not hesitate to declare, "as nearly as he could form a comparative judgment on the subject, he would say not more than half; and with this advantage on the side of the operation, that he did not feel disposed to shrink from it, as he should

instinctively have done from the expected puncture of the skin by a pin!"

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

In favorable cases, therefore, the operation, when successfully performed, is found to be exceedingly lenient, especially if the surgeon has learnt—a tact which can only be acquired by long experience—to steady the eye without adventitious aid. Any speculum, however well adapted for the purpose, never fails to occasion more or less contusion, irritation and pain 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.

The above facts will be best elucidated and confirmed, by a concise statement of the immediate and contingent effects of the respective operations. For this purpose, and in further illustration of the present topic, the following is a brief sketch of the proceedings of the Author with regard to the operation; little or no preparatory treatment, excepting in very full habits, being ordinarily required for his mild process. This representation he is prompted to submit, in the hope that it will tend effectually to dissipate any fears, which might otherwise be entertained, from imaginary and false notions of its painful character.

If the writer be called from home to perform his operation, after seating himself and the patient in convenient positions, he proceeds, without delay or hesitation, to introduce his instrument into the affected organ, where the requisite steps of the process are generally completed in the space of from one to three minutes. In an operation for Cataract—at which the Marquis of Lansdowne was present on his Lordship's personal application—the writer began and finished it, with complete success, in less than

twenty seconds! During the operation, the person rarely exhibits—excepting in very complicated cases—indications of more than very trivial pain, on many occasions, not any manifestation even of uneasiness!

The patient almost invariably rises from the easy situation which he occupied during the operation with the greatest cheerfulness, and with expressions of wonder that it could have been effected with so little inconvenience. On its completion, he is released from further trouble and annoyance, and allowed to sit up and enjoy the social converse of his friends, unfettered by bandages, dietetical, or other restraints.

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

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

Hence, in the earliest stages of Cataract, and in those of a yielding reticular, or fluid

form—the most appropriate for the writer's operation—the patient may be restored to sight, almost without pain or inconvenience, and in a condition to resume his avocations in the course of a few days.

But, when the lenticular disease has been allowed to make greater progress, and to assume a more condensed and firmer texture, the cure in such instances, may be protracted to as many weeks.

Or, lastly, if the Cataract be permitted to remain undisturbed for many years —during which the unhappy patient is doomed to linger in dark misery—that it may become hard, ripe, or consolated, a change necessary to fit it for Extraction, an operation represented, by its advocates, as the most efficient method; a proportionably longer period must elapse before it can be completely eradicated, and sight again restored to the highest attainable perfection, by the process so often and strenuously recommended. The time required for the completion of the salutary process will depend on the nature of the disease—the manner in which the operation has been performed—and the inherent

powers of the constitution. The interval is usually marked, however, with perfect freedom from suffering, or the necessity of confinement.

And—what is a fact of the highest importance—that mode of treatment restores vision to a far greater degree of perfection, than the most successful operation by extraction is capable of conferring. This distinctive and very valuable feature of the Author's practice, is probably owing to every portion of the obstructing medium in the interior of the eye being completely dissipated, while at the same time the cornea being free from opacity and in the most perfect state, 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 circumference of the transparent cornea to the full extent of its semi-diameter, the lips of the incised wound can rarely, perhaps never, be so accurately adjusted as not to leave—after their union and cicatrization—more or less corrugation, contraction, irregularity, partial or diffused opacity of the external surface of the eye-

ball, and, in consequence, a vitiated refraction of the luminous rays impinging upon it.

In the latter operation, the capsule of the lens is also allowed to remain in its original situation, a slit or central aperture only being formed in its anterior layer sufficiently large to admit of the hard and opaque crystalline passing through it. The presence of that membrane must offer a greater or less impediment to the pencils of light in their transit to the immediate seat of vision, and occasion the comparatively defective vision, consequent on even the most fortunate cure by extraction.

And, as a further and more decided objection to the old operation, the retained capsule—divested of its contents—becoming sometimes opaque from the injury it sustains by the operation of Extraction—is occasionally the source of secondary cataract, a form of disease even less manageable than the original lenticular, and accompanied with an equal degree of blindness; from which the new system is wholly exempt!

The above is a short, but faithful representation of the writer's mode of treating Cataract; the development of which is

declared by the Editor of the "Edinburgh Journal of Medical Science"—in a long, elaborate, and very flattering analysis of the Second Edition of this Treatise—to constitute "an important era in the annals of ophthalmic surgery."

The eminently simplified system, it is presumed, warrants the flattering encomium bestowed on it by the above high authority. For, the numerous cases of Cataract operated on by the Author—during many successive years at the "Royal Infirmary"—consisting of every variety of the disease, in persons of both sexes, and at different periods of life, have been attended with the most signal success.

Facts such as these—confirmed as they are by similar results in the extensive private practice of the writer—surely justify an exalted opinion of the intrinsic value, if not of even the national importance of the proposed mode of curing every description of Cataracts!

That the operation might be subjected to the ordeal of minute investigation by competent judges, many of the Aristocracy, as well as physicians, surgeons, and other scientific

individuals, have had frequent opportunities of being present at it, and never failed to signify their unqualified approbation in terms the most gratifying to the feelings of the Author, but too laudatory for recapitulation in this place.

Various medical, literary, and periodical publications, and the daily press, have also unreservedly recognized the merits of the operation, and expressed the deepest conviction of its paramount importance.

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 removal of Cataract—by which they are enabled to return to their humble avocations after only a short interruption of them—are indeed incalculable!

The above may be regarded as a faithful delineation of the usual and salutary result of the Author's method of treating Cataract, under circumstances favourable to the process, and in persons of sound health and

prudent habits. In elucidating the general applicability of the practice inculcated, it has been sufficiently explained in the preceding pages, that—by modifying the plan in accordance with the varying symptoms and existing peculiarities of each respective case—it can be rendered capable of embracing, in its comprehensive grasp, and effecting the complete extirpation of every description of Cataract at its earliest, most advanced, as well as intermediate stages, and at any period of life! Can Extraction challenge the same plastic nature, singular ductility, and power of moulding and adapting itself to the ever-changing and multiform character of the disease?

While urging the expediency of deferring the means of relief to a more convenient, to a future and uncertain season—instead of arresting the progress of, and removing the Cataract before it has reached its worst state of maturity, and extinguished the last remains of sight—will the advocates for Extraction candidly point out to their patients the very limited utility of the operation, which—in compliance with the old and temporizing system—they recommend should be post-

poned, or the danger the afflicted must encounter, and the risk they must run in submitting to its performance? Will they explicitly state to them that Extraction cannot be performed, with the remotest chance of success, in early infancy—nor in the soft, fluid, or milky Cataract—nor when the posterior surface of the crystalline envelope is the seat of the disease—nor in dissolution of the vitreous humour—nor in instances of permanently contracted pupils—nor, lastly, when the iris adheres to the capsule of the opaque lens?

To the above short and very imperfect list of morbid phenomena which forbid extraction, may be added the following natural and structural, or adventitious derangements, which render the operation exceedingly difficult, highly objectionable, or altogether impracticable: namely, cases of Cataract combined with an unusually flattened cornea, or a more or less vascular, or nebulous state of that tunic—in which the anterior chamber is unusually small—the globe diminutive in size—deep-seated in the orbit—or tremulous and unsteady, in consequence of a spasmodic and unassociated

action of its external muscles, as in the congenital disease—also when the eye-lids are unusually rigid, contracted at their angles, or agglutinated to the organ of vision.

How awakening, how alarming the consideration, that among the numerous and complicated forms of Cataract, there is only one, namely the hard, and in adult subjects—rarely found simple and uncombined—to which the prudent and judicious practitioner will venture to apply Extraction; and that sometimes years elapse before the affected crystalline undergoes the required metamorphosis; during which irksome period, the patient is constrained to drag on a wretched existence in comparative darkness, without hope even of eventual restoration but by the above exceedingly hazardous operation—if deprived of other resources, and taught to place his sole reliance on the old system of treatment! Let this astounding fact sink deeply into the minds of those who experience the first budding, the early dawn, the nascent formation of Cataract in its recognized character of dimness or greater obscurity of sight, and induce them to seek imme-

diate and prompt relief in the way so often and earnestly recommended.

In this stage of the disease,

"The bane and antidote are both before them."

If the prescribed remedy be rejected, what is the direful alternative? Supposing none of the contraindications above enumerated, nor any other local or constitutional causes exist to prohibit the operation, while the eye, and the Cataract itself are in a perfect state of aptitude for the process, can the most experienced and dexterous operator promise a favourable result? Are not the difficulties and dangers of Extraction—when individually and collectively contemplated—numerous, appalling, and almost as imminent and unavoidable, as those of the far-famed Scilla and Charybdis?

The annexed description of the various incidents connected with Extraction, will give the reader a faint idea of its nature and formidable character, and of the mental courage the victims of Cataract must possess, and the anxiety they must feel to be released from the miseries of blindness, before they can bring themselves—with such

vivid impressions on their minds—calmly to sit down and submit to its performance!

Before, however, arriving at this period—to which the sufferer had long and ardently looked forward for the consummation of his wishes, in the hope that his sight might be restored by the extraction of the hardened lens from the axis of the eye—he will be required to undergo a preparatory course, which, though needful to guard, as much as possible, from the dreaded effects, is a sad indication of the apprehended danger of Extraction! The afflicted person—during the interval—must exercise great forbearance, self-denial, and exemplary temperance in all things as regard his social and customary indulgences, and also be subjected to medical treatment and dietetical regimen; the rigour and duration of the discipline depending on the more or less vitiated or plethoric habit of the individual, the correction or reduction of which may extend the probationary term from several weeks, to many months, or even to a whole year! And the frequent failure o r imperfect result of the operation, after such enduring and terrible privations, can serve only to de-

tract from, rather than add to the credit of that mode of practice.

On the supposition that the patient has at length passed through the preparatory ordeal, the immediate arrangements for this nicest of processes are of a description, it must be confessed, calculated to inspire the stoutest heart with feelings of awe, if not of trepidation.

An airy quiet sleeping apartment should 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 oculist may deem most advisable, during the operation.

The necessary instrumental apparatus, as well as a steady and experienced assistant on whom implicit reliance can be reposed at the moment of performing the operation, must also be in readiness.

And, that the surgeon may be enabled clearly and distinctly to recall to his recollection every step, and be 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 will, perhaps, deem it expedient—in imitation of the ingenious and 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 adjusted, and the patient having exchanged his day-dress for his night-clothes, the solemn moment of performance succeeds at length to the previously busy scene of rehearsal.

A pause, however, must be made at this juncture, partly because a specification of the actual operation is foreign to our present design, and in part lest the awful details should lacerate the feelings of the general reader, or alarm the fears of the unfortunate subjects of Cataract!

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

Drawing, therefore, a veil over the immediate performance of the surgical process, it shall be admitted, for the sake of argument, that the consummate skill and dexterity of the oculist may have triumphed over every difficulty and danger, and that the Cataract has not only been extracted, but also deposited for preservation —according to usage, and 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 absolved from his previous blindness, the eyes must be closed with compress and bandage, and the head enveloped in a night-cap.

Thus equipped, with due circumspection, the party must next be placed and retained, for a few weeks, in nearly an upright attitude, in the bed prepared for his reception. The curtains being drawn, the room darkened, and perfect quietude and silence enjoined, he should be consigned to the care of a matronly nurse, instructed

to watch his every movement, to guard against every source of injury, and particulary "that he may not rub the eye with his hands," should welcome sleep kindly come to his relief, and bury in temporary oblivion the exciting and engrossing perils to which he had been exposed!

For some days the patient must be contented 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 should be 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 be a subject of triumph to the operator, and afford to the happy patient just cause for congratulation!

Were such the general result of extraction, the Author would gladly have adopted it, and thereby spared himself the anxiety of protracted and indefatigable study and research, with great pecuniary sacrifices, in pursuit of other curative measures more generally applicable, more certain in their effect, and less difficult of accomplishment than that operation.

But, alas! few comparatively are the opportunities afforded of witnessing a consummation 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 silently gathering storm which will soon explode with frightful and destructive force—is fondly cherishing his belief of final success, the sagacious practitioner knows well—from injury inflicted on the eye at the time of performing the operation—that a train of formidable symptoms will be speedily disclosed to annihilate hope, and plunge the unhappy victim into misery and despair!

Instead of the favourable circumstances above enumerated, a few hours of tranquillity and fancied security are but too often 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!

This delusive calm and temporary absence of dangerous consecutive symptoms —if caused by the iris being wounded, partially excised, or wholly abstracted— may continue till the fourth day (see page 54), and afford—in connexion with the previously but dimly restored vision—a very convenient subterfuge and excuse in the event of failure! An astute practitioner will find no difficulty in persuading credulous and confiding patients, that their after sufferings and loss of sight are solely attributable to the unfortunate supervention of inflammation, which—though the certain effect of injuries unavoidably caused by extraction—can with a little tact and ingenuity, be plausibly imputed to cold, or some

other unforeseen cause or contingency; and thus serve at once as a salvo to his reputation, and, to prevent—for a time at least—Extraction being discarded from the list of surgical operations.

On inspecting the eye, it will be found exceedingly red and inflamed, intolerant of light, and exquisitely sensitive to the slightest pressure, the iris at the same time contracted or distorted, perhaps protruding through the wound of the cornea; symptoms of the most dangerous tendency! Should they not admit of immediate alleviation—as too frequently happens—they will, with great suffering, end in the partial or total disorganization of the eye, and the consequent defect, or complete and irremediable extinction of vision!

The patient must think himself fortunate should he—under such circumstances and from so perilous a situation—escape with even a very small share of sight, obtained at the expense of a permanently irreparable disfigurement of the eye, the effect of a more or less deranged state of the pupil, or opacity of the cornea caused by inflammation, or the cicatrization of the incised wound!

But, fourthly, it has been asserted, that Cataracts in old persons cannot be removed by the proposed 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, in many instances, not only highly objectionable, but sometimes even impracticable at that period of life?

In addition to the various causes which contraindicate Extraction above enumerated, the following claim particular attention, in reference to the point under discussion. A considerable quantity of the fluid contents of the eye-ball, in aged subjects, is occasionally absorbed, leaving the organ proportionably diminished in size—a state of parts very unfavourable to that process.

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 this 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 interfere with the proper section of the cornea.

The pupil, in those individuals particularly who have been long accustomed to exercise their eyes upon minute and dazzling objects, is very liable, in the decline of life, to become permanently contracted; in which case, it would be exceedingly hazardous to attempt the removal of the Cataract through it, previously to its exit at the artificial opening in the cornea.

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

The above are some of the difficulties which attach to the common operations for the disease in elderly persons; all of which may be avoided by the adoption of the reformed plan.

That absorption is equally energetic in advanced, as in early life, it would be preposterous to contend; but that this process can go on, and be made capable of removing a disorganized 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 in aged people, that the cylindrical bones 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 a comminuted opaque lens, so long, particularly, as it retains a soft and uniformly permeable texture.

Accordingly, the Author has operated, under the circumstances just stated, on a considerable number of individuals of both sexes who had attained their seventieth year, and on the late highly respectable Mrs. Moneypenny, of Guildford Street, when she had reached her eighty-fourth year, not only without any unfavourable symptoms, but with the most gratifying results. He also operated, at the "Royal Infirmary," in the most satisfactory manner, on a female in her eighty-second, and on another in the ninety-first year of her age! In his private practice, likewise, the Author has recently performed several operations—agreeably to the new system and with the happiest effects—on one gentleman of eighty-four, and on various individuals on whose snowy temples Time long since shed his hoary honours, and who had previously been kept, for different periods, in anxious and painful suspense, waiting for their Cataracts to become ripe!

On account of the tendency, however, in the crystalline of those who have passed their meridian, to become indurated—and for the various reasons already assigned—it is desirable that the disease should be assailed so soon as convenient after its commencement.

It is of importance to add that, in cases of the above description, the proneness to inflammatory action diminishes with advancing years—a fact that might be inferred, from the nervous system becoming gradually less sensitive, and the vascular less irritable, as patients approach that period of bodily infirmities, when—in the impressive and figurative language of Holy Writ—"the strong men bow themselves, and the keepers of the house shall tremble."*

Although Cataract most frequently attacks its victims after the middle, or about the grand climacteric period of life, the representation of Boërhaave† as to its almost universal prevalence among the aged, cannot be admitted. In his calcula-

* Ecclesiastes, ch. xii. verse 6.

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

tion on this point, he must have included morbid changes in the eyes of the aged which bear, in some respects, a strong and imposing resemblance to the complaint under consideration.

But, while making due allowance for the misapprehension just alluded to—and for a more general knowledge of ophthalmic ailments having been disseminated among the public by the diffusion of Eight large Editions of this work, and collateral information on the subject—there cannot be a doubt that opacity of the lens is an increasing malady, and exists to a much greater extent than formerly. This circumstance—however deplorable—is perhaps ascribable to the progress and influence of civilization and refinement—to the general and ardent pursuit after mental attainments and pleasurable enjoyments—added to the cultivation of variously delicate, engrossing, and scientific manipulations, which—with greater development of intellectual energy—demand, oftentimes, intense exertion of the organ of vision, protracted frequently to late hours, and exposed to the injurious reflection of brilliant light.

SECTION VIII.

THE PROPRIETY OF OPERATING ON A CATARACT EXISTING IN ONE EYE ONLY, WHILE THE OTHER CONTINUES PERFECT, AND FREE FROM THE DISEASE.

THE only remaining topic to which the attention of the reader is requested, is the important inquiry, 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 ingenious and scientific 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 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, should it become the subject of an accidental inflammation; and on 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 de

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

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

‡ See quotation at page 62 of this work.

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

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

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 organ while it is retained in the other—and, in consequence, an apprehended confusion of vision, are the arguments usually urged against the practice.

Under this change in the foci of the respective eyes—according to the received laws in optics—double or confused vision must ensue.

Such, however, is the adjusting and correcting power of this wonderful organ, that—contrary to what theory suggests—experience proves 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 modern practice, observation has convinced the Author that the even occasional inconvenience alluded to, is still more trifling and transitory in its duration. This fact is probably imputable

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

† Wathan on Cataract, p. 57.

to the gradual recovery of sight by that process, during which the affected eye is enabled to accommodate itself to the focal power of the sound organ.*

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

The Writer is enabled to add the authority of patients who have submitted to the process when only one eye was diseased, and who allege that the operation, performed under these circumstances, has never failed to produce very perceptible improvement, both in regard to the power, and sphere of vision. This statement was fully corroborated by the representation of a patient at the Infirmary, who for twelve years had been blind with capsular Cataract in one eye—the effect of accident—the other remaining perfect. He was instantly

* Dr. Andrew Smith ascertained the accuracy of this suggestion.—Edinb. Med. and Surg. Journal, No. 74. p. 14.

† Cooper's Surgical Dictionary, Sixth Edit. p. 319.

restored to sight by an operation performed by the Author, and asserted that his sight was not only greatly benefited, but that—although he experienced for some time great morbid irritability of the eye—he did not perceive the smallest confusion in its function.

The following case of a single Cataract—communicated by a gentleman who holds a high official appointment, the husband of the lady to whom he alludes, and who obligingly permits reference to him on application to the Writer—in addition to other interesting particulars, affords the most decisive confirmation of the fact just stated. To say nothing of a very conspicuous and unsightly deformity having been removed from the affected eye—an object of no small moment in the estimation of a beautiful woman—the patient in question was unconscious of, nor did she perceive any subsequent double or confused vision, but enjoyed the advantage of seeing again with both eyes, and was sensible of a general and great accession of power to her visual faculty.

Dear Sir,

If it be difficult, on many occasions, to express in suitable terms a feeling of gratitude for a material benefit, it will be conceived that when the invaluable blessing of sight has been restored, it is almost impossible adequately to acknowledge so important a service. Yet, however imperfect the attempt, I am most anxious to make it, in justice to yourself, and also that I may give to those who are menaced with the formation of a Cataract, not simply the hope, but the certain assurance of its removal by your mode of operation; which is peculiarly distinguished by the delicacy, safety, and skill with which it is performed.

I feel no doubt that the perfect success with which you removed, without the least pain, and in the short space of two minutes, the Cataract from the eye of Mrs. ——, may be confidently regarded as the constantly unfailing result of that skill with which, on the principles which you have adopted, the operation in your hands may always be performed.

Your most judicious departure from the

usual practice of waiting till the Cataract is—as was formerly supposed it should be—in a fit state for extraction, evidently ensures to the patient the advantage of submitting to a more simple operation at an earlier period of its formation, and saves the party from the greater anxiety attendant on a longer period of suspense. Repeating our cordially grateful thanks for the service you have rendered my family, and assuring you that Mrs. —— and myself will always be most happy to acknowledge it,

Believe me, dear Sir,
Yours truly,

———

To John Stevenson, Esq.
&c. &c.

As little reason is there for the apprehension—needlessly entertained by some highly respectable practitioners—that a second Cataract may be caused, or the progress of an incipient one accelerated by an operation, had recourse to for the removal of an 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 been excited in one, is very liable to extend to, and implicate 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 a single Cataract is the effect of violence. In this latter instance, there cannot be any ground for ascribing the supervention of the opacity of the crystalline in the uninjured eye, to any latent or constitutional origin. It must be imputed to similarity or identity of texture; in consequence of which, the same morbid action which has been set up in one, is apt

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

to introduce a like derangement in the function and structure of similar tissue in the other organ.

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 transmitted 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 propagation of the morbid action which might be anticipated, will probably not take place in the second eye, or, if it has actually commenced, may occasionally at least be suspended, or a healthy one excited in its stead, so as to supersede and annihilate the nascent derangement.*

*This strain of argument has been adopted by Himly,[1] who quotes two instances in which the removal of the opaque lens from the eye first affected

The annexed translation from the scientific work of a German Ophthalmologist, is strongly confirmatory of the validity and truth of the foregoing reasoning. "For a period of seventeen years," observed the celebrated, but since defunct Professor Beer of Vienna, "I have closely observed those cases in which the operation for Cataract had been performed on one eye, before any sign of the disease had been noticed in the other. In all such cases I have found that the other eye has remained free from disease."*

The experience of the Author corroborates the statement just quoted, and further proves that, by operating at an early period after the formation of a Cataract in one eye, the commencing disease in the other has, in some instances, been arrested—in a few, entirely dissipated!

Among several examples of a similar description which have occurred to the

arrested the progress of an incipient opacity in the other eye.

[1] Ophthalm. logis. Beobach und Untersuch. Bremen, 1801, p. 148.

* Repertorium, vol. i, p. 20.

Writer, he will content himself with the subjoined relation.

A gentleman consulted him for a considerable infirmity in his sight. On examination of the affected organs, an opacity of the lens in each eye was plainly discernible, corresponding in degree with the existing visual defect—for the relief of which it was proposed that the new system should, in the first instance, be applied to only one eye; the other—which still possessed useful though very imperfect sight—being reserved for similar, but subsequent treatment. The intended operation, however, on the latter eye was found unnecessary, the transparency and function of the affected lens having been restored to the highest degree of perfection, on the completion of the cure in the organ subjected to the Author's operation.

St. Ives* likewise relates "the case of a man who having a Cataract produced by a small shot in his right eye, a similar disease gradually ensued in the left, from which he speedily recovered after the Cataract had been removed from the former."

* Maladies des Yeux, ch. 15, art. 3.

To the facts and reasons adduced, may be added the further consideration, that by waiting for the formation of a second Cataract before the first is assailed by a mild and efficient process, the existing one—from being in a state favorable for an operation—may, by delay, become complicated and change so much for the worse, as either to destroy all hope of future success, or at most afford but a very precarious and discouraging prospect, when at length circumstances might justify its removal. On the whole it may be fairly inferred, that the too prevalent practice of postponing the operation for Cataract in one eye, until a similar disease shall have invaded and extinguished the sight of the other, is based on a narrow and erroneous view of the subject, and is not unfrequently the source of much subsequent risk, and unnecessary suffering to the patient.

SECTION IX.

CONCLUSION.

HAVING brought the foregoing work to a termination, it will be useful to offer a summary, or brief recapitulation of its contents, and of the principal topics discussed.

After pointing out the true nature and seat of Cataract, such a plain and minute description is given of the symptoms as will enable, it is presumed, even the general and uninitiated reader, by a careful perusal of it, to ascertain and recognize the disease.

The next subject of inquiry is its medical treatment, which involves the momentous question as to the practicability of dispersing Cataract by the sole agency of internal medicines, or external applications. The evidence adduced—in alleged confirmation of the adequacy of such means to effect the cure of Cataract—is fully and impartially canvassed, and, after being criti-

cally examined, is rejected as fallacious and untenable.

Assuming, therefore—from the facts and arguments advanced—that Cataract is incapable of removal but by operative Surgery, the Author proceeds, in the fourth section, to direct attention to the several mechanical expedients which are commonly resorted to for that purpose. Under this head, he arranges and describes the usual curative processes, termed Couching, and Extraction; and, after dwelling on the various difficulties and dangers contingent on each, brings forward in relief, and as a substitute for both, his present system; the superior eligibility of which it is the leading object of this treatise to portray and recommend.

The Writer has shewn, that the former and more ancient of these processes—Couching—is indefensible on account of the very small number of cases in which it can be made available; its total inapplicability to the disease in infants; the liability of the depressed lens—from any sudden concussion or pressure on the globe—to emerge from its imprisonment in the vitreous humour,

and, resuming its original position, to produce a return of blindness; but above all, the injury the operation must inflict on the internal structure of the eye—which not unfrequently occasions lasting sufferings, dangerous ill consequences, and the ultimate extinction of vision! These weighty considerations have, it is stated, caused Couching to fall into discredit, and to be abandoned, in a great measure if not altogether, by practitioners of the United Kingdom.

The other and more modern alternative, Extraction—being the operation frequently adopted and in greatest request—has engaged a proportionably larger share of the Writer's notice. He has investigated—without prejudice or prepossession—its asserted claims to approbation; and, after the fullest examination of the many objectionable points connected with its performance—and which are grounded principally on the admissions of the advocates and supporters of the process—the Author is constrained to repudiate it, under the merited denunciation of being one of the most difficult, hazardous, and precarious in

the whole series of surgical operations! Like its predecessor, too, it is limited to a single form of Cataract, and to adult subjects—admits not of repetition in the event of failure—and is exposed to many serious disasters, immediate or consecutive, which often terminate in great derangement of the structure, and loss of the function of the eye, events which neither science nor skill can counteract or prevent!

To the above various catastrophes incidental to the old operations—pointed out in the fifth section—must be added the further essential drawback that applies equally to both, and for which neither can offer a satisfactory atonement; namely, the necessity they respectively impose of keeping the patient in a state of blindness, constant anxiety and mental disquietude—without any definite termination of his hopes and fears—until the Cataract becomes ripe, and in a fit condition for one or other of the above processes. Many of the difficulties and dangers adverted to have been proved to arise, partly from the custom of postponing the operations of Couching or Extraction to a late period of the disease,

but principally from the nature, and uncontrollable character of the processes.

Lastly, the Writer submits, what he ventures to esteem an invaluable succedaneum, or renovated system of treatment, which, while it is free from the objections enumerated, not only commands advantages to which neither of the operations heretofore adopted can lay distinct or legitimate claims, but is decidedly preferable to both, in being perfectly safe, productive only of the slightest pain or irritation, and, consequently, rarely requiring any subsequent medicines, local applications or confinement. With the aid of some recent modifications—both in regard to the form and mode of using his instruments—the Author has rendered the practice applicable to every variety of Cataract in its early, as well as its late stages, and at any period of life, and—what constitutes its highest merit—it restores the eye to the greatest attainable perfection, without the smallest risk or possibility of the organ being exposed—as after the old operations—to a secondary attack of the disease! Every conceivable objection to it is unreservedly stated, and, it is believed, fairly

and satisfactorily answered. Finally, the question as to the expediency of performing the operation for Cataract in one eye while the other remains unaffected, is fully and circumstantially discussed in all its bearings, and—for the reasons alleged—decided in the affirmative.

On the whole, it may justly be inferred, that the facts, arguments, and cases interspersed throughout the foregoing pages, are sufficiently numerous and conclusive to satisfy every candid and unprejudiced mind of the comprehensive nature, paramount benefits, and general success of the method of treatment recommended: and that it is the only system calculated to meet—to the fullest extent—the varying character and diversified forms of Cataract.

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