

On the morbid sensibility of the eye : commonly called weakness of sight.

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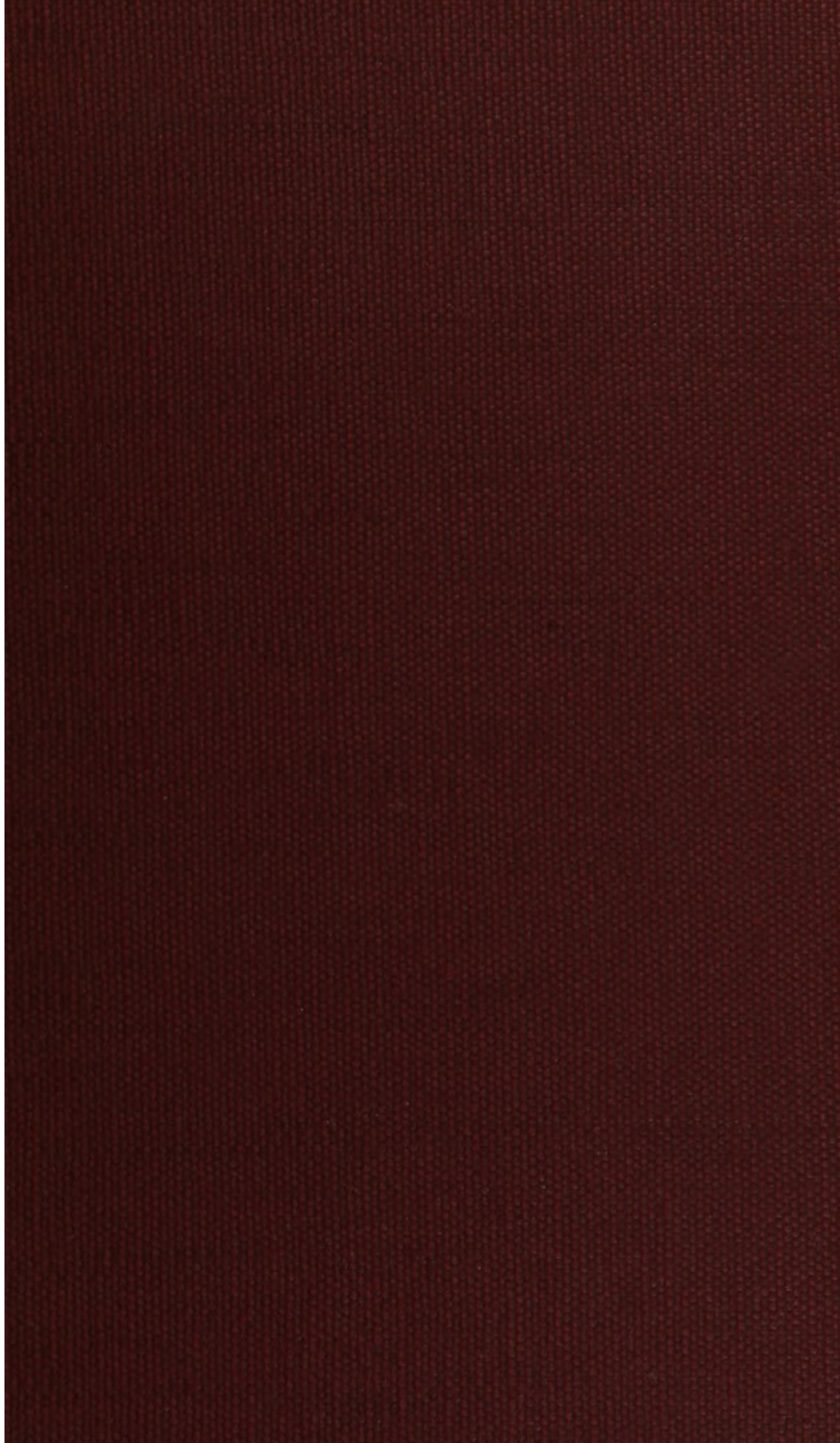
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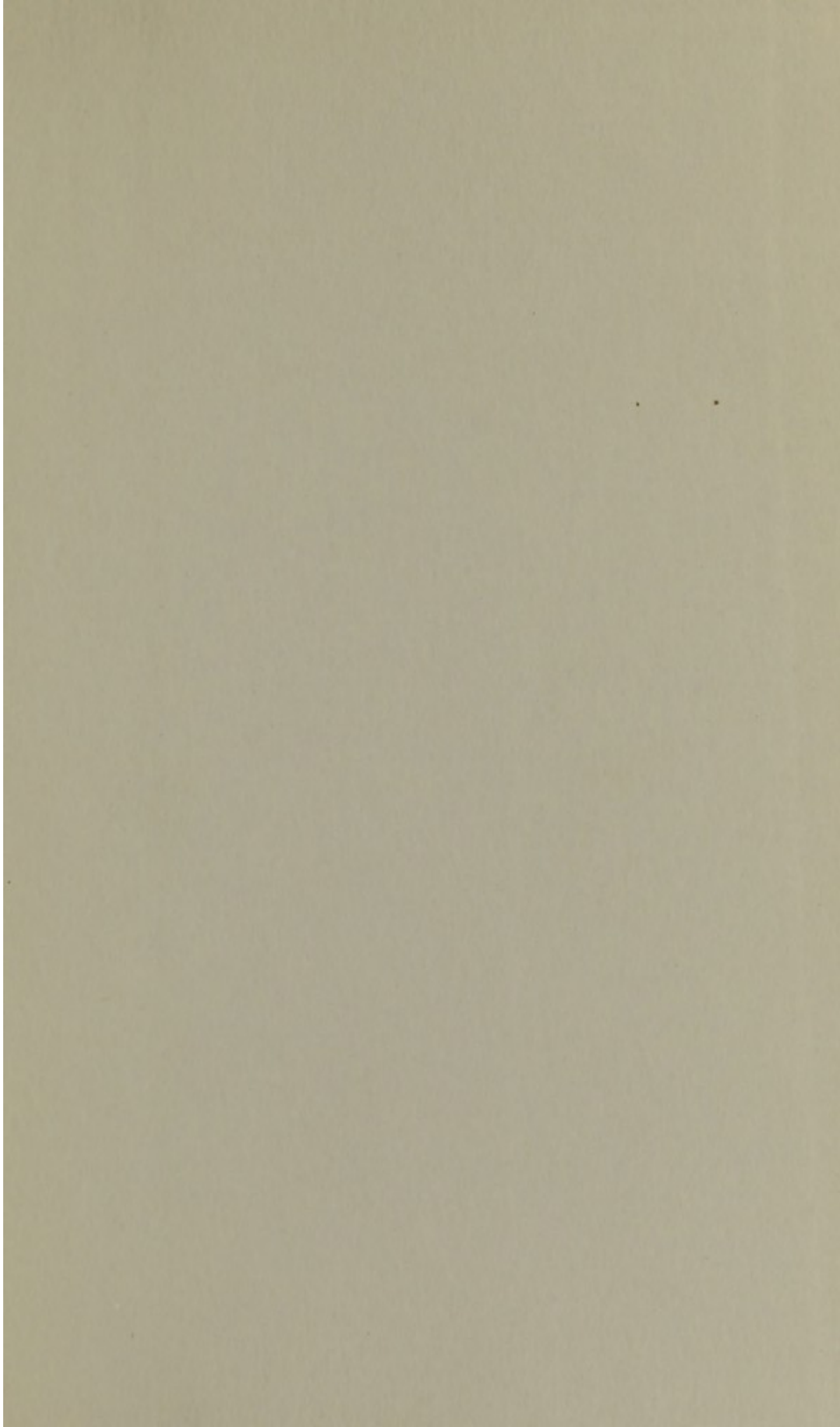


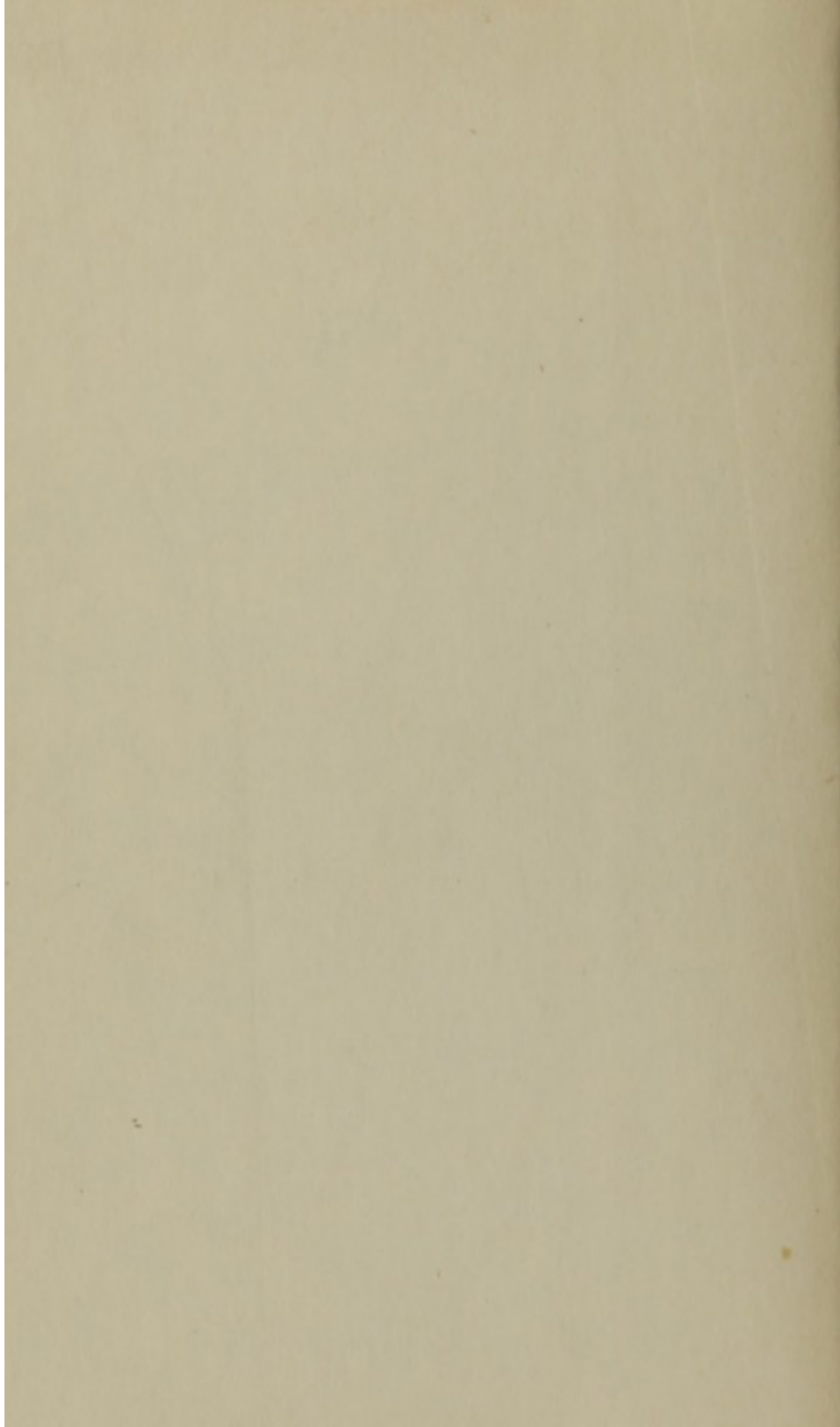
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ON
THE MORBID SENSIBILITY
OF
THE EYE,
COMMONLY CALLED
Weakness of Sight.

BY JOHN STEVENSON,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, &c.

La partie de l'œil, quoique bornée, présente une riche moisson, pour
occuper long-temps nombre d'Observateurs.

CEL. JANIN MEMOIR. SUR L'ŒIL.

HARTFORD:

PUBLISHED BY HORATIO G. HAILE

1815.

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S. 37¹/₄

Thomas Henderson,

THE LIFE OF

WILLIAM W. CHURCH

1838

Th: Stevenson
J. Hale

ON

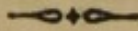
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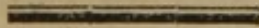
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TO THE
RIGHT HONORABLE
LADY VERMONT PERCEVAL

Madam,
Distinguished as your Ladyship is,
every thing which can do honor, and
add lustre to your rank in society, compas-
sion for the afflicted, is not the least satis-
fying of your personal labors in your truly esti-

valuable
Your kindly allowing me to dedicate to
your Ladyship the following pages, on a
subject universally interesting, is not less
a flattering recognition, than gratifying to
my feelings as well as to my vanity.

I have the honor to subscribe myself,
With much respect,
Your Ladyship's devoted,
And most obliged humble servant,

Loomis & Richards, Printers : }
Middletown, Con. }

TO THE
RIGHT HONOURABLE
LADY VISCOUNTESS PERCEVAL.

MADAM,

DISTINGUISHED as your Ladyship is, by every virtue which can do honor, and add lustre to your rank in society, compassion for the afflicted, is not the least amiable or prominent feature in your truly estimable character.

Your kindly allowing me to dedicate to your Ladyship the following pages, on a subject universally interesting, is not less flattering to my ambition, than gratifying to my feelings.

I have the honor to subscribe myself,

With much respect,

MADAM,

Your Ladyship's devoted,

And most obliged humble Servant,

JOHN STEVENSON.

Great Russell-street,
Bloomsbury,
October 1, 1810. }

INTRODUCTION.

THE organ of vision is unquestionably the most valuable, the most indispensable, and the most ornamental of all our senses. In proportion therefore to the acknowledged importance of the Eye, its loss or imperfection, has ever been justly dreaded and deplored as a most grievous misfortune. In consequence however of the exposed situation, peculiar œconomy, and complicated structure of the Eye, it is liable to a derangement of its functions from many external, as well as internal, causes. Hence, ocular complaints must have prevailed more or less in all climates, and with different degrees of violence according to existing circumstances, from the remotest ages of antiquity to the present æra.

Of late years, however, a dreadful Ophthalmia, before unknown amongst us, has been introduced into this country from Egypt, and has not only added greatly to

the frequency of their occurrence, but has also at the same time not a little increased the malignancy of their character. From which circumstance, this highly interesting class of diseases, heretofore so much disregarded by regular practitioners as to have been in a great measure monopolized by presuming and ignorant empirics, utterly ignorant of the principles and practice of medical science, is now considered not less important than any other branch of surgery; and has accordingly engaged the attention of individuals, equally eminent for their skill and professional attainments. And indeed, if we duly contemplate the great number, the variety, and the exquisitely painful nature of many of the ailments incident to that very delicate organ, and the rapidity with which, when neglected or injudiciously treated, they prove permanently detrimental, or altogether destructive to the faculty of vision; and if we further reflect upon the very nice operations their cures require, must we not agree with St. Ives,* that "the

* See his "Treatise on the diseases of the Eyes," translated by Dr. Stockton in 1744. preface p. 8.

“most indefatigable and intire application
 “is hardly adequate to the difficulties of
 “this Science.” For my own part, I feel
 not the smallest hesitation in affirming, that
 there is no department of practice respect-
 ing which it is of greater moment that a very
 general knowledge should be diffused, than
 that which relates to the imperfections of
 sight (the grand source of our most refined
 pleasures and intellectual improvements)
 and to the remedies best calculated to re-
 lieve them.

Having for some time past altogether re-
 linquished general practice (in the exercise of
 which I have been many years extensively
 engaged) for the express purpose of devot-
 ing my attention exclusively to the manage-
 ment of diseases of the *Eye* and *Ear*, I have
 been frequently consulted by persons afflicted
 with a morbid sensibility of the *Eye*, *usually*
called Weakness of sight, a complaint which
 has not, as far as my knowledge of the sub-
 ject extends, been hitherto described by
 writers, at least only incidentally, as a *dis-*
tinct disease, nor has its cure been establish-
 ed upon a rational pathology.

ON
THE MORBID SENSIBILITY
OF
THE EYE,
&c. &c.

SYMPTOMS OF WEAKNESS OF SIGHT.

By simply inspecting the Eye, it is scarcely possible to recognize the existence of this complaint, as there is not the slightest external Ophthalmia, or unusual fulness of the vessels of the conjunctiva, any apparent affection of the ciliary glands, nor the least visible organic derangement. The characteristic symptoms are, a morbid sensibility of the Eye to light, and different kinds of external stimuli; according to the accurate observation of the late venerable Dr. Heberden,* “*Oculi si vel levissime sint imbecilles, quamvis nullam morbi notam præ se ferant, agre patiuntur ventum, ignem, pulverem, aut lectionem.*”—A strong glare of light is

* Heberden Comment. de morbis oculorum.

always painfully distressing to the patient ; and hence, aggravated cases of this disease, the effulgence of the Sun's rays when admitted to the Eye, excites in it a very acute sensation, which is accurately referred to the bottom of the orbit ; around which there is at the same time, a sense of tension and oppressive uneasiness. For the same reason, the patient is miserably uncomfortable in a brilliantly illuminated apartment. In order therefore to exclude the strong and direct rays of light, he instinctively depresses his eye brows, or applies his hand to his forehead, viewing objects with the palpebræ half closed, by which he is apt to acquire the habit of blinking.† If he attempt to read, or look at small or bright objects, he is soon dazzled, and his vision becomes confused, which added to the pain the effort occasions, speedily compels him to desist. The iris acts with great energy on the ad-

† I am assured by an intelligent and learned traveller, that the inhabitants who reside at the foot of the Glaciers in Switzerland, acquire this habit in a remarkable degree, in consequence probably of the vivid light that is reflected from the accumulated fields of ice and snow, to which they are perpetually exposed.

mission of the rays of light to the retina, and in consequence, the pupil becomes contracted to a very small aperture ; a *striking feature* of this disease. When the stimulus of light affects the Eye, there is sometimes, though very rarely, a manifestly deficient action of the lachrymal glands, but much oftener the secretion of tears is abundantly copious,* which is indeed the principal cause of the confused vision occasionally attending this malady.

General debility, however induced, though not essential, seems greatly to *predispose* to this complaint. Hence its most frequent occurrence to persons recovering from previous illness, and to those of a relaxed habit. Although I have witnessed it in both sexes, yet the female for the causes just specified, seems most obnoxious to its attacks ; which may take place at all periods of life. Preceding

* Many people amongst the Ethiopians, Africans, &c. who have an extreme degree of tenderness of sight, owing to the great brilliancy of the Sun's rays, suffer exceedingly, according to Haller, (Tom. v. p. 490.) from violent epiphora, or watery eye, which in fact renders them nearly blind during the day.

Ophthalmia,* whether acute or chronic, gives the organ a great susceptibility to this disease ; which is very apt to recur on the application of the exciting causes. These are undoubtedly, the long or frequent exposure of the Eye to a very vivid or reflected light, and its excessive exertion in reading, or viewing minute and dazzling objects. And with regard to the *proximate cause* of weakness of sight, *instead of local debility*, I will hazard the opinion, that it consists in an *exquisite irritability and sensibility of the retina*, the effect of a great turgescency of the vessels, or a *chronic* inflammation of that membrane, or of the choroid. For “intolerantia lucis,” says Sauvages, “Retinæ sensibilitem adauctam esse probat, sive detur ejus infarctus phlogisticus, sive tensa sit nimium choroidea, ejusque expansio uvea.”

And, as the inspiration of cold air excites cough, and increases irritation, during the

* I have repeatedly ascertained, that measles, and small-pox, as well as the Egyptian Ophthalmia, have laid the foundation for the subsequent attacks of this disease.

inflamed state of the lungs, though at other times it promotes only their healthy action ; so the rays of light, in a moderate quantity, impinging upon the retina, when unaffected by disease, produce all the phenomena of vision without uneasiness. But, being applied to this highly nervous and vascular tunic, when either in an actually inflamed, or at least in a morbidly distended and consequently irritable condition, they then excite the distressingly acute sensation so characteristically descriptive of weakness of sight, by their stimulus probably inviting an additional afflux of blood to vessels already preternaturally turgid. For we well know from a multitude of familiar instances, that irritating substances universally induce a determination of fluids to the part to which they are applied, "*Humores fluunt ad punctum irritationis*," says Cullen. And an irregular and partial distribution of them, is more especially apt to take place in weakly constitutions. And is not pain the invariable consequence of an over distension of the living fibres, the intensity of which will bear a

proportion to the degree of their expansion, and the sensibility of the organ?

That genuine weakness of sight is actually a disease of the retina, arising from the great turgescency or chronic inflammation of that membrane, is rendered still more probable from the fact, that a great aversion to light, (though not particularly noticed by all authors on the subject) is amongst the earliest symptoms of *Hydrocephalus internus*; which is well ascertained to proceed from an inflammation of the ventricles of the brain, from whence the origin of the optic nerves is derived. And besides, there is not at that early period of the latter disease, any external *Ophthalmia*, or visible fulness of the vessels of the conjunctiva; which circumstances, make the analogy between the cause of the above named symptoms, in the two complaints, very striking and satisfactory.

Let us further observe, that an intolerance of light frequently succeeds to the operation for the extraction of cataract. Is not this symptom owing to an insidious chronic in-

inflammation* of the deep seated membranes of the eye, arising principally from the injury inflicted by withdrawing the lens through the iris ?†

Having now proved that an inflammation of the ventricles of the sensorium, by extending, probably, along the optic nerve to its expansion in the retina, gives rise to great tenderness of sight ; and likewise, that a similar effect is produced by the inflammation of the internal membranes of the eye, in consequence of the operation of extracting the opaque lens in cataract, without any external appearance of disease being always visible in either instance : let us next inquire, whether the rays of a vivid light falling upon the eye, do not exhibit these phenomena, by

* Si æger post aliquot, ab hac operatione, dies moriatur, inveniuntur vasa choroidea rubra, infarcta, et quandoque vitrum in gelatinam puriformem mutatam.—Sauvauges's Nosol. Method. p. 67.

† The operation proposed as a substitute by my friend, the late ingenious Mr. Saunders, (the particulars of which will be speedily made public) and which I have repeatedly performed, agreeably to his instructions, without a single failure, is calculated to obviate this dangerous termination.

occasioning an accumulation of fluids upon the internal and posterior membranes of the organ of vision. In reply to this question, in place of many other examples which might be adduced, I will content myself with the following ; viz. the instance of removing the eye-lids, and exposing the wretched object, thus mangled, to the full influence of a meridian sun. This barbarous punishment, though happily banished by modern civilization, was sometimes used by the ancients, and was that which the Carthaginians inhumanly inflicted upon the magnanimous Regulus, the Roman general. (Vide Vitæ Plutarchi.) In this case, the excessive stimulus of light being applied immediately, and without any modification to the seat of vision, occasions indescribable pain, and a flow of fluids towards the organ which, in consequence of the irritation and distension, becomes very soon inflamed, and the inflammation extending along the optic nerve to the brain, the miserable victim expires amidst the most excruciating agonies.

That light really acts by expanding the vessels of the retina, and thus excites pain, inflammation, and occasional blindness, is rendered demonstrably clear in the case of Albinos. The well known, exquisite sensibility of their eyes is doubtless owing to original and incurable malconformation of the organ, characterized by a want of the pigmentum nigrum ;* in consequence of which defect, the rays of light, not being duly ab-

*M. Blumenbach, Professor in the University of Gottingen, is of opinion, that the *redness* of the Iris, and of the internal parts of the eye, as well as the *extreme sensibility* accompanying that redness in Albinos, is owing to the total privation of that brown or blackish mucus, which about the fifth week after conception, covers all the interior parts of the eye in a sound state. He adds, Simon Pontæus in his Treatise, “de Coloribus Oculorum,” long ago remarked, that in *blue* eyes, he found the interior membranes were less abundantly supplied with this black mucus, and were therefore more sensible to the action of light. This sensibility of blue eyes, agrees very well, says he, with northern people during their long twilight ; while on the contrary, the *deep black* in the eyes of Negroes, enables them to support the splendour of the sun’s beams in the torrid zone. The above observations of Blumenbach are detailed in a Memoir to the Royal Society of Gottingen. M. Buzzi published a very interesting memoir in the Opus. Sult. de Milan. 1784. Tom. 7. p. 11. in which he demonstrated, by dissection, what Blumenbach had only supposed ; the iris also was found perfectly white, and the pupil was of a rose colour.

sorbed, impinge with insufferable violence upon the retina. In these pitiable objects, every unusual access of light occasions, not only a proportionably increased degree of pain, but likewise a deeper *visible* red or ferretty appearance at the *bottom* of their eyes. And if the application of the light be continued, it is speedily productive of complete temporary blindness; owing unquestionably to the excessive accumulation of blood upon, and consequent dilatation of, the deep-seated vessels of that organ. And is it not probable, that the Amaurosis, so frequent in the hot, as well as in the northern countries, covered for the greater part of the year with snow, is owing to the reflection* of the rays

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

“ —————vertical the sun

Darts on the head direct his forceful rays :

In vain the sight, dejected to the ground,

Stoops for relief ; thence hot ascending steams,

And keen reflection, *pain*.”

THOMPSON.

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

of the sun, acting in a similar manner, in the former instance from the burning sands, in the latter from the snow ?

I must beg just to intimate, that by the disease termed by Hippocrates, amblyosmos ; by Aretæus, amblytes ; by Ætius, visus debilis ; by Boerhaave, visus hebetudo ; and by some French writers, vue confuse, faiblesse de la vue, and mauvaise vue, is not to be understood the same complaint which

Nor is total loss of sight an uncommon incident among the inhabitants of the more northern latitudes, where the earth is, during the greater part of the year, enveloped in continual snow. "Xenophon relates," says Mr. Boyle, Vol. 1. p. 698, "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 Esquimaux of Hudson's Bay, Yeux a la neige,) with only two narrow slips, which he wears over his eyes, in order to secure them from the well-known and dreaded effects of an excess of light. Voyez l'Histoire general des Voyages par la Harpe, in 8vo. Vol. xiv. p. 214 ; also Ellis's Voyage to Hudson's Bay.

is described in this Dissertation, under the name of *weakness of sight*, but rather an indistinctness of vision, or absolute and complete ambliopy.*

This ocular complaint, properly called *Dulness* of sight, I must briefly notice, because I have known it confounded with *weakness* of sight, although it is in fact the very reverse ; and depends not upon an excess, but a positive want of sensibility of the retina.

The principal symptoms are, not only frequent alterations in regard to the precise limits, but also a great indistinctness and confusion of vision ; under all circumstances of time and place. If the eyes be much exerted, they soon become fatigued, which renders it necessary, every now and then,

* Ambliopia est visus debilitas sine admodum visibili oculi vitio. Myopes et presbytes in certa objecti distantia solummodo confuse vident : nyctalopes et hemeralopes certo diei tempore tantum male vident, at ambliopes in quavis distantia et quovis diei tempore objecta debiliter discernunt. Plenck Doctrina de Morbis Oculorum, p. 186.

to close and gently rub them, when the patient can again see somewhat better for a short time. The eyes appear dull and inanimate. The iris, which is more or less dilated, is susceptible of very feeble, oftentimes scarcely any motion, even on the sudden impulse of a strong light, which occasions *very little* uneasiness. This malady is most apt to attack persons who are past their meridian ; and is generally brought on by the too free use, or rather abuse, of the organ of vision, co-operating with other causes which have a tendency to debilitate the general and nervous system. The disease not unfrequently remains almost stationary for a great length of time. In other instances its progress is much more rapid, when it generally terminates in complete gutta serena, or total blindness.

Various and extremely contradictory remedies have been recommended by oculists for the cure of this very formidable complaint ; which, however, I shall forbear at this time enumerating. The first thing to be attended to is, to allow the eye as much rest as possi-

ble, and to avoid particularly what may be considered the exciting causes of the disease. It is, I believe, in many cases absolutely incurable: and the only remedies which I have ever known to prove beneficial, are topical stimulants, as * electricity, galvanism, æther, infusion of capsicum, rubefacients applied to the palpebræ, &c. whereas, in *genuine weakness* of sight, these means are certainly useless, some of them highly hazardous. Internally, too, mercurials given so as slightly to affect the mouth, together with the arnica montana, and deobstruent medicines, have sometimes been productive of benefit.—Double convex glasses, by concentrating the rays of light, never fail to afford, in this case, considerable assistance to the sight.

* I think it consonant with the present discussion to remark, that some cases which were deemed instances of gutta serena, I have ascertained to be examples of actual dulness of sight, and that they derived the most essential assistance from the application of the electric and galvanic influence. And I cannot forbear to add, that a few cases of blindness, which have fallen under my observation, and which were likewise ascribed to a paralytic state of the optic nerve, were altogether sympathetic affections, depending upon visceral irritation; by the removal of which the patient has obtained a complete cure. Of the latter description are the successful instances of amaurosis, related by Richter, Schmucker, and Scarpa.

It is this particular species of disease to which I presume Mr. Ware alludes in the following passage. "I cannot omit to mention," says he, (Vol. I. p. 122) "that in some instances, where the eye has been particularly weak," (a term he employs in a vague and indefinite manner,) "without any perceptible cause to produce it, the application of spirituous remedies that have been highly rectified, such as the medicine sold at Riga, under the name of the Riga balsam, or the æther of the London pharmacopœia, either alone or mixed with an *equal proportion of sugar and water*, has sometimes been greatly useful. In a few instances, also, the excitement of a violent inflammation, by the application of other stimuli, has been found of use to overcome the enfeebled action of different parts of the eye."

Dulness of sight again differs from the Glaucoma, as there is not that deep-seated grey appearance, or shining pearl colour, observable in the latter complaint.

I am well aware, and have met with many examples of a slight species of Psorophthal-

my which if only cursorily regarded, seems in some respects nearly to resemble weakness of sight. Mr. Ware, indeed, appears, from the cases he has published, to have actually identified it with this complaint. I think it necessary therefore, to dwell a little upon this topic; and I doubt not to be able to prove, by contrasting their respective symptoms, and the different modes of cure they individually require, that they are in reality perfectly distinct ailments. The description of this affection of the ciliary glands is so accurately given by that respectable author, that I shall take the liberty of transcribing the particulars, and of subjoining a few remarks in support of my opinion.

“The psorophthalmy,” says Mr. Ware, (Chirurgical Observations relative to the Eye, Vol. I. p. 116,) “not unfrequently occurs, without producing the slightest appearance of inflammation, either in the eye or eye-lid. I have attended a very considerable number of such cases; and in many, the only intimation of the nature of the complaint has been derived from the description given by the patients themselves. Whenever

er I am informed that the edges of the eye-lids have a disposition, be it ever so light, to adhere to each other after they have been long in contact, as during the time of sleep, and when this is accompanied with an uncomfortable sense of weight in the lids on the approach of night, in consequence whereof the patient involuntarily shuts them without being drowsy, and without any particular stimulus being applied to the eye to give it pain, I always suspect that the secretion of the ciliary glands is in a diseased state; and in many such cases, I have found the success attending the use of the unguentum hydrargyri nitrati, recommended for the cure of this disorder, quite as effectual as in those other instances, where the excoriation and redness of the eye-lids have been visible on the slightest inspection."

There are, however, several symptoms above mentioned, which decidedly characterize that species of diseased ciliary glands, and which serve at all times to distinguish it from the subject of this Dissertation. I allude to the uncomfortable sense of weight in

the lids on the approach of night, the tendency of the tarsi to adhere together during sleep, and the involuntary disposition to shut them without being drowsy, and without any particular stimulus being applied to give them pain.

In the complaint in question, on the contrary, the meibomian glands perform their functions in the most perfect manner, consequently there is not any sense of weight of the palpebræ towards the close of day, inducing a propensity to shut them independently of drowsiness or uneasiness, nor is there any adhesion of their edges during the night. Hence, the application of mercurials to the tarsi, which are almost specific in the psorophthalmia are absolutely useless, often prejudicial in genuine weakness of sight. Besides which, the acute pain excited by the admission of a vivid light to the eyes in cases of the latter disease, furnishes a striking discriminating feature, sufficient to point out a decided difference between weakness of sight, and the above described slight species of psorophthalmia.

It may, however, perhaps be urged, that bad cases* of that kind are often attended with a high degree of tenderness, or morbid sensibility of the eyes; a fact that cannot have escaped the attention of practitioners. But in these more inveterate instances, there is a considerable apparent inflammation, thickening, and often ulceration of the edges of the eye-lids, accompanied with an acrimonious secretion from the ciliary glands, which by its irritation, keeps up a constant, more or less violent Ophthalmia. In these cases, the inflammation seems continuous, extending itself from the margin of the tarsi along the palpebraic to the corneal conjunctiva. Even in this instance, however, I conceive that the intolerance of light does not arise, at least only sympathetically, from an affection of the retina, but rather from the cornea† itself, which, like the ligaments, and

* Having, after repeated trials, at length discovered some important improvements in the treatment of the above disease, commonly called *blear-eye*, by which I am enabled to effect a very speedy and radical cure, with scarcely any pain to the patient, I shall probably take an early opportunity of communicating the particulars to the public.

† Dr. Vetch, in the Medical Journal, has offered some ingenious observations in support of this hypothesis.

cartilages, is known to acquire considerable sensibility when affected with inflammation.

But this aggravated disease is so very manifest on the slightest inspection, that it never can be mistaken for absolute weakness of sight. I think it, however, but justice to add, that I have seen the particular species of psorophthalmia above pointed out, more than once complicated with weakness of sight. This combination appears, notwithstanding, purely accidental ; although it is not improbable, that this casual conjunction of the two diseases, may have originally misled Mr. Ware so far, as to induce the belief in their identity. As a proof, however, that they are really *distinct* ailments, the concomitant affection of the retina, does not yield to the same mode of treatment, which almost invariably proves successful in the slightly diseased state of the tarsal glands ; but after the cure of the latter, requires the adoption of the plan of cure hereafter recommended.*

* Very lately, a young lady consulted me for the above-described complicated ailments. By the aid of leeches to the un-

Having now said every thing which appears to me necessary in regard to the diagnostic symptoms of idiopathic weakness of sight, as well as of some other diseases with which it is liable to be confounded, I shall proceed to detail what has been found by my own practice and experience, the most successful mode of cure.

der eye-lids, calomel, and purgatives twice a week, a low diet, &c. the weakness of sight was speedily subdued. The subsequent local application of a mercurial preparation to the edges of the tarsi, also wholly removed the diseased state of the ciliary glands, and restored my patient to perfect health.

ON THE CURE OF WEAKNESS OF SIGHT.

Medico diligenti priusquam conetur ægro adhibere medicinam, non solum morbus ejus cui mederi volet, sed etiam consuetudo valentis et natura corporis, cognoscenda est.—CICERO.

THE instances of weakness of sight, which occurred in the early part of my ophthalmic practice, were marked with great constitutional delicacy, and the individuals had most clearly brought on the disease, either by excessive attention to fine dazzling work, or by inordinate indulgence in literary pursuits protracted frequently to late hours. The knowledge of these facts impressed my mind most forcibly with the opinion, that a morbid sensibility of the retina, the effect of exhausted nervous energy, constituted the very essence of this complaint. Agreeably to which hypothesis, I endeavoured to combat the symptoms by the external application of

sedative and tonic, and by the internal exhibition of corroborant and nervous remedies. But I had the mortification to find, contrary to my most sanguine expectations of success, that this apparently judicious and generally recommended mode of treatment, was not only ineffectual, but even in some instances absolutely detrimental.

Repeated failures at length made me more sceptical as to the correctness of the prevailing idea relative to the proximate cause of weakness of sight ; which, added to the arguments already adduced in a former part of this work, led me to believe, that the exquisite sensibility of the eye might with more probability be the result of a chronic inflammation, or at least highly turgid condition of the blood vessels of the retina or choroid.* Agreeably to this supposition, the indications of cure must consist, not in giving additional tone by the use of cold as-

* I consulted Mr. Saunders respecting the nature and best mode of treating this complaint, who replied that he did not feel himself at that time prepared to give me a satisfactory answer, as he had not sufficiently considered the subject.

tringent applications, and internal strengthening medicines, but in lessening the plethoric state of the vessels of the posterior membranes of the eye, and in obviating, at the same time, the extreme sensibility of the retina. In the next case, therefore, of this description that might apply for my assistance, I determined to ascertain, by the test of actual experience, either the validity or fallacy of my conjectures.

A short time only elapsed, after my mind became impressed with this resolution, when a lady of the highest respectability consulted me, in consequence of feeling exceedingly alarmed at the failure of her sight. In spite of the most able professional skill it had grown gradually worse, and was now become so distressingly weak, that she could not endure the glare of a lighted candle, nor without experiencing considerable uneasiness even the ordinary light of day : symptoms probably induced by the injurious practice, to which he was much addicted, of amusing herself with reading, drawing, and fine needle-work by candle light. There was

not the slightest tendency to psorophthalmy, nor any visible fulness of the vessels of the conjunctiva. My patient was past her meridian, of a very delicate frame of body, and her general health was greatly impaired, by having been the mother of a large family, and by consequent repeated indispositions.

As I was informed that tonics in various forms, had been liberally, but altogether uselessly prescribed, notwithstanding this case did not afford the most favourable example for the adoption of the system of depletion, the total inefficacy of the opposite, justified the deviation, and determined me to give it a cautious trial. Accordingly I directed six leeches to be applied to the lower eye-lids,* a small dose of calomel at

* The application of leeches so immediately in the vicinity of the eye, has been pointedly reprobated by a celebrated author on ocular complaints, "because," says he, "they have *sometimes* been found to occasion a considerable swelling of the lids, and have also for a time increased, instead of lessened the irritation of the eye. In order to prevent which mischiefs, it will be proper to apply the leeches to the hollow of the temple." In a very large number of cases in which I have known them applied to the lower eye-lid, under the direc-

bed time, and an aperient draught the next morning, to foment the eyes morning and evening with chamomile and poppy-head infusion, as hot as she could comfortably bear it, and immediately after being well dried, to apply to them the *tinctura opii mitis* of the annexed formula ; to use frequently during the day, a collyrium of *cerussa acetata* made warm, to wear a shade over the forehead, and to adopt the antiphlogistic regimen. As her eyes were dry, I also directed the effluvia of spirit ammon. com. to

tion of the late Mr. Saunders, as well as under my own, I have indeed very *rarely* witnessed the effects above alluded to ; and where any inconvenience of the kind has occurred, it has been in highly irritable habits greatly disposed to erysipelas, in which cases the same consequences are apt to supervene even from the application of a blister. But I am convinced, from the fullest observation and experience, that the benefit they afford the patient when placed as near as possible to the inflamed eye, infinitely exceeds what the same number are capable of yielding, by being laid to the temples, and more than compensates for the greater degree of ecchymosis or discoloration of the eyelids, which I admit is more prone to take place by the extravasation of blood into their loose reticular texture, than into the denser cellular membrane of the temples, and which temporary inconvenience (speedily removed by using a little sal volatile and water, or the juice of Solomon's Seal,) constitutes the principal, if not the only real objection against their application to the lower eye-lid.

be applied in the manner hereafter described. The loss of blood by the leeches, though by no means considerable, depressed her a good deal. And the following day she felt more enfeebled by the only moderate operation of the opening medicine; circumstances clearly indicative of very delicate stamina. However she had the gratification to find, that the eyes were astonishingly relieved by the evacuations, being then capable of bearing a somewhat strong light, with only trifling inconvenience.

Being thus convinced of the propriety of the plan, I directed the calomel and draught to be repeated in three or four days, and in the mean time to persist regularly in the use of the other measures above described. By so doing, she soon got rid of the extreme tenderness of sight, when the cure was completed, by employing only the fomentation and tincture, taking restoratives, occasionally some aperient pills of rhubarb, aloes, and soap, and substituting for the before-mentioned sedative collyrium, a lotion composed of the *zincum vitriolatum*, &c.

Another lady, about twenty-five years of age, of a constitution the most exquisitely irritable and delicate, soon afterwards applied to me on account of an extreme weakness of sight, which had existed for many months, and had been brought on by a very close attention to fine* needle-work, and reading a great deal by candle light. Although I felt considerable encouragement to proceed upon the same plan which had proved so eminently successful in the case just related, and under circumstances too very similar, yet I confess I scarcely dared to adopt it, in consideration of her excessively nervous habit of body. However, as the usual cordial and tonic measures had, as in the former instance, been already resorted to without any beneficial effect, I at length ventured to direct only four leeches to be applied to the eye-lids; together with

* "I have known," says Dr. Rowley, "instances of a *contracted* pupil (indicative of the *active*, and not the exhausted, state of the retina, in which case the pupil would be *dilated*,) causing *blindness*, from too close an attention to *fine needle-work*." (Treatise on Diseases of the Eyes, &c. p. 357.) "Such minute or long continued work *irritates* the eye, and *irritation attracts an accumulation of fluids*." Ibid. p. 340.

the remedies above specified. The depression produced by these gentle means was, notwithstanding, equal to what occurred in the foregoing case, and the result was not less satisfactory. She assured me that the effect of the leeches was like a charm, for the violent pain, which she never failed to experience on exposure to a strong light was in a great degree subdued by this single application, on which account it was unnecessary to repeat them. By the continued use of the fomentation and tincture, night and morning, the collyrium during the day, and the occasional employment of aperient pills, every vestige of weakness of sight was in a short time wholly removed, when I prescribed a tonic lotion for the eye, and some bark internally, with a view to prevent a relapse. This plan completely answered the purpose, as I learnt many months afterwards, that she continued perfectly well in regard to her sight.

I have adduced the preceding cases with a view to shew, how astonishingly and immediately efficacious the evacuating system

of practice has proved, even under circumstances which, probably, would have been deemed by some practitioners altogether unfit for its employment. Such extreme cases are, it must be confessed, but seldom met with in the ordinary routine of our professional pursuits. Had, however, the impatience of the eye to light in these very violent instances originated from pure debility, or the exhausted energy of the retina, must not the plan adopted necessarily have exasperated the symptoms? But since, on the contrary, it proved so very effectual, in constitutions too, ill calculated to bear a further reduction of strength, does it not, *a fortiori*, furnish a most convincing argument in favor of the theory advanced, relative to the proximate cause of weakness of sight? And may we not infer its greater applicability to subjects of less delicate stamina? Accordingly, I have observed the same happy event result from a similar method of treatment, in several instances of this disease, in persons whose constitutional vigour was capable of enduring the requisite evacuations,

without experiencing any of the unpleasantly debilitating effects above enumerated.

It would, I presume, be deemed wearisome and uninteresting to detail all the instances of this disease which have fallen under my care. I shall therefore content myself with selecting the two following from my case-book.

In December last I was consulted by James Newman, a young man engaged in the silk stocking manufactory (a fruitful source of this complaint) by close attention to which, his eyes were become so exceedingly weak and painful, on exposure to a strong glare of light, either from the sun, candles, or any glittering objects, that for many weeks previously to his application for my assistance, he had been thereby rendered, in a great measure, incapable of discharging the duties of his employment. After the most minute examination of his eyes, I could not distinguish the slightest external Ophthalmia, nor any symptoms indicative of an affection of the ciliary glands.

And in every other respect he was in a good state of health, though of a delicate constitution, clearly evincing that his complaint was purely topical. I felt, therefore, convinced, that this was a genuine instance of weakness of sight, originating, I presumed, from a too great determination of blood to the vessels of the retina or choroid, in consequence of the irritation excited by a very intent inspection of the dazzling silk. Impressed with that idea, I directed six leeches to be immediately applied to the lower eye-lids, four grains of calomel to be taken at bedtime, and an opening powder the following morning, to foment the eyes every night and morning with water as hot as he could bear it, and then to apply to them some of the *tinctura opii mitis*, to wash them several times a day with a warm saturnine lotion, to abstain from his work, as well as all animal food, and fermented liquors, and lastly, to shield his eyes from the light, by means of a green shade. With these directions he withdrew, and returned in a week to inform me, that all the remedies, but particularly the leeches, which gave him immediate ease,

had been eminently useful to him, his symptoms having already subsided most astonishingly. I directed the calomel and opening powder to be repeated ; also a solution of antimonium tartarizatum with magnes. vitriolata, to be taken in the intermediate days, with a view to reduce arterial action, and keep up a determination to his bowels. He was likewise desired to adhere most punctually to the rest of the plan before described. After this interview he did not call upon me again till a fortnight had elapsed, when my notes add, eyes apparently well, can bear light freely, and without pain. A tonic collyrium was now prescribed, and the bark, and a liberal diet, together with some opening pills to be used occasionally, were substituted for the former remedies, which, in a short time, so completely restored him, that he had no occasion for further medical assistance, but was enabled to prosecute his labors with his usual assiduity and success.

The following case is also equally illustrative of the symptoms, and the utility of

the evacuating and antiphlogistic mode of treatment in idiopathic weakness of sight.

A young gentleman who was qualifying himself for the clerical profession, called upon me in the beginning of last April, in order to consult me respecting an extreme weakness of his eyes, (to which I understood he had been occasionally subject, ever since the small-pox, which he caught when an infant), which had become at this time so exceedingly troublesome, that he was incapacitated from prosecuting his studies with either comfort or effect. It had been of some months duration, and had bidden defiance to topical astringent applications, as well as to an ointment, containing some mercurial preparation, and other remedies and applications, with the nature of which I am not particularly acquainted. An eminent oculist also in London was consulted, who declared it to be a species of psorophthalmia, and prescribed accordingly. However, as the eyes, when I saw him, were so exquisitely irritable, as to be unable to bear any strong light, especially the glare of can-

dles, and still less the vivid rays of the sun,* without *acute pain*, and a copious effusion of tears, under which exposure the iris acted with astonishing rapidity and vigour; and as there was no general indisposition, no visible ophthalmia, nor any morbid affection of the ciliary glands, I had no hesitation in believing the disease to be a clear marked case of actual weakness of sight. Agreeably to this opinion, I directed six leeches to be immediately applied to the lower eye-lids, a dose of calomel at bedtime, and a cathartic next morning; to foment the eyes night and morning with hot water, and afterwards to apply to them some of the *tinctura opii mitis*; to forbear from his literary pursuits; to confine himself to a slender cooling diet; in the day-time to wear a green shade; and frequently to apply to them a weak saturnine lotion made warm.

* This gentleman as well as all my other patients who were afflicted with weakness of sight, could bear the light emanating from a candle infinitely better than the brilliancy of the sun's rays. This is not surprizing when we consider that, according to Euler, the light of the sun, compared to a candle, is as 11,664 to 1.

The above measures were faithfully adopted ; and on the third day he again favoured me with a visit, and expressed the liveliest gratitude and satisfaction for the equally remarkable and speedy relief he had already derived ; for the pain had nearly subsided, and he could bear the impression of light with little comparative inconvenience.

The effect of the leeches was, he assured me, very striking ; for he found his eyes easier, directly after the bleeding from them had ceased. The calomel and purgative were ordered to be repeated, and also a solution of emetic tartar, with cream of tartar, three times a day, so as to keep up a constant moderate determination to the bowels. In four days afterwards, he again called upon me and said, that he felt not any pain from light, unless when it was very vivid. The iris acted with sufficient energy, but not in the violent manner it did when I first saw my patient. As I was on the point of leaving the country, I prescribed one more dose of the calomel and purgative, to be taken in the course of the following

week, still persevering, during that period, in the use of the saline aperient ; and in the event of all pain of his eyes having, by that time, completely disappeared, even on the admission of a strong light, then to have recourse to a tonic collyrium, and a restorative regimen, with bark. A few weeks afterwards I found him pretty well ; and as I have not since heard from him, which he promised I should in case of a relapse, I doubt not that the cure remains permanent.

It may be right to add, that in vigorous subjects, the plan of treatment by depletion, must be pushed to a greater extent, in order to insure a complete restoration, than in persons of debilitated habits, in whom the symptoms are in general easily and very rapidly subdued. For, a degree of fulness in the choroid, or retina, great enough in irritable habits to excite all the symptoms of a morbid sensibility of the eye, is sufficiently diminished by a *small loss* of blood, added to other means of counter-irritation ; and to carry evacuations beyond what is absolutely requisite for the remov-

al of the intolerance of light, would unnecessarily weaken the patient.

It will, I think, add not a little to the weight of my observations and practice, to subjoin the two following well marked cases of this disease, extracted from the interesting collection published by Mr. Ware; because they not only exemplify its causes and peculiar symptoms, but likewise confirm the efficacy of the mode of treatment so strongly urged in this publication. They must also prove the more satisfactory, inasmuch as they are not related with a view to establish any favourite, or preconceived theory.

The first case which I shall transcribe is the seventh, and is defined "Weakness of sight, resembling that produced by an ophthalmia, without visible imperfection of the eye, much relieved by leeches."

"In the year 1797, Mrs. C., a lady about thirty years of age, who lately returned from the East Indies, applied to me on account

of an extreme weakness of sight, which was accompanied with a considerable degree of *general debility*, and appeared to be occasioned by her having had children very fast in a hot climate.

On an accurate examination I could not perceive *the least defect in the appearance of either eye*. Suspecting, however, that there might be some degree of *aerimony* in the secretion of the *ciliary glands*, I applied the citrine ointment to the edges of the eye-lids two or three days in succession, *as in common cases of the psorophthalmy*, but it did not afford her any assistance.

On extending my inquiries relative to her health I was informed that, in the early part of her life she had experienced *more relief from the application of leeches than from any other remedy*. Notwithstanding her weak state, and the total absence of inflammation, I therefore recommended her to put two leeches to each temple, to apply a blister behind or rather above one of her ears every three or four days, and as cold applications were

very uncomfortable to her eyes, to apply to them, morning and evening, the corner of her handkerchief dipped in chamomile tea, as hot, as it could be pleasantly borne, wiping the lids dry after it was used, and embrocating them, as well as the temples and forehead, with an infusion of elder flowers in camphorated spirit. With this advice the lady left me and went into Hampshire; and in about a month, she wrote to inform me that the leeches had afforded her immediate relief, and had several times been repeated, that the hot chamomile tea was a very grateful application, and her eyes were become quite strong during the day, experiencing only a very small weakness when she exposed them to a very strong light or worked or read much by candle-light."

The foregoing history affords, I think, an assemblage of the most unequivocal symptoms of the morbid sensibility of the eyes, originating from too great a determination of blood to the immediate seat of vision. For, on this supposition alone can we ac-

count satisfactorily, for the speedy relief afforded by topical evacuations.

The next case I shall take the liberty to quote is the tenth, and is denominated, "Weakness of sight with pain in the head, and falling of the upper eye-lid, without visible Ophthalmy, cured by leeches."

"A few years ago, a young lady about twenty years of age came under my care, on account of *such an extreme weakness of sight*, that she could not bear either the light of the day, or that which is given by candles, *without extreme uneasiness*; and her eyelids fell constantly so low over the eyes, that the cornea was scarcely visible at any time without the application of the finger to raise them. This was accompanied with a constant pain in the head, which was particularly severe in one spot over the forehead, which the patient could cover with one end of the finger. The debility and pain had continued many weeks, and was supposed to have been occasioned by too close application to minute painting, the young lady

having excelled so much in this art, as to have been honored by the gift of several medals from public societies of artists. Her countenance, with the exception of the fall of the eye-lids, denoted perfect health, there was no humour in any part of the skin, her pulse was good, and all the evacuations were continued in the most perfect manner. The application of the *citrine ointment afforded no kind of relief*. Electricity, though applied in the mildest manner *increased the weakness*, and made her head more painful. *Strengthening remedies and strengthening applications of various kinds had been tried under the directions of an eminent physician, as well as under my own, without affording the smallest relief*. It was at one time suspected that some disease might exist in that particular part of the head which the young lady described as suffering most on every accession of light to the eyes; and in consultation with Dr. Saunders it was agreed to make a circular incision upon this part, quite through the pericranium, and sufficiently large to include the whole that was described as suffering the chief pain.

A portion of integuments nearly as large as a half-crown piece, was accordingly removed; but no morbid appearance was discovered either in the cranium or pericranium. The young lady, however, experienced much ease after the operation; her eye-lids opened more widely, and the access of light did not give so much pain. She continued better about a week, but after this time the pain and weakness returned in a degree quite equal to that she had before experienced. It was now suspected, that the relief she received from the operation was chiefly occasioned by the loss of blood that attended it.* It was therefore agreed to ap-

* It is a curious fact, and well worthy observation, that the Greenlanders are in the constant habit of making an incision across their foreheads for the cure of a complaint in their eyes (which, from the vivid reflection of the sun's rays upon the snow and ice is, at certain times of the year, epidemic amongst them,) characterized by pain in the organ, with great intolerance of light, a copious flow of tears, and occasionally redness of the conjunctiva. Experience has doubtless confirmed the efficacy of the operation, although their ignorance of the animal economy, and of the nature of the disorder, does not enable them to explain the principle upon which the loss of blood thereby occasioned, proves so certainly beneficial. However, the above facts point out most satisfactorily, that light ope-

ply three or four leeches on the hollow part of each temple. This was accordingly done, and *it afforded her immediate ease*, which lasted about three days; but then the pain in the head returned in nearly as great a degree as before. Six leeches were applied on the upper part of the forehead, and they again afforded great service. It being now *in some measure* ascertained, that relief was *only* to be afforded by *taking away blood* from some part near the seat of the disease, six, eight, and sometimes ten leeches were applied, either on the forehead or temples, once or twice every week for the space of eight or ten weeks; the relief after each application being always considerable, and the pain in the head, with the weakness of sight and falling of the eye-lids gradually amending; and in *about three months, without the use of any other remedy*, these distressing symptoms were all removed; and the young lady became quite free from pain, and perfectly recovered the use of her eyes."

rates by *increasing the action* of the vessels of the visual organs, and not by directly exhausting the irritability and energy of the retina.

The preceding case is, I apprehend another instance of internal chronic ophthalmia, accompanied with a ptosis, or falling down of the upper eye-lids, and a constant pain in the head; symptoms in my estimation, decidedly indicative of topical congestion of blood, affecting particularly the orbits and forehead. That the extraordinary exertion of the eyes in this case, should occasion an unusual determination of fluids to the seat of vision, which by distending the nervous fibrillæ, must necessarily produce acute pain, is not only a rational supposition, but is also consistent with the known laws of vital action. And with respect to the local pain of the head, and falling of the eye-lids, there can be little doubt of an unusual plenitude of the vessels having occasioned these symptoms, which I have known to occur in two instances from a similar cause.

Strengthening remedies and applications were resorted to, but were found altogether inefficient; a manifest proof that the symptoms did not arise from local relaxation and debility. But, as the cause of all the symp-

toms was an accumulation of blood upon the orbits, so by its local abstraction, the symptoms were speedily alleviated, and by the occasional and *sole* use of leeches "in the space of *three months*, the lady became free from pain, and perfectly recovered her sight."

The arguments and facts hitherto adduced, afford, I think, the strongest presumptive evidence in favour of the supposition, that the proximate cause of weakness of sight, is a turgescency, or more or less inflammatory affection of the posterior vascular membranes of the eye. Through the friendship of Mr. Heaviside, I have had an opportunity of examining his extensive and highly interesting collection of preparations on the morbid anatomy of that organ. Amongst these, I have fortunately met with one, which appears to me fully to confirm the truth of the theory I have endeavoured to establish. The leading features of the case (which I am obligingly permitted to publish) are briefly as follow. The man, between fifty and sixty years of age, whilst

labouring under a most violent and fatal attack of acute rheumatism, was seized with a complaint of the right eye, characterized by a great pain in the organ, and fore part of the head, excessive intolerance of light, and violent contraction of the pupil. There was not, however, the slightest external inflammation, as the eye looked fair and well, till within two days of his death, when the cornea lost its transparency, became brown and dark, and the sclerotica inflamed. At this period the patient died; an event which afforded an opportunity of ascertaining, by dissection, the actual state of the eye. Upon removing the cornea, and a portion of the sclerotica, there was found an inflammation and extravasation of blood, with slight ulceration, and incipient ossifications of the choroid: appearances beautifully exemplified by the preparation.

In the *early* stage of the above complaint, there was a *high* degree of morbid sensibility of the eye, although the organ did not exhibit, on the most minute inspection, the smallest vestige of visible organic derange-

ment. The excessive weakness of sight in this instance, coupled with the exhausted condition of the patient, might naturally enough have been supposed to arise from an exquisite sensibility of the nerves of vision. The dissection of the eye, however, proves the fallacy of such an hypothesis, and affords satisfactory evidence of a very important fact in pathology, viz. That a very high degree of inflammatory affection of the choroid may exist, without developing itself by any external marks of disease. Do not then the history of the above case, and its dissection, demonstrably prove, that weakness of sight does not, always at least, proceed from a nervous affection of the retina, but that it is the actual result of a greater or less degree of inflammation of the choroid?—The above particulars are the more valuable, inasmuch as weakness of sight not being itself a fatal disorder, a casual opportunity of ascertaining by examination after death, the real seat and nature of the disease, has, I believe, scarcely ever occurred; at least I know not of any other example of the kind that is left on record. Dr. Baillie,

in his excellent work, on the Morbid Anatomy of some of the most important parts of the human body, has wholly omitted Diseases of the Eye. Even the celebrated Morgagni says, (letter 13. article 21.) "I see no observations in the Sepulchretum of *internal* inflammations of the eye, nor have I any to produce myself; except that I remember in a *blind* dog, the *retina* itself seemed *bloody* and *almost black*; so that it was very easy to conceive what might happen to the choroides, which, by reason of its incredible number of vessels, has sometimes appeared to me, even in sound eyes, to be of a bloody colour, and to that part of it called uvea."

Let it not, however, be inferred from what has been said, that all cases of this disease will equally, and with the same facility yield to simply local evacuations.

Other secondary means deserve the warmest recommendation, which I shall now proceed to notice.

Before, however, particularizing them, I must beg to repeat, that the topical abstrac-

tion of blood seems to me productive of more immediate relief than any other remedy is capable of affording; and is the first with which, in my opinion, we should commence the cure. Its effects are indeed, in general, most strikingly satisfactory. I have lately met with two instances of this disease which had existed for several years,* with greater

* It may perhaps appear extraordinary, that a disease of the eye can exist for so long a period without destroying, more or less, its organization; and be then susceptible of immediate relief even from a single application of leeches. The doctrine I have ventured to advance, supposes only that the blood vessels of the posterior membranes of that organ are, from the causes already assigned, preternaturally turgid, or in a chronic state of inflammation, which we well know may exist in the conjunctiva for a great length of time without destroying materially either its texture or functions. But the retina, during the time of sleep, enjoys perfect quiescence, and in the day time, the patient instinctively protects the eye from an excess of light, at which times probably the vessels recover somewhat their tone and elasticity. From the instance, too, of varicose veins we may infer, that vessels may remain permanently distended to a certain degree, without suffering any sensible uneasiness or essential organic injury, but upon a stimulus being applied so as to increase their dilatation considerably, pain follows, more or less exquisite, according to the degree of their distention, and number of nerves entering into the composition of the affected organ.

or less violence, immediately benefited by a single application of leeches. It will, I doubt not, be argued by practitioners unacquainted with the efficacy of leeches in this complaint, that as there is neither general excitement, nor any visible external Ophthalmia, nor fulness of the vessels of the conjunctiva, they cannot be required. But experience proves, that we must be guided, not by the state of the general functions, or actual appearance of the organ, as in this case little information is to be gained from either of these sources. The presence of *pain* on the admission of a strong light to the eye, is the true and only indication for their use. And if the irritability of the organ subside, the disappearance of that symptom, affords an unquestionable proof of their efficacy, and of the propriety of their application. Whenever, indeed, a degree of advantage, however small, results from their employment, we may deduce a favourable prognosis, and venture to encourage the patient with the hope of his almost certain eventual recovery, by a judicious perseverance in the plan of depletion. In no in-

stance of this disease have I had recourse to the lancet, judging that the topical application of leeches, or cupping and scarifying the temples, was better calculated to answer the purpose of unloading the vessels of the eye, without running the risk of unnecessarily debilitating the patient, by general bleeding.

I must now advert to a remedy, the employment of which, to a greater or less extent, during the actual inflammatory state of the eye, is very generally recommended by writers on diseases of that organ, both ancient and modern. It will readily be conjectured that I allude to purgatives. Hippocrates indeed observes, in his Aphorisms, that "a diarrhœa, or flux of the lower belly, cures the Ophthalmia," a position, the truth of which, taken in its most literal acceptance, I have seen verified in several instances, whether it may have occurred spontaneously, or has been induced by the exhibition of appropriate medicines. Indeed, if we duly consider the great sympathy which exists between the eye and the pri-

mæ viæ, that in young persons especially, indigestible colluvies, or the presence of worms, is a frequent exciting cause of one species of inflamed eye, called *Ophthalmia verminosa*, that purgatives excite a powerful counter-irritation, at the same time that they deterge the alimentary canal, and diminish the quantity and momentum of circulating fluids, by preventing the chyle from entering the lacteals, and by emptying the numerous exhalents, and excretory ducts which open into the bowels; we cannot doubt of their being admirably fitted to relieve a congestion upon the organ of vision. —Are they not indeed universally and successfully resorted to in all cases in which the blood is impelled with unusual violence towards the head? It is, therefore, a subject of astonishment to me, that some authors of no inconsiderable credit, have spoken of them in a manner which clearly shews, that they entertain a very humble opinion of, and little confidence in, their efficacy. Even on the Egyptian *Ophthalmia* I was surprised to read the following declaration by the ingenious Dr. Vetch, “so little benefit result-

ed from their employment, that even in the want of more efficacious means they were not rigorously persisted in." (Account of the Egyptian Ophthalmia, p. 93.) Whereas, in a contagious Ophthalmia which occurred at Breslau, according to the following passage, as quoted by himself, (though to establish a different point) nothing seems to have been more beneficial than a diarrhoea, whether spontaneous, or excited by art, "Gravem epidemicam ophthalmicam, describunt medici Vratislavienses, cum vehementi capitis dolore, et cæcitatæ secuturæ periculo junctam, adversus quam nil erat utilius quam profluvium alvi, sive sponte natura motum, sive pharmacis excitatum."

Perhaps their apparent inefficacy, as described by Dr. Vetch, may have arisen, either from an injudicious selection of the articles of this description; since I find heating *drastic* purgatives are stated to have been employed, which are certainly improper, for by acting with violence on the circulation, they often accelerate the blood's motion, and thus tend to increase the irritation they were designed to allay; or else to the

mode of employing them. And on this latter point I must beg to make a few observations, which have an immediate relation to the subject under discussion.

Purgative medicines as exhibited by practitioners, in general, for the cure of acute inflammation of the eye, whether external or internal, have been given much *too sparingly*, both in regard to their dose, and to the times of their repetition. If they be meant to produce any decidedly good effects, they must at first be administered in a full dose, so as to excite an immediately copious evacuation, and repeated afterwards in such a way, as to keep up a constant determination to the bowels. Should the patient be of a robust habit of body, nothing is so effectual for that purpose as a full dose of calomel with antimonial powder, and in two hours afterwards, a sufficient proportion of powdered jalap, and double the quantity of cream of tartar in mint water, or gruel; by the operation of which, a large discharge of serous fluids is solicited, and the vigour and activity of the general circulation is thereby

sensibly reduced. In more delicate constitutions, the calomel must be given with a more sparing hand, and in lieu of the jalap, an adequate quantity of magnesia vitriolata, in infusio: sennæ, with a little aromatic distilled water.

I have repeatedly observed, that *gentle aperients* in these cases (though strongly recommended by some writers on the subject,) make no impression on the disease; but, if the operation of the remedy be powerful, the most manifest advantage is thereby certainly obtained. Again, in the management of this class of remedies, it is customary to allow two or three days to intervene before they are again repeated, by which time, the effects of the first dose have wholly subsided, and little comparative advantage is gained. On this account, I am in the constant habit of pressing the remedy in a full dose, and as frequently as the patient can bear it; considering that the object in view is, not only to lessen the actual quantity of circulating fluids, but also to prevent their immediate re-accumulation, and the

consequent distention of the vessels, upon which the inflammation depends. This purpose should be effected by the observance, at the same time, of a strictly antiphlogistic regimen, allowing only a small quantity of diluting liquids, as they tend to counteract our indications, and by interposing between the active purgative, small quantities of emetic tartar, combined with some mild saline aperient, repeated so as to keep up a constantly moderate diarrhœa. By these means, I am bold to assert, from my own experince, that there is *no kind* of inflammation, or fulness of the vessels of the eye, which will not be essentially relieved.

And, as purgatives exhibited with attention to the above particulars, have in my hands proved highly advantageous in *every species of acute Ophthalmia*, at the same time that the debility and exhaustion which might be dreaded as the inevitable consequence are altogether imaginary evils, and by no means so great as what is certainly produced by a continuance of the disease, so I have witnessed the best effects from

their use in genuine weakness of sight. To say the least in their favor, they most unquestionably render the *repeated loss* of blood less, and indeed in some instances not at all necessary. When the patient, from any particular prejudice, is extremely averse to leeches, if the case be not very violent, the symptoms may occasionally be removed, though certainly with less expedition, by the liberal employment of purgatives *only*, of which fact the following is an example.

Soon after my establishment in London, a highly respectable captain in the marine service, about thirty-six years of age, consulted me for a genuine, though not very urgent case of weakness of sight, that had distressed him, more or less, for a great length of time, and which, with the highest probability, he imputed to his having been long stationed in a hot climate, where he suffered severely from the yellow fever. I requested him to have some leeches immediately applied to the lower eye-lids. The operator, however, after a tedious trial, failing in his attempts to induce them to bite,

my patient intreated me to devise some substitute, as he entertained an unconquerable dislike to them. In compliance with his wishes, I determined to ascertain, whether purgatives *alone* would not answer the purpose of relieving the turgescency of the deep seated blood vessels, which I considered the immediate cause of the morbid sensibility of the eye to light. Accordingly, I directed a full dose of calomel to be taken at bedtime, and an active cathartic of jalap and cream of tartar the next morning, to be repeated twice or three times a week, to foment his eyes with water, at about 90° of Fahrenheit, every night and morning, and immediately afterwards to apply to them some of the *tinctura opii mitis*, several times a day to wash them with a saturnine lotion made warm, to limit himself to a spare vegetable diet, and expose his eyes as little as possible to the glare of a strong light. At the expiration of eight days he called upon me again, assuring me that he had strictly adhered to my directions, and that he found himself well compensated for his pains, the irritability of his eyes having very sensibly

subsided. He was therefore desired to persevere in the same plan a week or ten days longer, when his eyes being, by the evacuations, &c. rendered capable of enduring a strong light, without experiencing any particular uneasiness, the cure was finally established, by the use of some light bitters, combined with gentle aperients, and a tonic collyrium.

Numerous are the instances in which, from a false epithet having been affixed to a disease, a wrong, sometimes even a pernicious practice has been adopted. Thus, the term weakness of sight, conveys an idea, that it is the result of topical relaxation and debility. Hence the natural inference (not considering that a *sensation* of weakness may arise even from plethora) that the remedies known to possess the property of giving increased tone and energy, must be the best calculated to relieve it. And, from a mistaken notion, (happily now on the decline) that *warm* water debilitates, and *cold* strengthens, the former has been rejected, and the latter generally recommended as the

best application for weakness of sight. Experience, however, proves that, though the eye may occasionally (for even this is by no means invariably the case) feel a temporary *apparent* advantage from the use of cold water which by constringing the vessels, and inducing torpor, lessens the acuteness of pain for a while yet, when heated to a temperature as high as can be conveniently borne, and applied in that state for ten minutes, or a little longer, night and morning, the patient experiences from it a much more permanently grateful and soothing sensation, and a far greater alleviation of the extreme sensibility of the organ. In several instances, I have caused poppy heads, chamomile flowers, rosemary, eyebright, &c. to be infused in it, and applied as a warm fomentation to the eye; but I am not qualified, by comparative experience, to decide, whether the addition of any of the above articles has really augmented its efficacy. At the same time I must remark, that my observations do not justify the conclusion, that the warm water is thereby rendered less beneficial. They may, therefore, be added, or withheld

according to the judgment of the practitioner. I cannot, however, omit to state in this place, that I have used a warm decoction of digitalis,* with the effect of materially diminishing the exquisite sensibility of the eye, nor does its application produce any uneasiness, like the different preparations of opium.

Although I have spoken in high terms in commendation of the good effects derivable from a hot fomentation, consisting either of simple water, or medicated with different kinds of herbs, yet I have found from a good deal of experience, that its efficacy is great-

* In a conversation I have just had with Dr. Haworth, he assures me, and permits me thus publicly to state, that he first used this remedy upon himself, with the greatest success, at the commencement of a violent inflammation of his eye, attended with great pain and irritability of the organ; symptoms which rendered the *vinum opii* inadmissible: and that he has since directed it for others with equal advantage. A patient of mine, who at this time labors under a tremendous attack of the Egyptian Ophthalmia, experiences from it the most striking alleviation of his sufferings. I am informed likewise, that it has been extensively and effectually employed in a strong infusion, by an eminent veterinary surgeon, in violent inflammations in the eyes of horses.

ly increased by the subsequent application of the following tincture. As the infusion of digitalis is itself a powerful sedative, whenever it is preferred as a substitute for the hot water, the opiate may be omitted.

Tinctura opii mitis.

Rp. Opii* purificati

Croci anglican. 2 dr'ms

Spirit gallic albi 1 oz.

Aquæ distillatæ 7 oz. macera in vase clauso, per sex dies, deinde tincturam cola.

The object in using the above tincture is to allay, by its sedative qualities, the excessive irritability of the eye. From a variety of experiments I have found, that saffron applied to that organ (in the form of a warm infusion,) when in pain, tends most powerfully to take off its morbid sensibility; and

* Opium and saffron were in constant use by the ancients as applications for the eye. In *all* the various formulæ for collyria described by Celsus, we find that the papaveris lachrymæ constitute an essential ingredient; and to several of them likewise saffron is added.

I need not add, that opium is well known to do the same, when judiciously used. After trying these articles separately, and combined, and in different proportions, no preparation appeared so completely to answer my purpose as the above, the application of which to the eye, excites very little pain, and only for two or three minutes, whilst the most comfortable sensation of tranquility, and freedom in the motions of the organ, invariably follow its use. I find too, that the tincture prepared as above directed with white French brandy, instead of rectified spirit, occasions far less irritation. Sometimes a copious effusion of tears is the consequence of its application, together with a somewhat increased redness of the conjunctiva. But at other times the epiphora is very inconsiderable, in which event, however, I am not aware that its effects are less salutary.

The Tinctura Thebaica of the Pharmacopœia Londinensis for 1745, I have repeatedly ascertained to be much too stimulating for the eye in this disease, on account

of the aromatics, and large proportion of opium added to the wine. And the Tinctura Opii of the new Pharmacopœia is also inapplicable, in consequence of the additional quantity of alcohol it contains.

In the application of the Tincture, some attention and address are required, the eye, in this complaint, being unusually alive to the most inconsiderable stimulus. I will beg, therefore, in this place to annex a few directions, relative to the best modes of using it.

The patient being placed in a supine posture, with the head somewhat elevated, and the eye-lids gently closed, a little of the tincture should be poured into the corner of the eye next the nose, (called the inner or great canthus) from whence it should be suffered gradually to insinuate itself between the palpebræ, by inclining the head to that side, and, at the same time, twinkling the eye-lids; avoiding, in the interim, most carefully, every rude effort forcibly to separate

them. Or, it may be applied by means of a camel's hair brush, in the following manner.

The operator, with the two fore fingers of one hand, must cautiously depress the lower eye-lid, by which it will become somewhat everted, when the hair pencil, fully charged with the tincture and held in the other hand, is to be rapidly and dextrously swept across its inside, permitting the eye-lid instantly to resume its proper situation. The reason for directing the remedy to be thus applied to the eye-lid, is with a view to avoid irritating the cornea. By either of the above methods, the tincture will become accurately diffused over the whole anterior surface of the globe of the eye. I am not aware, that more pain or irritation is produced, when we use many, than when only a few drops of the tincture are admitted to the organ, provided it comes in contact, as it certainly ought, with the whole of the cornea. It may, perhaps, be thought by some, not very conversant with this branch of practice, that I have been unnecessarily

minute, in presenting my readers with the above directions. However, I have deemed them by no means superfluous, from having had frequent occasions to remark, that in applying remedies of the above description, to the very delicate organ of vision, persons ignorant of the proper mode of procedure, not uncommonly *pull open* the eyelids, and drop the tincture upon the *very centre* of the cornea; on the due performance of which not less difficult than injurious process, much of the efficacy of the medicine has been erroneously supposed to depend. Whereas, by so doing, the pain is very much increased, and the irritation which follows, in a very considerable degree counteracts the good effects which would otherwise result from its more judicious application.

When the disease has become very inveterate, it sometimes happens, that the remedies already recommended have proved *alone* insufficient to effect a radical cure. In these unusually obstinate cases, a permanent blister, applied upon the head, under

the ears, or between the shoulders, has been found eminently serviceable, (after evacuations have been duly premised,) the constant irritation and discharge it produces exciting a salutary derivation from the eye. A very learned friend of mine, brought on this complaint to a most alarming degree, by intense literary lucubrations. After suffering inconceivably for a long period, and fruitlessly trying a variety of tonic and other remedies, prescribed by the most distinguished of the faculty, he speedily obtained great relief, and eventually a perfect restoration, by the occasional use of purgatives, a low diet, confining himself to a perfectly dark room, and forbearing his studies, and suffering a large blister to be kept open on his back for many months.

I shall now make a few practical observations in regard to eye waters in general, as also to their application to the disease under consideration in particular.

On this topic, my own experience, to a certain extent, confirms the following judi-

cious declaration of Hoffman.* “Ausim dicere, plures visu privari, ex imperitia applicandi *topica*, quam ex ipsa morbi vi, ac magnitudine.”

To a person conversant with ocular complaints, it is really a matter of astonishment to witness the gross mistakes that are perpetually made in the selection, and proper management of external applications for the eye. For, nothing is more common, than to see astringent lotions resorted to in the very *early* stages of Ophthalmia, by which the inflammation and pain become speedily and excessively exasperated. Whereas, if they had been withheld till the secondary symptoms had commenced, their utility would then have been as strikingly displayed, as in the former instance was the mischief they occasioned. Indeed, it has been doubtless owing to the *casual* employment of the tonic class of medicines, during the *chronic* state of inflammation, that many boasted nostrums of this description are in-

* Dissertatio de error. vulg. circa usum topicor. in praxi Sec. 7.

debted for their reputation, in the cure of morbid affections of the eye. I should not, probably, be incorrect in asserting that, more injury has resulted from injudicious officiousness in this particular, than from all other measures which have been adopted for complaints of that organ. Innocent as a common poultice is generally esteemed, I have in several instances of Ophthalmia, seen it applied with the lamentable effect of causing, in some instances, the formation of abscesses between the lamellæ of the cornea, which not unfrequently end in incurable blindness, by the opacity they leave behind them; and in other cases, it has occasioned a speedy ulceration, and consequent rupture of the cornea, and staphyloma. In fact, a good remedy *untimely* applied to the eye, has often rendered its diseases, which were at the time scarcely uneasy, absolutely incurable. And I am persuaded that, less mischief would in general arise, were every kind of application for the eye withheld, than from employing improper ones. And thus it has scarcely ever happened, that an appropriate collyrium has

been used for the disease under consideration. Amongst the different formulæ prescribed for it, the *Zincum vitriolatum* has almost invariably been the efficient ingredient on the supposition doubtless, that astringents alone were required with a view to brace the fancied relaxation of the organ.

From the amplest experience of the effects of that plan I dare maintain, that till the plenitude of the vessels is diminished by proper evacuations, it uniformly does harm. Indeed, I have really my doubts, whether eye waters are at all desireable, during the existence of the great tenderness of sight. If any are advisable, I would recommend such only as are calculated to allay action, and appease pain, as the different preparations of lead; of which probably the best is composed of the *cerussa acetata* gr. j. dissolved in 1 oz. elder flower water, and rendered perfectly limpid by the addition of a few drops of distilled vinegar. When used, it should be made a little warm, by immersing a cup, containing some of it, in a bason of boiling water. For I must repeat, that *cold* applications manifestly do

harm in the *early* stage of this complaint, probably by constringing the exhalent pores of the cornea, and by propelling the blood from the superficial, to the deep-seated vessels of the eye, already in a preternaturally turgid condition.—And, if any good effects are to be derived from the lotion, it must be repeated frequently during the day.

I trust I shall be pardoned for the digression, if I cursorily make a few practical remarks on the composition of eye waters.—According to the manner in which they are occasionally prescribed, I am convinced that they are mischievous, when employed in cases of ophthalmia, or of great irritability of the eye. I allude to the custom of making them with the oxyds of metals, or other rough and insoluble powders, or with liquids, which though pellucid individually, yet when mixed together, suffer an immediate decomposition, and in consequence the eye water is rendered more or less turbid and inert. Indeed, nothing is more common than to see the cerussa acetata dissolved in *common* water, by which the lotion

becomes instantly opaque, and the greater part of the lead is soon precipitated in form of a whitish calx. Must not the rough ingredients above alluded to, stimulate the exquisitely irritable cornea in some degree like so many heterogeneous particles of sand? Sometimes the tinctura, or the vinum opii, is added to an aqueous vehicle, the resinous particles of which separating from the watery menstruum, they are introduced into the eye, and adhering to some part of the globe, excite in it no small degree of irritation. However refined this may appear to the inaccurate observer, I must declare that, I have personally witnessed very acute pain having been brought on by this apparently trivial cause, which has not ceased, until the removal of these little filaments of opium.*

In a word, I hold it to be an invariable maxim, that eye waters should be rendered *perfectly transparent* before using, either by

* I have met with similar effects from neglecting to pass an infusion of digitalis, prepared with fine powder of the plant, through linen cloth, before using it.

the addition of an appropriate solvent, (if the active ingredient be derived from the mineral kingdom, taking care that it coincides with the intention of the remedy,) or else by filtration through paper.

But, although I am not strongly prepossessed in favour of any kind of collyria, from a satisfactory experience of their utility in weakness of sight, *before* the exquisite sensibility of the retina is relieved by the plan of depletion above recommended, yet *after* this object is once fully attained, the vessels of the eye will *then* require astringents to impart increased tone and energy. Otherwise, a relapse would be very apt to occur, from the blood again accumulating in vessels, relaxed by long continued overdistension.

Of the applications best adapted to accomplish that purpose, I may name a weakish solution of *Zincum vitriolatum*, dissolved in camphorated mixture, or in rose water, and filtered. But I think a still more effectual collyrium is formed of one drop

of the sulphuric acid, and an ounce of distilled water, to which may be added a few grains of *Zincum vitriolatum*, and a small quantity of brandy. Nor, is a solution of the *argentum nitratum*, in the proportion of from half to a whole grain to one ounce of distilled water, and half, or a whole drop of the nitrous acid, a contemptible tonic collyrium in this case. Even cold spring water is a remedy, by no means destitute of efficacy in this stage of the complaint.

The above eye waters, being intended to act as corroborants, should, of course be, applied *cold*, three or four times a day.

After what has been stated in the preceding pages, relative to the proximate cause, and mode of curing weakness of sight, it is scarcely necessary to add, that till the intolerance of light is subdued, a vegetable diet, more or less slender according to the urgency of the symptoms, and the strength of the individual, should be strictly enjoined, as well as a total abstinence from all kinds of stimulant, and fermented liquors.

But as soon as it is deemed prudent to employ *tonic* applications for the eye, the regimen must then be altered for one of a more generous description. At the same time, the internal exhibition of the bark, or other restorative medicines, (the bowels in the interim being preserved moderately open by rhubarb, or some appropriate aperient,) will be found highly conducive to complete the cure. Likewise, gentle exercise, and the cold bath, or sea bathing, will co-operate with the measures already pointed out, for effecting a permanent re-establishment.

Whenever the eye has been unusually dry, accompanied with a slight degree of heaviness about the orbits, a snuff of powdered foxglove,* or one composed of equal parts

* In the lists of errhines, I do not recollect to have seen the foxglove included ; a herb which, I believe, is scarcely known to possess the peculiar property of that class of remedies.

From experience, however, I find that, when used in its active state, it excites a very copious excretion of thin mucus from the membrane lining the nostrils, without producing any narcotic effects.

This fact was first communicated to me by an eminent physician in the country, who became accidentally acquainted with it, by observing an old woman using it as a substitute for common snuff.

of the pulvis asari compos : and pulv : fol : digitalis purp : has afforded considerable relief, the discharge this preparation solicits from the sneiderian membrane, tending most powerfully to unload the contiguous vessels of the eye. Under these circumstances, different applications made use of to the eye itself, have also proved beneficial. Of these, the most effectual is the vapour of strong spirit ammon : comp : or alcohol, made to come in contact with the cornea, either by pouring a tea-spoon full of it upon hot water in a deep vessel with a narrow top, and holding the head over it, that the exhaled vapour may ascend to the eye ; or else, by placing very near to the eye, a wide mouth bottle containing some ounces of it, and immersed in a bason of hot water.—The volatile effluvia, thus made to issue from either of the above articles, coming in immediate contact with the eye, speedily excites a pungent pricking sensation, which is soon followed by a copious effusion of tears, and great relief of the organ.

In a few very obstinate cases, I have

thought that a pill, composed of half or a whole grain of calomel, with about five grains of the powder of *Cicuta*, given for some time every night at bed-time (occasionally interposing a purgative to prevent the mouth from being thereby affected,) has been decidedly beneficial ; probably by removing some slight obstructions, that may have arisen from the long continuance of the complaint.

I cannot conclude this part of my work, relative to the mode of curing weakness of sight, without urging in the strongest terms, the absolute necessity of avoiding, for a time at least, its *exciting* causes ; whether these may have been, intense application to reading, writing, or fine needle work, the exposure of the eyes to the bright rays of the sun, the factitious light arising from brilliant lamps, (which, though fashionable, are highly detrimental to sight,) or the luminous reflection of snow, &c. &c-

At all events a *vivid* light, from whatever source arising, should be studiously guard-

ed against, as a cause equally capable of producing, and exasperating the malady. In the treatment of very violent cases of this occasionally rebellious complaint, an almost *total seclusion* from *strong light*, becomes indispensably necessary ; or else our best directed efforts may prove abortive.

When the complaint, however, is *recent*, the result only of a *sudden change* from a *moderate* to a *strong light*, and the *predisposition* to it is neither *hereditary*, nor acquired by *previous disease* of the organ, its perfect resolution may often be accomplished, by the removal *only* of the *exciting cause*. In illustration of this assertion, (and instances of a similar kind have probably fallen under the observation of most practitioners,) I shall present my readers with the two following appropriate and highly interesting cases, extracted from a sensible anonymous little tract, "On the Fabric of the Eye," published in the year 1758.

" A lady from the country, coming to reside in St. James's Square, was afflicted

with a pain in her eye, and a decay of sight. She could not look upon the stones, when the sun shone upon them, without great pain. This, which she thought was one of the symptoms of her disorder, was the real cause of it. Her eyes, which had been accustomed to the verdure of the country, and the green of the pasture grounds before her house, could not bear the violent and unnatural glare of light reflected from the stones. She was advised to place a number of small orange trees in the windows so that their tops might hide the pavement, and be in a line with the grass. She recovered, by this simple change in the light, without the assistance of any medicine, though the eyes were before on the verge of little less than blindness."

Had the cause of the weakness of sight in the above instance escaped detection, and had the lady remained *unconsciously* exposed to it for a great length of time, it is very probable that, such a determination of blood would have taken place upon the eyes, that the cure could only have been accomplish-

ed by the most rigorous adoption of the measures described in the former part of this work. In this instance, however, effectual relief was fortunately obtained, by simply obviating the glare of light, which originally induced the disease.

The following case is also equally illustrative of a similar highly interesting practical fact.

“ A gentleman of the law had his lodgings in Pall Mall, on the north side, his windows were exposed to the full noon sun, while the back room having no opening, but into a small close yard, surrounded with high walls, was very dark. He wrote in the back room, and used to come from that into the front to breakfast, &c. His sight grew weak, and he had a constant pain in the balls of his eyes ; he tried visual glasses, and spoke with oculists, equally in vain. Being soon convinced that, the suddenly coming out of his study into the full blaze of sun-shine, and that very often in the day, had been the real cause of the disorder ;

he took new lodgings, *by which*, and *forbearing to write by candle light*, he was very soon cured."

By such unheeded, and oftentimes unsuspected causes, individuals occasionally induce the most miserable weaknesses of sight nay in some instances, absolute blindness. And, as prevention is generally more easy than cure, they who experience the smallest defect of sight, should be particularly attentive to avoid every circumstance which, however apparently trivial, can directly or indirectly injure the organ of vision. To the preservation of sight, nothing conduces more than the admission of only a moderate light to the eyes, when engaged in reading, writing, needle work, or any other fine dazzling employment, in quantity proportioned to the the sensations of the organ, and exigencies of the occasion. Also, particular care should be taken to avoid all sudden and frequent changes, from comparative darkness, to the full glare of light.

Even too little light is far less injurious

to the eye than *too much* ; for the former does harm, only when the organ is unnaturally strained to see objects to which the degree of light is confessedly inadequate ; but an *excess* of light never fails, permanently to injure, more or less, or totally to destroy sight. By inattention to the above particulars, and by the frivolous æconomy of a quarter of an hour of the evening, many persons have prematurely sacrificed the comfortable use of their eyes ; whereas, by proper care, they might have been able to enjoy the pleasures and comforts that arise from distinct vision, for many years, unimpaired.

In the event, however, of the patient being so circumstanced that he finds himself under the absolute necessity of reading, writing, &c. he should endeavour to select *day light*, and a *gloomy apartment*, for the purpose. And he would, at the same time, find it highly advantageous, during those exertions, to indulge himself with a pair of glasses, called preservers. Upon these occasions, *green* have been, by oculists, as well as opticians, almost invariably recommend-

ed. It is, indeed, universally admitted, that a *green colour* is highly grateful to the eye. For who has not experienced the sensation of greater ease and pleasure, from viewing the green fields during the vernal months, than from beholding the earth covered with shining sand, or dazzling snow, and illuminated by the refulgent beams of the noontide sun? And is it not for this principal reason, that indulgent nature has so bountifully distributed this cheerful colour throughout the vegetable kingdom? I must, however, beg to remark, that there is a very essential difference between *looking at*, and *through green*. A greater exertion of the organ of vision is unquestionably required in using *green* than *white* glasses, on account of their opacity. The objects too, seen through them, appear of a dingy yellowish hue, (a defect which I admit is greatly corrected by habit and experience,) and when taken off, the impression of light must be proportionably stronger, and consequently more injurious to the sight. For by using *green* spectacles, especially those of a *deep tint*, the eye is subjected to frequent, and not incon-



















