

Attempt to investigate the cause of the Egyptian ophthalmia : with observations on its nature and different modes of cure / by George Power.

Contributors

Power, George.
Soden, John Smith, 1780-1863
Bath Medical Library
University of Bristol. Library

Publication/Creation

London : printed for John Murray, 1803.

Persistent URL

<https://wellcomecollection.org/works/fn8fcd3m>

Provider

Special Collections of the University of Bristol Library

License and attribution

This material has been provided by This material has been provided by University of Bristol Library. The original may be consulted at University of Bristol Library. where the originals may be consulted.
This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

ATTEMPT
TO
INVESTIGATE THE CAUSE
OF THE
EGYPTIAN OPHTHALMIA;
WITH
OBSERVATIONS
ON ITS
NATURE AND DIFFERENT MODES OF CURE.

BY GEORGE POWER,
ASSISTANT SURGEON TO THE TWENTY-THIRD REGIMENT OF
FOOT, OR ROYAL WELCH FUSILIERS.

LONDON:
PRINTED FOR JOHN MURRAY, 32, FLEET-STREET.
(PRICE HALF-A-CROWN.)

1803.

TO
THOMAS YOUNG, Esq.

INSPECTOR-GENERAL OF HOSPITALS TO THE
FORCES SERVING IN EGYPT, THE
MEDITERRANEAN, &c. &c.

SIR,

AS trifles receive a value when made the offerings of respect and esteem, the following little work is presented as a testimony of the warmth with which its Author feels those sentiments.

If a series of services eminent and active, in every variety of Climate, and in every enterprise of consequence during the late war, should not afford a sufficient claim to praise, strict honor and justice in the disposal of preferment, an unexampled assiduity in promoting the happiness of the Soldier, accompanied with the mildest humanity, and a steady unremitting attention to the performance
of

of duties the most painful and perilous, are features in your character engraved on the heart of every British Soldier; and what redounds yet more to the honor of Human nature, were felt and acknowledged with the liveliest sentiments of gratitude by a conquered Enemy: an enemy to whose wants you administered with a generosity and concern that have reflected an additional lustre on the British name and nation.

To profit by such an example, and to merit a continuance of that approbation, which it has been my pride to cultivate, shall be ever considered by me as an honorable and pleasing duty.

I have the honor to be,

S I R,

With high respect and gratitude,

Your most obedient Servant,

GEORGE POWER.

London, Feb. 22,

1803.

INTRODUCTION.

HAVING been attached to the Medical Staff of the army that served during the Campaign in Egypt, in the year 1801; and having had under my care several hundred Patients afflicted with a variety of complaints incidental to the Climate; I am induced to offer a few Observations on one of the most dreadful diseases that has ever visited mankind, viz. a Species of OPTHALMIA, which seems to be Endemic, and to originate in that country.

I have

I have great respect for the opinions of others, and it is with diffidence that I dissent from those who have preceded me in their accounts of this disorder. But there not having yet appeared any practical work on this subject, as far as I am acquainted, sufficiently accurate to be generally useful, I may be allowed without much arrogance to state my own ideas of its cause, as well as of its nature and mode of cure.

As the disease itself is of a peculiar nature, and providentially unknown in these climates, I shall endeavor to give a short History of it, and then enquire if it be contagious, and whether intimately connected with the Plague, as hath been supposed.

Secondly, I shall proceed to give a description of the disease.

Thirdly, I shall point out the different modes of treatment, as well those employed by the Natives as those recommended and practised by the French Surgeons and our own. When
this

this is done, I shall contrast their several methods of cure with that which fortunately occurred to myself, and which was afterwards found peculiarly beneficial.

On a review of this little Work many errors will be found that I shall not attempt to vindicate. The time afforded me for observation or enquiry was extremely short, and constantly interrupted by those severe duties and numerous deprivations of which those only who have been in Egypt can form any adequate idea. To such I would appeal did I not already anticipate their admission of my claims to indulgence. But should the observations I shall offer encourage others to a more successful investigation of the causes and cure of the disease, I shall think my labors, whatever they may be, more than rewarded. At the same time it will make me happy should the profession in general deem the subject, as I have treated it, not unworthy of their regard; or receive the smallest insight into the nature of a disease which has proved so peculiarly destructive.

The loss of my port-fueille, containing a number of interesting cases of Ophthalmia, produces a deficiency which I would not supply from memory, lest I should commit the slightest trespass on veracity.

ATTEMPT

A T T E M P T
TO INVESTIGATE, &c.

SECTION I.

TO trace the history of the Ophthalmia of Egypt through the works of the various Authors who have mentioned it, would lead me too far from my present purpose, and at the same time be unnecessary to those, for whose perusal this work is principally designed.

However, as Prosper Alpinus, who resided some years in Egypt, and published a large work on the diseases of that country, about the year 1590, makes particular mention of the Ophthalmia; and as a late very respectable traveller, M. Volney, seems to have collected the opinions of the most ap-

proved Authors on that subject, from the above period to his own time, viz. A. D. 1780; I shall content myself with these two Authorities, to shew what various and contradictory opinions have been formed both as to the cause and the nature of this disease, and consequently the little dependence that can be placed on any of them. Neither will the uncertainty be removed by two late papers, the one published by Doctor A. Savaresi, Surgeon to the French Army in Egypt; the other inserted in the 37th number of the Medical Journal, March 1802, entitled, "Mode of managing Ocular Inflammation," by Doctor Whyte. This gentleman was chiefly employed in officiating as Surgeon to the Transports in the bay of Aboukir.

Prosper Alpinus, from whose excellent work "De Medicina Egyptiorum," I have selected a few of the most concise and expressive passages, in treating of the diseases of Egypt, informs us, "that when the dust or the sand of the Desert
 " was agitated by the hot southerly winds, and
 " the air itself became heated, a vast number of
 " epidemic and fatal diseases, some of them
 " rising

“ rising into phrenzies, prevailed in Cayro :
 “ that Ophthalmies of the severest nature
 “ owed their origin to this circumstance : that
 “ in the winter season foreness of the eyes was
 “ a general complaint in Alexandria : but that
 “ *at all seasons of the year*, the inhabitants
 “ of Cayro were subject to inflammation of the
 “ eyes, in consequence of a nitrous powder
 “ in the atmosphere.” His words are these,
 “ Pulvis illa vel arena copiosa ventis arrepta,
 “ atque per aërem agitata, non minus quam
 “ aër suo calore corpora lædit, atque offendit,
 “ oculosque maximè quos mordet et inflammat.
 “ Hincque epidemias plurimas et Ophthalmias
 “ quæ tunc temporis per illam urbem (Scil
 “ Cayrum) vagantur, originem habere dicerem.
 “ Quo tempora multas pestíferas febres, atque
 “ phrenitides, homines non diebus sed horis
 “ paucis perdentes, scævissimasque Ophthalmias
 “ ibi vagari observavi.——Hyeme oculorum
 “ lippitudines ibi (Scil. Alexandr.) multæ va-
 “ gantur. Plurimasque Cayri easdemque per
 “ omnia anni tempora homines invadere ob ni-
 “ trosum pulverem qui continuè oculos habitan-
 “ tium

“tium mordicat et calefacit. * *Sparfim vero*
 “per urbem *toto anno* hæ oculorum inflamma-
 “tiones vagantur (Prosp. Alp, De Med. Egypt.
 “lib. 1. p. 10, 24).”

However, as hot winds seldom occur in the winter-season, and as all the Alexandrian diseases are supposed to be produced by moist exhalations arising from the excavations under the city, as well as from the lake Mareotis in its vicinity, the Ophthalmia cannot possibly arise here from the same causes to which it is attributed in Cayro; and if it arise there from others opposite to those here assigned, the disease must be imputed to some other cause or causes, more general, and common to both situations.

In enumerating the causes of the Ophthalmia, M. Volney acquaints us,† “that this disease is
 “frequent

* This sentence must have escaped M. Volney's observation; otherwise he would not have questioned this Author's veracity.— See ‘Volney's Travels in Egypt,’ page 151.

† Chapter xviii. page 151.

“ frequent in Syria, on the sea-coast; that in
 “ the city of Cayro, which is always full of
 “ filth, the disorder is more frequent than in
 “ all the rest of Egypt; that the common
 “ people are more liable to it than persons in
 “ easy circumstances, and the natives more so
 “ than strangers: and that the Peasants of the
 “ Delta are more subject to it than the Bedouin
 “ Arabs who inhabit the Desert;” adding that
 “ these defluxions happen at no certain sea-
 “ son, notwithstanding what is said by Prosper
 “ Alpinus: But are an epidemical disorder,
 “ common to every month of the year, and to
 “ every age.”

In reasoning from these principles, the Philo-
 sopher does not admit the southerly winds to be
 a principal cause, since in that case the disease
 would be peculiar to the month of April, and
 the Bedouin Arabs be affected with it like the
 peasants; neither does he ascribe it to the sub-
 tle dust with which the air is filled; because the
 peasants of the Delta are more subject to it than
 the inhabitants of towns.

The

The custom of sleeping at night on terraces in the open air approaches nearer, in his opinion, to the true cause: but even this he does not conceive adequate to the effects ascribed to it, “unless it be admitted,” to use his own words, “that the air may receive some unknown
“noxious quality from the vicinity of the sea,
“as well as from the custom of wetting the
“streets, which affords a combination of moisture with heat.”

Amongst the predisposing causes to this disease M. Volney mentions the usual diet of the Egyptians, which generally consists of green fruits, and raw vegetables, particularly onions, “which,” he says, “produces a disorder in the
“stomach that physicians have observed to affect the sight.” The custom of shaving the head, and the covering it with a very hot head-dress, is also added to his long list of causes, together with an hereditary predisposition.

Doctor Savaresi, as well as I can recollect, for I have not his paper by me, conceives the disease to arise from the irritation excited by particles of sand, as well as of calcareous and
argillaceous

argillaceous earths, that are blown into the eyes by the wind.

To these he adds the influence of the sun's direct rays on the uncovered head, and exposure to the humidity of the night-air, without the precaution of covering the eyes, which are previously weakened by too much glare.

Doctor Whyte, who thinks the reasoning he has employed "consonant not only to the established laws of hydrostatics, as well as to those of the animal œconomy," but, as it should seem, even to the doctrine of pneumatics; although he admits, "that in some cases exposure of the naked eye to the intense heat and vivid rays of a nearly vertical sun, may occasion an expansion of the humors and dilation of the vessels of that delicate organ;" and also "that exposure to the nocturnal dews may serve as an exciting cause to Ophthalmia," conceives that he gives "a more definite idea of the phenomenon in stating, that by exposure to nocturnal cold, the fluids receding from the major part of the superficies, are forced to concentrate themselves in that part or organ

" laboring

“ laboring under the greatest absolute or relative debility, which is in this case the eye.” He likewise ascribes the disease to particles of sand blown into the eyes by the wind; and in a postscript to his paper, takes notice of an Essay written by citizen Bruant, but which I lament that I had not an opportunity of examining; in which, however, the Ophthalmy is said in some cases to proceed from bilious accumulations in the primæ viæ, and in others from *nervous irritability*.

Doctor Whyte ridicules the idea of any saline powder being the cause of Ophthalmia, “ When a single grain of sand, of which there “ would appear to be no scarcity in the lower “ part of the Egyptian atmosphere, will sufficiently explain the phenomenon.”

And the Doctor, so far from supposing any danger to arise from exposure of the head uncovered to the heat of an almost-vertical sun, informs us, “ that although exposed the greater “ part of the day in an unshaded boat, he left “ off wearing a hat, and substituted a small tam-
“ mata

“mata of green filk, to intercept the sun from
“his eyes.”

By this practice the Doctor purposed “to
“demonstrate to the world, that the disease
“which is fantastically termed *Coup-de-Soleil*
“proceeds from very different causes than ex-
“posure of the head uncovered to the influence
“of solar heat.”

This demonstration, however, the world is
deprived of, by a very melancholy event, as
the unfortunate gentleman, hoping to prove
that the plague was not contagious, inoculated
himself twice with the matter effused from a
pestilential abscess; but on making the third ex-
periment, died a victim to his own visionary
speculations.

SECTION II.

FROM the variety of opinions that prevail with respect to the exciting and predisposing causes of the Egyptian Ophthalmia, it will appear probable that very little has hitherto been understood as to its real and efficient cause.

Conceiving, therefore, that to ascertain this point would be useful, not only in pointing out the Preventive Means, but also in leading to a better understanding of the disease itself; I shall endeavor to select those opinions which seem to be the most rational, rejecting others, which, though founded upon false principles or mere hypothetical conjectures, yet being exhibited in all the “lustre of elegant but
“superfluous”

superfluous" verbage, have often "dazzled
"and destroyed."*

As the sands of Egypt are very generally conceived to be the exciting cause of Ophthalmia, I shall in the first place observe, that although particles of sand when blown into the eyes by the wind, might induce a species of Ophthalmia by irritating the coats of that delicate organ; and even admitting that this sand by strongly reflecting the vivid rays of the sun may induce a degree of debility,† and render the eye highly susceptible of disease; yet that I am far from supposing this sand to be the efficient cause of the Egyptian Ophthalmia.

First, because the Bedouin Arabs who inhabit the Desert. are exempt from it: to which may be added, that General Baird's army on their
arrival

* Vide Doctor Whyte's pamphlet on Ocular Inflammation.

† This I suppose to be the nervous irritability of citizen Bruant.

arrival at Cayro, after a fatiguing march over the Isthmus of Suez, did not appear to have suffered at all from Ophthalmia.

Secondly, because our foldiers were found to contract the difeafe chiefly in the night, when the heavy dewes prevented the duft from floating, and alfo when they were pofted * in the moft fertile parts of the country.

And thirdly, becaufe it will appear that this difeafe occurs in places where neither of thefe caufes could have poffibly operated.

Nor is it rational to fuppofe, that this difeafe proceeds from any Phyfical qualities in the articles of diet, affecting the eyes particularly, but only as they affect them in common with the whole fyftem.

Nor

* One third of the men compofing the night-picketts of the army encamped before Gheza, always returned from that duty with Ophthalmia, and frequently with ulcerated fauces.

Neither can I be persuaded that the Egyptian Ophthalmia proceeds from the custom of shaving the head, and the wearing what M. Volney calls a prodigious hot head-dress; because in such a climate as that of Egypt, where the object is to avoid external heat, the numerous folds of the turban must afford a shelter to the head from the fervid rays of an almost-vertical sun; while the want of hair furnishes a no-less-desirable security against a certain species of vermin with which the very sands of Egypt abound.

Some arguments have been advanced, and experiments made by the French surgeons to prove, that particles of sand, as well as calcareous and argillaceous earths, &c., were the exciting causes of the Egyptian Ophthalmia; but for the reasons already suggested, these substances must be considered rather as aggravating causes.

It

It may not be amiss to observe, that those employed in the cultivation of rice are peculiarly affected with blindness. But as these plantations are always covered with water, this disease more probably occurs from moist and unwholesome exhalations, than from any physical properties in the rice itself, to which when used as food the disease has been erroneously attributed.

From these circumstances it appears that we have still to investigate this "*unknown noxious quality*" in the air, as Volney calls it, before we can form any well-founded conjecture as to the real cause or nature of this disease. I shall therefore beg leave to offer a few loose observations, by way of analysis, of the Physical properties of the Egyptian atmosphere, when impregnated with those substances that seem to be the immediate cause of disease; leaving the investigation of the more subtle and fugacious elements which compose it, to those who have had better opportunities, and more leisure to attend to so very interesting a subject, but
which

which appears to have attracted the notice of
the earliest writers.

Nam quid Britannum cœlum differre putamus,
Et quod in Egypto est, quâ mundi claudicat axis !

Lucretius, lib. vi. v. 1104.

How different breathes the air of Britain's isle,
From that which stagnates on Egyptian Nile !

SECTION

SECTION III.

AS the immense quantities of animal and vegetable substances which abound in Egypt, when acted upon by great heat and moisture, cannot fail to pass into putrefactive fermentation, putrid effluvia must there assume the highest possible degree of malignity: the deleterious effects of which upon the human body are so obvious, even to persons not versed in the medical art, that any arguments for its proof or illustration will be unnecessary.

It

It fortunately, however, happens for the inhabitants of Egypt, that these effluvia, so destructive to human life, become susceptible of new changes, whilst buoyant in the atmosphere, by spontaneous decomposition, whereby their component parts, becoming disengaged, are either reduced to their first principles ; or, by taking a new arrangement, form compounds, by combination with other substances in the atmosphere, to which they have a greater affinity. Thus the earthy and saline substances that abound in the Egyptian atmosphere are produced, whilst the swarms of insects that are propagated, probably tend to correct the putrescence of the air by a passive as well as an active agency, which it is not necessary here to insist upon.

These substances, however, whilst suspended in the air become new though less destructive causes of disease.

D

The

The ammoniacal* and fixed alkaline salts either in a nascent state, or combined with different acids, whilst floating in the wind or deposited with the dews, may tend to occasion

* Ammonia, composed of azot and hydrogen, in its formation absorbs the overplus of mephitic air, which the abstraction of oxygene, or vital air, in the formation of nitre would otherwise produce.

The abundant production of this gaseous fluid in Egypt exhibits the simple yet unerring ways of Omniscience, in securing, amidst the most jarring and tremendous elements, the safety and comfort of every living creature.

Sal ammoniac, or muriat of ammonia, a combination of ammonia and muriatic acid, derived its name from the temple of Jupiter Ammon in Africa, near which it was first found in abundance.* For many years the whole of the sal ammoniac used in Europe was imported from Egypt, where the greatest part of the fuel consists of the dung of their cattle, which matters seem to contain this salt ready formed.

The dung of camels, an animal peculiar to these climates, affords it in the greatest quantity; and I have often observed, that the fæces of a dog in Egypt emit a quantity of ammoniacal gas, sufficiently poignant to affect not only the nose, but the eyes themselves.—I remarked this circumstance to my friend, Mr. Davis, in the hospital at Ghiza.

* Pliny, lib. xxxi. c. 7.

an ulceration of the fauces, together with a peeling of the skin from the face and hands; and from their pungency must be peculiarly destructive to the eyes.

The argillaceous and calcareous* earths which abound in the atmosphere either in a separate state, or combined with sulphuric or carbonic acid, and which were supposed by the French surgeons to be peculiarly destructive to the eyes, may also be thus accounted for.

Myriads of muskitoes, with their troublesome buzzing produce debility by preventing sleep; at the same time that their venomous bites, by constantly irritating the surface of the body, occasion fever, not unfrequently accompanied with symptoms of a mild delirium, or some sensation which it is not possible to express by any other term: whilst, probably, the ova, or excrementitious matter of these animals, if deposited in the eyes, the mouth, or even on the surface of the body, must materially affect the organ of vision, and contribute to produce
an

* Lime.

an ulceration of the fauces, as well as those ichorous blotches on the skin denominated by the natives *Serpents' breath*.

And finally, as all these causes may be supposed to act whilst collectively buoyant in the gaseous solvent, as well as when reduced to the more active state of individual miasms, we may be allowed to comprize the whole of this concentrated colluvies of foul and pestilent vapours under the generic term **PUTRID VIRUS**.

SECTION

SECTION IV.

AS a putrid virus, fimilar to that which exists in Egypt, may be fupposed to prevail in other warm climates, without producing fimilar difeases, we muft attribute the peculiarity of Egyptian difeases to fome innate phyfical or moral caufes, existing in the country itfelf, and constantly operating as one common predifpofing caufe.

The firft and moft general of thefe feems to be, the corporeal as well as the mental debility induced by the exceffive heat of the climate, a too frequent ufe both of the tepid and of the cold bath, too long continued; to which may be
added

added excessive venery, the immoderate use of opium and tobacco, as well as the want of aliment sufficiently nutritious, such as animal food and wine.

The second cause, and that which appears to produce a peculiar predisposition to Ophthalmia, is the extensive steril plain that is constantly presented to the eye, bounded only by the horizon; its glowing surface strongly reflecting the rays of the sun, which torture the eye by impressing too great a quantity of light on the retina; at the same time that the aching organ, finding nothing to relieve the view, or to afford an idea of distance, becomes unavoidably exerted beyond its proper sphere of action.

To these must be added, the custom which prevails amongst the inhabitants of sleeping at night in the open air, imbibing with every inspiration, and absorbing at every pore the putrid virus contained in the descending dews.

What

What the peculiar nature of this putrid virus may be, or whether through any addition or abstraction of matter, it differ in its kind or the degree of its power, are questions I shall not take upon me positively to decide. But when the similitude of circumstances in which the various diseases of Egypt are found to arise, as well as the different and even opposite circumstances in which they show themselves, are considered, it will appear highly probable that a putrid virus is the chief efficient and common cause of disease; the distinctive character of which seems to depend, not so much on the peculiar tendency of the infection itself, as on the prevailing diathesis or idiocracy of those who become obnoxious to its influence.

Thus in a system peculiarly debilitated and unable to resist all its powers combined, it produces that highly putrid fever called *PLAQUE*. In a patient less relaxed, as the habit of body determines the disease either to the surface of the skin or to the intestines, an Eruptive Fever or Dysentery is produced. And when the Putrid Virus is but *partially* applied, to the eyes, for

for instance, or to the mouth, or even on the surface of the body, Ophthalmia, ulcerated fauces,* or ichorous blotches on the skin ensue.

And when we consider the degree of health enjoyed by the British forces in the early period of the campaign, whilst a liberal supply of animal food and a moderate allowance of wine and spirits supported their native energy and vigor; and when we contrast such health with the mortality, as well as the general prevalence of Ophthalmia which reigned at the same period amongst the debilitated natives and Turks; it will appear very evident that this cause of disease existed constantly in Egypt, modified, as it should seem, by some fortuitous coincidence of subordinate circumstances.

This enviable security, however, the British did not long enjoy; for when the fatigues of the march to Cayro, aggravated by repeated exposure to vicissitudes of heat and cold, the pain
of

* Cynanche, and, probably, the ulcerated fauces of Areteus Cappadox.

of a wound, diarrhoea, or other debilitating causes, had operated any length of time, and had rendered the system susceptible of contagion; the Plague appeared so frequently at Rosetta in common with Ophthalmia and other diseases, that it was found necessary to establish a separate hospital for the reception of patients ill of the former, and to prohibit the admission of a single patient into the General Hospital, until a scrupulous examination of the symptoms had taken place. Under these inspections, the great variety of diseases that appeared, compared with the similarity of circumstances in which they were contracted, afforded a striking proof of the general prevalence of the Putrid Virus in the atmosphere, whilst a general tendency to putrefaction rendered its constant existence and increased acrimony within the hospitals, equally evident. The smallest sore arising from a common pimple would often spread to an alarming extent, and even superficial wounds were generally attended with such exquisite pain and wearisome alternation of health and disease, that the patients themselves frequently requested the amputation of the limb. And when this operation

E

ration

ration furnished the only likelihood of saving the patient or of restraining the rapid progress of mortification, the wound produced by the hand of the surgeon almost uniformly assumed the same appearance as the original sore, until nature exhausted, as it were, by repeated yet ineffectual efforts, yielded at length to the powerful influence of the Putrid Virus, and dissolution closed the melancholy catastrophe.

SECTION

SECTION V.

AS the Plague, Dysentery, as well as the generality of Eruptive Fevers, are already admitted to be contagious; whilst the contagious nature of Ophthalmy, considered under the Order of Phlegmasia, will, if ascertained, be in some measure a new fact,* it may not be amiss to relate a few instances in which the Egyptian Ophthalmia appeared to be infectious.

That

* A species of Ophthalmy prevailed in these kingdoms about the year 1790, which was thought to be contagious; and a species of it is frequently prevalent amongst the Irish peasantry, which is considered by them to be infectious.

That Sympathy has a very powerful effect in rendering this disease contagious, appeared singularly evident.

The first unequivocal instance of the sort that occurred to me, was in the case of Madam Rosetti, wife of the Imperial Consul at Cayro. This lady, who seldom or never went out of her house, and from an idea of the contagious nature of the disease, always avoided those affected with it, having sat at table through complaisance opposite to a gentleman ill of incipient Ophthalmia, felt its influence almost instantaneously, and the next day was confined to her room.

Several sailors of the different troop-ships, who on enquiry were found to have been seldom on shore, and had never before been attacked with Ophthalmia, were very generally affected with it on their passage home, appearing to take the disease from the soldiers, many of whom were then ill of the complaint: and as rapid an inflammation of the eyes has been known to take place in many instances on
board-ship

board-ship at sea as ever occurred on the plains near Cayro, or amongst the floating volumes of *comminuted Granite, Lime, and Sand, on the scite of old Alexandria.

It was observed at Aboukir, that one tent only in the line of encampment of the Hompesch Hussars, had been particularly remarkable for infecting the men with Ophthalmia. But other instances can be mentioned, shewing in so strong a manner that this disease was propagated by infection, as to leave no doubt of its contagious nature.

The Cambrian Rangers, a fencible regiment that had never been nearer to Egypt than Gibraltar, being frequently obliged to mount guard and associate with the men of those regiments which returned from that country, were frequently attacked with a disease that assumed precisely the same appearance as the Ophthalmia of Egypt.

Others

* Causes assigned by the French.



Others of the men who had enjoyed for a considerable time, perfect health, being on duty the succeeding winter in that garrison, and becoming debilitated by exposure to cold, Diarrhœa, Dysentery, or a casual excess in drinking, suffered severely from sore eyes, and were frequently found to be the comrades of convalescents from the Ophthalmia.

It has since been observed in Gibraltar, that recruits from England suffered unusually from Ophthalmia: I have witnessed its contagious influence among the sailors and soldiers who accompanied some blind invalids returning from that garrison; and what will appear still more conclusive, *recruits who had never been out of England were attacked with an Ophthalmia on joining regiments lately returned from Egypt.

* Vide Mr. Edmonston's Pamphlet.

SECTION VI.

BEFORE we enter on a description of the Egyptian Ophthalmia, it becomes necessary to state the definition of Ophthalmia given us by Dr. Cullen : viz. “ Redness* and pain of the Eye, and impatience of the light, most commonly attended with an effusion of tears.” The Doctor observes, “ The inflammation of the Eye may be considered as of two kinds, either as it is seated in the membranes or ball of the Eye, when it is termed *Ophthalmia* “ *Mem-*

* Rubor et dolor oculi, lucis intollerantia plerumque cum lachrymatione

“ *Membranarum*, or as it is seated in the sebaceous glands placed in the Tarsus, when it is termed *Ophthalmia Tarsi* ;” and he also remarks, “ that these two kinds are frequently connected together.”

Doctor Savarese, endeavoring to accommodate his definition of the Egyptian Ophthalmia to that of Doctor Cullen, as well as to the Theory of Brown, divides this disease into the Sthenic and Asthenic ; the one depending upon an excess, the other upon a defect of tone, the former affecting the bulb of the Eye, the other, some-times the Tarsus, sometimes the Tunica Conjunctiva.

Doctor Whyte, however, imagining that the disease arose either from a dilatation of the humours by solar heat, or an inflammation of the Tunicks, or from both combined, formed his precepts and his practice according to this opinion : and by a species of reasoning equally abstruse and incongruous, endeavored to subvert the simple yet harmless practice of the French Surgeons ; substituting in its room a method

method of cure, the merits of which shall be considered in a future Section.

The Ophthalmia of Egypt, however, appears to be an Endemial Disease of a peculiar nature, which may be divided into two species, viz. Sthenic and Asthenic; or more properly Acute and Chronic; the one consisting in local and general Inflammation, the other in local and general Debility.

These Species admit of varieties that receive their distinctive characters from particular symptoms, which will be noticed in the description of the disease.

The first symptom that indicates the approach of the Egyptian Ophthalmia, is a slight sensation of itching in the Eye; to which succeeds an increased secretion of tears, followed by a dimness of sight, owing to the deposition of a mucilaginous matter on the transparent cornea. This matter by the action of the Eye-lids becomes collected in the internal Canthus of the Eye: and if the system possesses the requisite

tone and tenfity of fibre, nothing more is neceffary to the cure than a frequent removal of this matter by ablution, and to avoid the ftimulus of light. This ftage of the difeafe may be termed *Ophthalmia Levis*.

When the fystem is deftitute of this requifite energy, the tears continue to be fecreted, and to depofit a mucilaginous matter, which acquires a peculiar acrimony. This depofited matter becoming indurated, and formed into detached particles by the encreafed heat and preffure of the Eye-lids, the patient feels a fenfation much more painful than that excited either by fand or gravel when blown into the Eye. To this fucceeds a very rapid inflammation of the *Tunica Conjunctiva* and *Adnata*, with a turgescence and protrufion of the ball of the Eye, which renders the clofing of the Lids extremely difficult and painful, the flighteft impreffion of light on the retina being at the fame time attended with fuch exquisite pain as plainly to evince the general prevalence of inflammation.

In many instances, however, the disease seems to originate in the *Tarfi*, when the Eyelids become swelled and inflamed to such a degree, as to render it equally difficult to open as in the former instance it had been to close them, the confined matter at the same time violently irritating the surface of the Eye itself.

At this crisis the pain of the whole Eye becomes inexpressibly severe; and shooting at intervals through the brain, such an high degree of sensibility is excited, that every pulsation of the Carotid Arteries, now rendered very evident, produces a sensation indescribably painful, and the patient feels apprehensive that the very futures of his skull will separate. Tumours are formed in the parotid glands, which in some cases degenerate into foul abscesses, whilst a full and frequent pulse, a foul tongue, and dry skin, often accompanied with delirium, indicate the presence of an high inflammatory fever.

When inflammation arrives at this height, suppuration within the ball of the Eye follows,
a purulent

a purulent matter is effused into the different chambers, the humors appear to be a confused collection of pus, and the ball of the Eye becomes literally an abscess. After these symptoms have continued some time, the cornea bursts, and the enclosed fluid being evacuated with considerable violence, the Iris or some of the internal membranes are protruded in a state of inflammation, and form a Staphyloma, which of course destroys vision. In other instances the purulent matter, if confined, becomes fetid and loathsome to the patient: diarrhoea or dysentery aggravates the disease, an hectic fever supervenes, the lowest possible degree of debility is induced, and death puts a period to the patient's sufferings.

This I conceive to be the progress and issue of the most violent degree or variety of the Sthenic or Acute Ophthalmia, and may be denominated *Ophthalmia Gravis*.

The second Species of Ophthalmia, depending upon indirect debility, and being much more obstinate than the former, may be termed Asthenic or Chronic.

This

This Species admits also of varieties, but as they are subject to combinations too arbitrary and complicated to be expressed by any definition that nosologists have hitherto adopted, it becomes necessary to describe them.

As it frequently occurs, previous to the accession of the high stage of acute Ophthalmia already described, that pain, watching, a symptomatic diarrhoea or a critical flux*, produce a degree of debility sufficient to suspend the progress of inflammation; a cure is frequently obtained in this way by what may be termed the *vix medicatrix naturæ*.

But as these curative indications, either from improper management, inattention, or ignorance are frequently carried to excess, a degree of

* Οφθαλμοῖντι ὑπὸ διαρροῆς ληφθῆναι, ἀγάθον

Hipp. Sect. 7 Aphor. vi.

Lippienti alvi profluvio corripere bonum.

Prosp. Alpinus.

of extreme debility is induced, and spasm, with a paralyfis of the different muscles of the Eye, as well as anafarcous swellings of the lids, almost immediately succeed to inflammation. In those cases the orbicularis muscle being collapsed, the contraction of the Tarsus nearly closes the Eye : or when the spasm affects the Muscles destined for the motion of the ball of the Eye, the involuntary contraction of the *Rectus Superior*, opposed probably to the paralyfis of its antagonist muscle the *Rectus Inferior*, places the pupil behind the upper Eye-lid, and vice versa : in either case vision is impeded, and the patient is obliged to accommodate the position of his body to the fixed elevation or depression of the pupil. Thus one patient opening his mouth, and exerting all the muscles of the face, endeavors by throwing his head back to peep from beneath his eye-lids, whilst another being differently affected, endeavors to find his way by stooping as low as possible.

But the most frequent and obstinate symptom of this Species of the Ophthalmia, is the
oedematous

oedematous swelling of the eye-lids : in which case also vision is impeded, the eye-lids being so much enlarged as to render every effort to open them ineffectual.

The pain in this stage of the disease is compared by the patient to the sensation produced by the admission of a strong solution of soap into the Eye ; or when the discharge has con-
creted, to a particle of soap itself, whilst the tears which are now but sparingly secreted, acquire such a degree of acrimony as to excoriate the cheeks.

This stage of the Egyptian Ophthalmia, I conceive, to be the Asthenic or Chronic : which by way of distinction may be termed *Ophthalmia gravissima* ; and when its characteristic symptoms continue for any length of time, danger of blindness arises principally from the difficulty of removing the specks incidental to the previous inflammation, as well as from those irregularities produced on the cornea by particles of the secreted matter that have been indurated by heat and pressure, and formed into little lumps either opposite the pupil,

on

on the Iris, or on the Albuginea; and which becoming in some measure imbedded, produce opacity by pressing on the cornea so much as to distort the pupil. Under this head may also be considered that variety of the disease in which a violent gush of tears is induced by the slightest impression of light.

Having thus far endeavored to give a description of the Egyptian Ophthalmia, I shall in the next place proceed to enumerate the different modes of cure, commencing with those used by the natives.

SECTION

SECTION VII.

AS nature frequently effects a cure in the early stages of Ophthalmia, the Egyptians seldom employ any remedy previous to the accession of irritation and inflammation.

The removal of the irritating matter being then the object to be accomplished, if it cannot be effected by frequent ablutions with rose or plain water, they introduce under the eye-lids a powder composed of soft sugar slightly impregnated with verdigris, or mixed with the powder of a feed which they call *Schismé*. This substance excites a considerable flow of tears,

G

which

which carry off the accumulated matter and give immediate relief to the patient, hitherto distracted with unceasing pain. The sudden ease which this expedient affords, has attached to it the idea of a *Charm*; and as the nature of it is kept in some measure a secret, it has become a very lucrative employment to those Empyrical Jugglers that abound in Egypt.

One party of these use a small lozenge of sugar, impregnated with Verdigrise, which they streak across the Cornea; this is denominated *the Stone of the Prophet*, and is said to be brought from Mecca.

Others pretend to a peculiar method of shaving the forehead and temples, which Operation being performed contrary to the direction of the hair, seldom fails to produce sneezing and a copious flow of tears.

Another set pretend to a peculiar secret in their method of plucking out the hairs from the Tarfi, with pincers; whilst others content themselves with the whimsical expedient of suspending

suspending a small lump of Amber or Cork by a thread from the Turban, which in hanging opposite the Eye, excites a flow of tears by striking against it as the patient runs or walks.

This Curative effect is also produced by forcing a twisted leaf of tobacco up the nose.

The green leaves of the plant *Al Kali*, which the Natives beat into a pulp with a little water, afford a poultice which seems to possess specific virtues; the advantages derived from which seem to depend in a great measure on its temperature, which owing probably to the abundant quantity of saline matter it contains, is considerably lower than the coldest water that can be obtained in the Climate. This temperature it is capable of preserving a long while unchanged, at the same time that its juice being slightly stimulating when insinuated into the Eye, excites a gentle flow of tears: and these properties render this application very generally useful.

When

When the œdematous swelling and Paralyfis of the Eye-lids continue obstinate, the natives frequently inflict large scarifications on the Eye-lids and the circumjacent parts; which, affording an egress to the fluids effused into the cellular membranes, as well as exciting a degree of inflammation, a cure is sometimes obtained. This operation, however, is followed by great deformity, and is frequently attended with worse consequences. They are also said to be very expert at opening different arteries and veins, in almost every disease to which human nature is liable: and from the innumerable instances mentioned by Prosper Alpinus,* in which they employ this practice, as well as from the unaccountable partiality they entertain for it, there is reason to suppose that the malignancy

* *Itidemque venas temporum magnorumque angulorum oculorum ipsi in iisdem affectionibus secant, &c. &c.*

Prefertimque in hemicraniis atque in antiquis Ophthalmiis et lachrymis, pano, scabie palpebrarum, nyctalope.

Prosp. Alp. lib. ii. p. 58

nancy of Egyptian diseases may be in a great measure attributed to this cause.

As these expedients are used without a due attention either to existing circumstances or future consequences, it will be obvious that in many instances they must produce effects equally disagreeable, and frequently more obstinate than the original disease; for when the excretory ducts of the eye are so frequently excited to an extraordinary exertion, such a degree of debility is produced that a super-abundant flow of tears on every admission of light becomes habitual and obstinate, if the frequent application of those caustic and irritating substances has not produced a still worse effect, viz. a thickening of the cornea which renders it impervious to the rays of light.

The tonsure to those unaccustomed to it is objectionable, as it renders the head more liable to the effects of cold, while the extirpation of the hairs from the tarfi, as it disfigures the face and deprives the eyes of a very necessary security, is equally injurious.

Having

Having thus given a short sketch of the Remedies employed by the native Egyptians, and pointed out the disadvantages to which they are subject, I shall endeavor to give a general idea of the method of cure recommended by the French and other Surgeons, as well as that which was adopted in our own Hospitals.

SECTION

SECTION VIII.]

FROM the concise translation now before me of Doctor Anthonio Savarefi's Treatise on the Endemic Ophthalmia of Egypt, we learn that he divides this complaint into the Sthenic and Asthenic, the former affecting the bulb of the Eye, the latter sometimes the *Tarsus*, sometimes the *Tunica conjunctiva*.

“In the beginning,” says he, “I purge in
“all the three species without distinction, with
“an ounce of vitriolated magnesia.

The

“ The Sthenic Ophthalmia,” he observes, re-
 “ quires very close and strict attention, inas-
 “ much as the cure depends on the efficiency of
 “ the first remedies. In this case a blister to
 “ the nape of the neck and local bleeding from
 “ the temporal artery or jugular vein, are of
 “ great utility and ought not to be omitted.
 “ An hour after the letting of blood a sensible
 “ change in the complaint is perceived, and
 “ next day the violent pain of the part and the
 “ severe headach diminish, or at least cease to
 “ torture the patient. This effect is often re-
 “ tarded, and the complaint advances accom-
 “ panied with a *slight* degree of fever. In
 “ order to stop this, it is necessary to repeat
 “ the bleeding and purges.

“ A low diet is prescribed, a decoction of
 “ barley with cream of tartar, and a resolving
 “ Colyrium, composed of opium dissolved in
 “ spirit of wine and in decoction of saffron,
 “ which contributes to calm.

“ This method of cure should be continued
 “ till the swelling of the Eyes is diminished, and
 “ the eye-lids begin to be turned (*puffed*) up
 “ with a degree of swelling: an appearance
 “ which

“ which always proceeds from the weakening
 “ and relaxing of the vessels. In consequence
 “ of this change a saponaceous Collyrium was
 “ ordered, which consisted of a solution of soap
 “ in spirit of wine, by the use of which the
 “ eye-lids assumed their natural situation, and
 “ easily opened, so that the cornea being now
 “ visible was found in some cases red or covered
 “ with spots.”

In the first case cold water with vinegar
 was employed with great success, and in the
 second recourse was had to a collyrium, com-
 posed of sugar-candy, alum and nitre, which
 destroyed the spots in a few days. By means of
 these topical and internal remedies, he says, a
 complete cure may be obtained in the space of
 a month or two, and if the complaint should
 not be terminated in that time, there will be too
 much reason to despair of a cure.

With respect to the second Species of the
 Ophthalmia, scil. Asthenic affecting the Tar-
 sus, he applied only a tonic collyrium of white
 vitriol dissolved in vinegar, water, and proof

H

spirit

spirit. This remedy, M. Sevarefi says, has afforded the utmost relief, and has cured the disease radically in twenty days or a month.

To cure the third species of Ophthalmic Inflammation, (by which I suppose he means asthenic affecting the Tunica Conjunctiva), that is more simple but obstinate like the preceding, he used another collyrium composed of common salt dissolved in vinegar and water, and adds, that many praise the application of emollient and resolving cataplasms in all the three species; but that observation had taught him that this remedy is hurtful, since it relaxes the part, encreases pain, and produces other evils. And he concludes with observing, that by this curative method, out of a thousand patients who were affected with the disorder, and committed to his care, he had the mortification to see two entirely lose their sight, and some others the sight of one Eye.

Doctor Whyte, conceiving this disease to arise either from a dilatation of the humours of the eye by solar heat, or an inflammation of the Tunicks, or both combined; and considering

M. Sav-

M. Savarefi's cures "exceedingly protracted," as he calls it, recommended another mode of cure: and as it will afford a perfect idea of his practice, I shall give a case in point and in his own words, taken from the paper already alluded to.

"In the first Species" says he "there is frequently no perceptible inflammation, but by an enlargement of the aqueous humour and the anterior section of the orbit, the focus of concentration falls behind the retina. An indistinct image is formed upon it even in day-light, while towards evening the lucid rays being scanty and feeble, seem blended and confused, and vision is completely interrupted.

"I am acquainted at present with a case of this kind which was induced by the patient indulging himself with an afternoon's nap, in the open air, on the Rock of Gibraltar, lying on his back with his eye-lids considerably open.

"This man recovered without having had recourse to medical assistance. By avoiding
"for

“ for some time the stimulus of light, or more
 “ correctly speaking, the expansive power of
 “ heat, the humours insensibly collapsed, and
 “ the Tunicks resumed their original and
 “ healthy tone. Had this person, however,
 “ been a patient of mine” continues the Doc-
 tor, “ I would have assisted the slow progress of
 “ nature by keeping the ball of the eye con-
 “ stantly moistened with a cloth dipped in
 “ cold water, or some gently astringent
 “ Collyrium, &c. &c.

“ I would have also touched the ball of the
 “ eye morning and evening, or oftener, with
 “ some astringent or stimulating tincture, &c.
 “ or to supersede every other remedy, and
 “ strike at the root of the disease at once, I
 “ would have pierced through the Tunicks with
 “ a couching needle, and entering the poste-
 “ rior chamber of the aqueous humor by an
 “ incision, parallel to, and behind the Iris,
 “ permitted an outlet proportioned to the exist-
 “ ing expansion.”

To comment on this reasoning and this prac-
 tice would be offering a violence to those feel-
 ings

ings which a recollection of the writer's unhappy fate must have excited in the breast of every compassionate man ; I dismiss therefore a subject so invidious and unpleasing. However, as the Doctor's talents were certainly respectable, and his ideas having gone forth to the world, I deem it a duty which I owe both to myself and to my professional friends, to follow him through the postscript to this paper, in which the Doctor expresses his surprise that scarification has not been so much as mentioned by the French Surgeons. We learn from his paper, however, that Citizen Bruant mentions in his Essay on Ophthalmia, that the natives employ topical blood-letting, or scarification, at the external canthus, but that the French had not adopted it ; that in Ophthalmies proceeding from bilious accumulations in the primæ viæ, Citizen B. found benefit to arise from emetics and purgatives ; and that general phlebotomy was contra-indicated in this case by the presence of bile, and in the first or local species, arising from dust, &c. &c. by the debility induced upon the troops through the hardships of a nine year's war.

From

From this paper we also learn that Citizen Bruant in the course of his Egyptian practice had observed that Ophthalmia and Dysentery often alternated with one another, and that with a view to their removal he sometimes applied blisters to the calves of the legs. “The fluids sublimed by heat,” says Doctor Whyte, “and
 “sometimes repressed from the surface by cold,
 “evidently fought for an outlet; to blisters
 “therefore I would have preferred Setons or
 “Issues, or occasional Phlebotomy. In inveterate Ophthalmia nothing can equal the efficacy
 “of a seton or issue at the nape of the neck,
 “yet not one of the *Franko Egyptian* Physicians
 “says a word either of setons or issues.”

From this cursory view of M. Bruant's observations, I do not feel myself authorised to question his opinions, neither am I qualified to contradict them. From his long residence in the country he is entitled to that respect due, at least, to experience; and even if he differ in his mode of giving an “outlet to the fluids
 “sublimed by heat,” I conceive we should hesitate before we subscribe to Doctor Whyte's
 animadversions,

animadversions, whose practice was confined to the Bay of Aboukir, and who seems not to have known that either setons or issues were inadmissible in Egypt from the general putrescent tendency prevalent in that climate, and that even blisters were generally followed by tedious and alarming consequences, if not properly timed and attended to. Neither did those remedies, after six months attentive observation in Gibraltar, afford any proof sufficiently obvious to establish their efficacy in removing the inveterate Ophthalmia of Egypt.

With respect to the plan of cure adopted in our Hospitals, I have to observe, that as the patients seldom applied for medical aid previous to the accession of the high inflammatory stage of Ophthalmia, the antiphlogistic mode of cure was of course chiefly resorted to. General as well as topical blood-letting, and purgative medicines were administered, but seldom to that extent which the same circumstances would have warranted in these climates.

A variety of Cold applications, and frequently under the same circumstances warm fomentations

mentations to the eye, and blisters behind the ears, on the back of the neck, and even over the whole eye when closed, were likewise employed. Purging medicines were also administered, at the same time that Diarrhœa was generally symptomatic in the Disease; and when the opacity of the humors indicated internal disease, they were sometimes discharged by puncture.

However, all these remedies although very beneficial in particular cases, are liable to many objections in general practice; if the pathological distinctions of the disease which I have endeavored to point out are not sufficiently understood and attended to.

In the first place, with respect to general phlebotomy: As Plethora seldom existed amongst us, and as the operation was rarely attended with any very perceptible advantage, except in the high stage of Ocular and general inflammation; and as it uniformly tended to accelerate and encrease debility, rendering the system incapable not only of resisting the future progress

gress of this disease, but also more susceptible of the infection of other diseases with which the patients were unavoidably surrounded ; I conceive this operation to be admissible in the high stage of inflammation only, which I have termed *Ophthalmia Gravis*. And as in local blood-letting a superficial scratch only increased inflammation, whilst a large or deep incision was constantly followed by long excrescences that totally disfigured the eye and required much time and trouble to remove, unless some expedient could be adopted not subject to these disadvantages, this practice should be cautiously used.

As to the application of cold or warmth, it will be very obvious that when high inflammatory symptoms prevail, cold applications, either by operating as a direct sedative power, or by diminishing the heat which the accelerated circulation excited by external injuries always induces, by contracting the capacity of the vessels and even diminishing the volume of the fluids themselves, must be evidently beneficial. But when an Œdematous swelling of the eye-lids, collapse

of the orbicularis, or a spasmodic contraction or paralysis of the muscles that move the eye, indicate atony and debility, warm applications were found eminently useful; more especially as the object aimed at was to restore the nervous energy to the muscles, by promoting a free circulation; and by removing the spasm of the extreme vessels aiding the egress, as well as promoting the absorption of the fluids that had been morbidly effused.

In this case, blisters applied for a few hours so as to produce **rubor et calor*, have been found of infinite service; and if general remedies are at all allowable, I feel confident in asserting that blisters deserve a decided preference to all others.

As it has been observed that *Diarrhœa* is symptomatic in this disease, and the bowels at such time being for the most part highly irritable, gentle aperient medicines only should be administered. And as when the humors of the eye were discharged by puncture, long excrescences uniformly protruded sometimes to such a length as

to

* *Redness and heat.*

to be clipped off with scissars, endangering the loss of sight without producing any evident advantage, this operation should be avoided, whilst there remains any probable chance that the disease may terminate by resolution.

In fact a purulent Eye is not so much to be dreaded as many think; for by proper and timely aid the sight may be again recovered. It is not always necessary to discharge the pus; it is often possible to discuss it. Mr. Richter, Mr. Jarnin, Mauchart, and several others, assure us, that discutient applications have performed a cure even in those cases where both anterior and posterior chambers of the aqueous humor were full of matter, and when the eye seemed ready to burst. But as the cure in either case will be found to depend upon the general health of the patient, the treatment of the purulent eye in the Egyptian Ophthalmia, must be committed entirely to the discretion of the practitioner.

Having had many opportunities of observing the slender advantages that were derived from the Antiphlogistic mode of treating the Ophthalmia

thalmia of Egypt; and that the disease frequently appeared rather aggravated than relieved by perseverance in this method of cure; I was prompted to try the effects of a contrary practice, the result of which exceeded my most sanguine expectations.

After the French had surrendered at Cayro, and had marched to Alexandria, I was ordered to take charge of an Hospital at Ghiza, to which all the Ophthalmic patients, (who were not able to march with the army) amounting nearly to Eight Hundred, were sent. I was assisted in this service by Mr. Davis of the 26th Dragoons, a gentleman whose professional abilities and assiduity were equally honorable to himself, and advantageous to those committed to his care.

The 89th Regiment of foot were stationed in the town, and Ophthalmia increased so rapidly amongst the healthy, whilst relapses became so frequent on every premature attempt made by the convalescents to do duty, that there was not a sufficient number of men to mount the
different

different guards, and little hope appeared of any amendment. The surgeon of the 89th Regiment was diseased with Ophthalmia, and Mr. Davis, whose eyes had been previously much debilitated from a continuance of the disease, as well as from the severe duty he had to perform, being obliged to yield also to the Ophthalmia, the whole of the duty devolved on me.

During this interval, being reduced to the lowest possible state of debility, one evening at sun-set, whilst looking at the distant Pyramids, I felt my eyes instantaneously suffused with a cold moist vapour, to which I had every reason afterwards to attribute the disease. The next day the different symptoms of Ophthalmia, as before mentioned, followed each other in such rapid succession, that in a few hours my eyes became dreadfully inflamed. Having applied all the topical remedies in general use without advantage, on the third night the pain became so intolerable, that I was induced to try the effects of Opium.

Having

Having purchased a quantity of this medicine at Cayro in a very crude state, I had to regulate the dose by attending to its effects. The first dose produced a very sensible cessation from pain, without inducing the least disposition to somnolency, but rather a degree of exhilaration, heightened of course by this pleasing change in my health. As those effects disappeared, the pain returned, so that a repetition of the dose was found necessary during the night, and twice or thrice the next day, applying at the same time the vegetable poultice, and removing the discharge occasionally by syringing.

Having persevered in this mode of cure for two days, on the third I was enabled to perform my duty. I prevailed on Mr. Davis (whose eyes were spasmodically affected and *Œdematous*) to follow my example. The first dose, as in my case, produced a cessation of pain, the second, repeated after an interval of five hours, removed the contraction of the *Elevatores Oculi*, and by occasionally repeating, though diminishing the dose, as his strength returned,

returned, he was in a few days perfectly recovered. A bad diarrhœa, with which he had been a long time troubled, was materially checked, and having got frequent intervals of sleep, to which he had been a long time unaccustomed, he was soon restored to perfect health and strength. It is needless to say how eager we felt to communicate to our patients the advantages we had derived from this excellent medicine, and how happy we were to find it uniformly beneficial. The opium was administered according to the plan of cure hereafter laid down, and it is a fact no less surprising than true, that in the space of a month from the adoption of this remedy, we were enabled to restore to the Army almost every Ophthalmic patient, in a state either of convalescence or of perfect health.*

From the admirable effects derived from Opium in this disease as well as in others depending on debility; and from the striking peculiarities observable in the animal and vegetable

* One patient, a private of the 18th Regiment of foot, died of the Hætic Fever already described.

table productions of these climates ; one would be led to suppose, that the great Author of life and death, who in the depth of his wisdom had judged it proper to visit so large a portion of the world with a climate so unwholesome, and diseases so calamitous and general, had at the same time provided their remedies : and that these indigenous and abundant drugs, as well as the peculiar habitudes observable in the animal and vegetable kingdoms, were bestowed on the natives of these unhealthy regions as Antidotes to the baneful influence of the climate to which the same wisdom had exposed them.

SECTION

SECTION VIII.

AS the incipient symptoms of the Egyptian Ophthalmia are found to occur unattended with any perceptible pain ; and its most violent and painful symptoms being known to arise, not only when the patient is ignorant of the admission of sand or any saline substance into the eye, but even when circumstances render its admission morally impossible ; it is natural to infer that some substance much more subtle than any of those generally assigned, must have been applied to the eye, and that this substance operating as a stimulus on the *Caruncula lacry-*

K
malis,

malis, or on the extremities of the excretory ducts placed in the *Tunica Conjunctiva*, or in the *Tarfi*, is the Exciting Cause of the disease.

And as from what has been already said, it will appear that debility, as well local as general, is the Predisposing Cause; it is possible to conceive that a cure may be obtained by the following means:

First, by removing the exciting cause, and inducing a state of action in the system by which its influence will be counteracted previous to the accession of inflammation.

Secondly, by moderating that inflammation when present. And,

Thirdly, by obviating general and local debility, when indicated by those diagnostic symptoms mentioned in the description of Ophthalmia.

In conformity to these ideas, the plan of cure adopted in the Hospital at Ghiza was as follows:

When

When applied to in the early stage of the disease, the removal of the exciting as well as the predisposing cause was attempted by injecting the eye with Rose-water, to which was added an equal quantity of Vinegar, a small quantity of the Tincture of Opium or acetated Cerufs;* administering at the same time a few doses of Bark, by which means, and by avoiding the stimulus of light, a cure was easily effected.

However, as we were seldom applied to previous to the approach of the high inflammatory stage, and as the Ophthalmic Virus will frequently elude every effort to remove it, the inflammation of the eye (which seldom or never fails to affect both ultimately) became the chief object of attention. And as, according to Mons. Savaresi, "the cure was found in a great measure to depend upon the efficiency of the first remedies," every step that the nature of existing circumstances would warrant, was taken to abate inflammation.

The

* Sugar of Lead produces a copious precipitation from the Nile Water, by which it is rendered perfectly pellucid.

The removal, therefore, of the *acrid matter which now becomes the chief cause of inflammation, was sedulously attended to, and effected with the point of a Camel's-hair brush, or by a gentle stream of clear water thrown into the eye by a syringe. This operation was performed as often as the external applications were removed, or when the irritation excited by new particles of acrid matter produced a necessity for it. But as the effect in this instance is merely mechanical, and as inflammation is so much to be dreaded, it may be necessary to observe, that the Eye-lids should be opened and closed gently with the finger and thumb of one hand, so as to collect the mucilaginous matter
either

* The analysis of tears, lately published, accounts for this matter very satisfactorily. The liquor called tears is perceptibly salt, and stains vegetable blues to a green colour, and therefore contains an alkali. Exposed to the air or to heat, this liquid evaporates gradually and becomes thicker. When nearly reduced to a state of dryness, a number of cubic crystals form in the midst of a kind of mucilage. These crystals possess the properties of muriat of Soda,* but tinge vegetable blues green, and therefore contain an excess of Soda. The mucilaginous matter acquires a yellowish color as it dries.

Jurquoy & Vaquelin, Journ. de Phys. 39, 256.

* Common salt.

either in the internal Canthus or on the centre of the orbit, avoiding the practice either of inverting or extending the upper, or depressing the lower lid, which is unnecessary and extremely painful to the patient.

A gentle laxative, was generally administered, after the operation of which, if not contra-indicated by a general Phlogistic Diathesis or Plethora, a quarter of a grain or more of Opium was ordered every four or six hours, according to circumstances, on the first and second day; but diminishing the frequency as well as the quantity of the dose, on the succeeding days, until the cure was accomplished, which a course of bark effectually confirmed.

When the inflammation appeared likely to advance, or had arrived at an alarming height, and had extended to the whole of the Eye, &c. recourse was had to the most active means to allay it. General and local bleeding, Blisters to the back of the neck, behind the ears, on the temples, &c. &c. and cold applications, such as the vegetable poultice, alum curd, bread
and

and water, &c. &c. were applied to the Eye ; and above all things the stimulus of light was avoided. Of this stimulus the eyes were exquisitely sensible, even when closed and covered.

When inflammation had abated, and that the eye-lids appeared flabby or puffed with a degree of Œdema, or that the muscles of the Eye were affected with Spasm or Paralysis, or the Orbicularis collapsed, frequent warm fomentations or heat applied by covering the eyes with a dry warm flannel, were found of infinite service : and when those symptoms continued obstinate, a blister applied for a few hours over the eye-lids became a sovereign remedy.

As soon as the cessation of those symptoms would permit, care was taken to examine the state of the cornea, which was generally found, as has been observed by M. Savaresi, either red or covered with specks.

In the first case the solution of acetated Ceruss, already mentioned, was used : and if
the

the redness continued obstinate, a small blister applied behind the ear was found very effectual in its removal.

In the second case, as the Spots or Specks frequently proceeded from particles of indurated matter pressed upon the cornea, effusions of water with a syringe had often removed them. When this did not succeed, their removal was accomplished with the end of a camel's-hair brush, dipped in the solution of cerufs. To remove those specks incidental to Inflammation of the Eye, a more active dry Collyrium was used, which destroyed them in a few days when recent, but there occurred many cases where every effort towards their removal was found ineffectual.

In those obstinate and inveterate cases, as well as when Spasm and Paralysis of the Musculi Motores Oculi, Œdema of the lids, or opacity of the humors became a chronic or constitutional disease, Bark, Opium and Calomel combined, were found of service.

I have thus endeavoured to give a description of this formidable disorder, and its mode of treatment,

treatment, because I felt it both my duty and my inclination to exert myself in the cause of humanity suffering under a malady so pernicious and destructive; a malady which I had frequent opportunities of seeing aggravated by sluggish ignorance or artificial folly.

I am not solicitous of fame; and take no delight in opposing either the opinions or the practice of others, especially of those whom Science has enlightened, and whom Experience has rendered respectable. But having painfully watched the disease in those whom it was my fortune to attend, and having myself felt its severe effects, I may be allowed to say that I have had both some experience and some little knowledge of the subject. And most happy shall I be, should these pages afford others to whose care future patients may be committed, the slightest hint whereby they may be enabled to relieve *One inveterate Species of Plague.*

F I N I S.