

Practical remarks. Part I. On acute and chronic ophthalmia, ulcers of the eye &c.; &c.; Part II. On remittent fever, viz. simple and complicated / by Thomas O'Halloran.

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Publication/Creation

London : Burgess and Hill, 1824.

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1878
PRACTICAL REMARKS.

PART I.

ON

ACUTE AND CHRONIC OPHTHALMIA,

ULCERS OF THE EYE, &c. &c.

PART II.

ON

REMITTENT FEVER,

VIZ.

Simple and Complicated.

BY

THOMAS O'HALLORAN, M.D.

*Author of Treatises on the Barcelona and Andalusian Yellow Fever
Epidemics.*

London :

PRINTED FOR BURGESS AND HILL, MEDICAL BOOKSELLERS,
Great Windmill Street, Haymarket ;

SOLD ALSO BY

THOMAS AND GEORGE UNDERWOOD, FLEET STREET ; CALLOW AND WILSON,
PRINCES STREET, SOHO, &c. &c. &c. ; ADAM BLACK, EDINBURGH ;
SMITH AND SON, GLASGOW ; AND HODGES AND M'ARTHUR,
DUBLIN.

1824.

COLL. REC.
MED. EDIN.

PRACTICAL REMARKS

PART I

ON

ACUTE AND CHRONIC OPHTHALMIA

OF THE EYE &c

PART II

HEMIPLETIC FEVER

VIZ

Simple and Compound

BY

THOMAS CHALMERS, M.D.

Author of "Remarks on the Nervous and Muscular System" &c

LONDON

Printed

for J. JOHNSON, and T. BARNES, Stationers, Strand

1821

Price 1s. 6d. per Volume. Sold by all Booksellers

1821

R53489

TO
ROBERT JACKSON, M. D.

INSPECTOR OF HOSPITALS,

&c. &c. &c.

MY DEAR SIR,

WHEN I retrace our first acquaintance in the West Indies in 1812; our subsequent travels through parts of the Island of Trinidad; and our investigation, in 1820, of the Yellow Fever of Xerez and of Cadiz;—when I recollect that my principal knowledge of the treatment of febrile and other diseases was derived from your writings and advice when in charge of a sickly regiment at Barbadoes;—I feel that I should be wanting in gratitude were I not to avail myself of this opportunity to make you a public acknowledgement of my obligations.

With sentiments of the highest esteem,

I remain,

My dear Sir,

Your sincere Friend and Humble Servant,

T. O'HALLORAN.

July 29th, 1824.

ROBERT JACKSON, M.D.

INSPECTOR OF HOSPITALS

Washington, D.C.

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T. CHALLOAN

July 20, 1891

P R E F A C E.

THE writer has treated Ophthalmia in England, Ireland, France, Spain, America, and the West Indies. He pursued the antiphlogistic plan of treatment for a period of twelve years, with a success far short of what he was taught to expect from depletion in diseases of a purely inflammatory character. He was frequently disappointed, where he had been almost confident of success; and he was particularly chagrined in two instances, where life was endangered from loss of blood, in consequence of aneurismal rupture of the temporal arteries succeeding to abstraction of blood. It was observed in these cases, that, as soon as the patients recovered from long continued syncope, the turgidness of the blood-vessels of the eye returned; and the cases were more troublesome, and the cures more protracted, than where blood had been more moderately abstracted. It

was also observed, that where no remedial means were employed, the cures were more perfect, and less protracted, than where depletion (and depletion only) was adopted. It was moreover evident, from a review of his own practice, in the course of twelve years, that ophthalmia was aggravated by low diet, total abstinence from wine, &c., depletion, and confinement to bed. It was generally proved in the practice of others, that those practitioners who had bled most extensively were comparatively the least successful; and, what was less expected, it was clearly established, that the exclusion of light and air was highly injurious. These facts occurred under the writer's observation; and, with the knowledge of these facts, he could not persuade himself that he was proceeding in the right course; he therefore paused, looked out for another path, and finally struck into that which is here submitted to the public.

It may be necessary to notice, that the author visited Chatham on the 26th instant, (viz. July 1824,) for the purpose of ascertaining the plan of treatment adopted there, which he understood was attended with considerable

success. He was informed by Mr. Melin, who superintends the Ophthalmic Institution, that blood-letting has been abandoned for the last three years; and that he places his principal dependance upon the lunar caustic drops, which, he states, remove the discharge and other disagreeable symptoms in a short space of time. He also states, that ulcers and other bad consequences, so common in former years, rarely occurred in the recent cases, the management of which he had from the commencement. To the credit of this gentleman, it ought to be mentioned, that he has been the assistant of some of our most noted ophthalmic bleeders; but that, instead of persevering in the mode of practice pursued by them, although they stood high in public estimation, his good sense and discriminating judgment convinced him of its being erroneous; and he now disapproves altogether of the antiphlogistic plan of treatment. It may also be proper to state, that the use of the bluestone is much depended upon by Surgeon Hatley, of the 64th regiment, for the cure of ophthalmia. His practice has been extensive; and the success which attended the plan of

treatment adopted by him has been considerable. To this gentleman I beg to express my personal obligations.

The greatest part of the author's information on the subject of disease, has been drawn from observation in the 64th regiment; a corps with which he has served in different climates from the year 1813 until within these few months; and to which he has an attachment as to a family with which he has long lived in harmony, and the remembrance of which he will carry with him to the remotest period of his life. He leaves it with regret; and sincerely prays, that its good moral and military character, which stands so high in the army, may continue undiminished to the latest times.

REMARKS,

&c.

PART I. CHAPTER I.

Practical Remarks on acute Ophthalmia.

THE unusual prevalence of ophthalmia in the 64th regiment at Gibraltar, during the two last years, has afforded, to the medical officer in charge of that regiment, a very extensive field of observation on the disease in question. The treatment of the disease having, during a considerable part of that time, fallen to the author's lot, and the proper treatment of it being important to the community at large, as well as to the army, he deems it incumbent on him, the more especially as the mode adopted produced a good effect, and is not commonly employed, to submit the detail, as well as the general view which he has formed respecting the nature of the malady, to the consideration of the public. There are few diseases relative to the treatment of which a greater diversity of opinion prevails than that of ophthalmia. There

are not only differences of opinion among writers; but there are animosities; and the animosities, which have of late inflamed the minds of the advocates of different plans of treatment have not been attended with advantages to the public. Much has been said and done by the learned partisans of the different doctrines; but we are still ignorant of a decided mode of treatment, whereby the formation of the appalling evils which in a manner engraft themselves on the disease may be effectually counteracted: they are not to be counteracted by the remedial means recommended and hitherto employed.

It is a notorious fact (and it solves the problem relative to the apparent want of success of military surgeons in this disease), that ophthalmia seems more unmanageable in military than in civil life. The remedies which produce effect with almost positive certainty in one, and that in a short time, are wholly inefficacious in the other; a circumstance that, with the augmented malignancy under which the disease appears among the troops in hot countries and crowded quarters, has excited the astonishment of many whose walk has been confined to the dispersed inhabitants of cold or temperate climates; and it further appears to surprize the unexperienced, that in a military station garrisoned by several regiments (such for instance

as Gibraltar) one corps has an ophthalmic list of thirty, even of fifty, whilst the others are in a manner exempted. The difficulty with which the disease is cured in military life (abstracted from the measures that are frequently resorted to by the worthless to counteract the medical officer's endeavours) has brought the sarcasms of the ignorant on the military surgeon who, as his practice is tried, in most cases, in a southern climate, is not unfrequently baffled in his endeavours to arrest a disease, which has a tendency to terminate in a few days in total destruction of the organ, or in such structural change as is wholly irremediable in the climate in which it arose. If gentlemen, who deal thus unfairly with army surgeons, were to change places, they would in all probability be themselves embarrassed at the appearance of a malady essentially different from the one which they had been accustomed to treat; and their astonishment at sudden changes, terminating in opacities, ulcers, and irreparable blindness, in persons of enfeebled constitutions from the effects of climate and inveterate habits of inebriety, would not be small. They would not, it is presumed, assume the credit of effecting cures in persons discharged from military service as incurable, nor would they ascribe a cure to a superior mode of treatment, when it was, in fact, wholly effected by gradual changes

in the constitution, induced by the native climate on subjects who had been harassed and exhausted by long residence in a tropical or low latitude.

It has been customary with persons who have written on this disease, in what is called its inflammatory stages, to describe its nature under a variety of forms; but as distinctions are, for the most part, not only unnecessary, but often embarrassing, more particularly to the young and inexperienced, I shall confine my remarks to three varieties. But although I consider distinctions to be necessary on account of precision and perspicuity, and although the disease appears in a multitude of instances under apparently different forms, still I conceive the difference in the symptoms and mode of attack to be dependent on contingent causes, and not on specific peculiarities in the cause; and I am of opinion also, that notwithstanding dissimilarity of symptoms in the incipient stages of the different varieties, all are no more than modifications or degrees of the same affection, yielding to the same means of cure; and with a tendency to subside spontaneously, after a given time, or to terminate in the destruction of the organ, where effective means of counteraction have been neglected.

The symptoms of this disease having been

so frequently and accurately described, by persons of observation and experience, and this branch of the subject not admitting of a diversity of views, I shall limit myself to a very general outline.

VARIETY I.

The first variety of this disease, as it appeared in the 64th regiment, exhibited redness of the conjunctiva and lining membranes of the eye-lids. The lachrymal discharge, if at all increased, was increased so inconsiderably as scarcely to deserve notice. The turgescence of the vessels of the conjunctiva and upper eye-lids was slight. It conveyed an imperfect idea of sand interposed between the membranes. The vision was little if at all affected. The symptoms now stated characterized the first variety. The inflammation was moderate, sufficiently active to produce redness, or what is commonly called ophthalmia; it was inadequate to the establishment of a condition in which an unusual quantity of fluid is ejected. The disease in this form is simple at the onset, and it frequently yielded to simple means of remedy in a few days. It rarely assumed a serious form under proper management; and relapses, although not uncommon, were much less so than in the other varieties.

VARIETY II.

The second variety is of a more complicated nature than the first. The attack is sudden, rarely indicated by premonitory symptoms. Where these take place, they consist of heaviness about the orbits, and inability to move the eye-lids with the usual freedom. The first symptom which attracts the patient's attention, is an increase of the lachrymal secretion, which, as it becomes abundant in quantity, flows over the cheeks, the ducts being incapable of removing it in the usual manner. If the upper lids be examined at this time, although the covering membrane of the ball be free from disease, a villous floculence is there discernible; even sometimes a thickening, approaching to what is commonly called granulation, chiefly observable towards the inner angle, though occasionally over the whole of the eye-lid. It was this state of the eye-lids (and it in many instances precedes the explosion of the disease on the ball of the eye) which chiefly directed my attention to the plan of treatment hereafter to be noticed. A thickening of the upper no sooner takes place, than the lower eye-lids become villous and slightly prominent. The sensation of sand, if not synchronous with the thickening of the lining membrane of the upper eye-lid, now becomes unpleasant; the patient imagining that

the disagreeable feeling he experiences is owing to the lodgment of an extraneous body between the palpebræ and ball of the eye. As the sensation of intervening sand increases, the watery discharge also increases; and, soon becoming acrid and corrosive, produces a degree of pain, which obliges the patient, unaccustomed to the irritation, to seek relief from friction, the act of which produces redness of the sclerotic coat and conjunctival membrane, followed by distention of innumerable small vessels. The Meibomian glands, previously in a state of irritation, now increase in size, and discharge a fluid proportionate to their enlargement. Limpid serum flows from all parts of the eye and eye-lids; and as it is changed in quality, as well as in quantity, in its descent it excoriates the parts over which it passes. Matter of a similar kind insinuates itself into the substance of the lower eye-lids, so as to cause slight tumefaction, and hardness of the parts. From the state of the lower eyelids, a prognosis may be formed relative to the severity of the disease. The difficulty of cure augments with the tumefaction and hardness of the lower eye-lids; nor can a perfect cure be accomplished until these are restored to their natural flaccid state. In this form of ophthalmia, the action of the secreting vessels is augmented in so high a degree, as not only to cause, in all cases, an extraordinary discharge of fluid in-

sinuating itself into the surrounding parts, but to produce, in many instances, a defect in vision, by the quantity of serum effused into the anterior and posterior chambers of the eye.

VARIETY III.

The two preceding conditions of ophthalmia are by many considered as simple. The form now under consideration (viz. the purulent) comparatively complex. This form of disease, if we permit ourselves to judge by external appearances, is of a more serious nature than the second, but it is doubtful that it is so in reality; for, of the numerous cases of different varieties which came under my observation, those which assumed the purulent mode of action yielded to remedy, as soon, and as certainly, as the complicated cases of the other varieties. In this form also the attack is sudden, not announced by premonitory symptoms; when they do exist, they consist, as in the other form, in a sensation of stiffness or heaviness about the orbits—an inability to move the eye with the accustomed freedom. The eye becomes itchy; and the patient cannot be persuaded but that sand or dirt, as he expresses it, is lodged between the eyelid and ball of the eye. He endeavours to remove the disagreeable sensation by rubbing; which, not producing the expected relief, is immediately succeeded by obtuse pain, augment-

ation of the sensation of heaviness, and by a flow of fluid resembling tears ; which, from being thin and watery at first, is converted into a puriform matter, wholly divested of the acrimony attending the serous discharge in the second form. If the eyelids be now examined, a thickening of the lining membrane of the upper is observable, and the lower are villous. As the puriform discharge augments, it becomes dense and tenacious : the capillary vessels on the ball of the eye and neighbouring parts are in a state of irritation. This is considerably augmented by rubbing the ball, and the propensity to rub is irresistible. The vessels which nourish the conjunctiva and lining membranes pour forth a matter of a puriform nature, whilst those of the eyelids internally, and also of the internal parts of the eye, secrete and discharge a quantity of whey-coloured serum, producing a tumified state of the eyelids, and of the ball of the eye, which characterise the disease, and occasion the partial or total loss of vision. (The loss of vision is attributable to the existence of a turbid fluid in the aqueous and vitreous humours, the obtuse pain to the distention of the ball of the eye from extravasated fluid, and not to inflammation). As the turgescence and prominence of the eyelids, which assume a bluish hue, increase, the vessels which nourish the conjunctiva and sclerotica augment in size ; the texture of the for-

mer, being reticular and spongy, is injected with red fluid, not blood, or with pure and limpid serum, which, as the determination of fluid to the part is considerable, produces extraordinary distention of the conjunctiva. This is sometimes so great as to cause the distended mass to encroach on the cornea; and as the size of the latter appears diminished to one-half probably, it excites the apprehension of such as are unacquainted with this form of the disease. To this state of the conjunctiva oculists have given the name of Chemosis. (Nothing can be more erroneous, than that purulent ophthalmia is always connected with or occasioned by gonorrhœal discharges. I have seen more than one hundred cases where no venereal taint existed.)

The malady, in the 64th regiment, invariably appeared under one of the foregoing forms; and, although the first was occasionally simple in the outset, it at times changed aspect, and assumed an alarming character. The second variety had different modes of attack, and assumed different modes of proceeding in its subsequent course. It was treacherous in the extreme, and liable to recur under conditions apparently prosperous. The third variety generally observed a regular course; the discharge was removed within a short time from the date of admission by remedial means, and the pro-

gress towards convalescence was generally rapid and certain.

CURE OF ACUTE OPHTHALMIA.

It was before remarked, that I considered the varieties which have been here briefly sketched as modifications of one and the same disease; and that the discharge, which constitutes the diagnostic mark, and varies according to the modifications of action, is merely symptomatic of the different degrees of one malady. Upon this principle, the plan of cure which had been adopted in the first form was extended to the others; and I may say, without hazarding a risk of contradiction, with a success unequalled in southern latitudes.

It may be necessary to remark, before I enter upon a detail of the plan of cure, that I consider ophthalmia in every form to be a local disease, dependent for its production on general causes, which augment the vascular action and secretions of the eye and neighbouring parts, in a similar manner as the secretions of the nasal cavity, &c. are increased during the prevalence of catarrhal affections; to which, I think, ophthalmia bears considerable analogy.

The plan of cure adopted and pursued was as follows:—The patient, on admission, was confined to bed in a large and well ventilated

ward, from which light was not excluded. (I conceive that the exclusion of air and light, as is the custom in the treatment of this disease, is often attended with lamentable consequences, always with injury.) He was placed on the spoon scale of diet, purged with calomel and colocynth, and afterwards with salts. The state of the eye-lids, whether the disease was of the purulent kind or not, was attended to. The upper eye-lids were examined; and whatever the appearance might be, whether villous, thickened, &c. blue stone in substance was rubbed over the surface, for a longer or shorter time, according to the condition of the membrane. If the eye-lids were thickened, as was often the case, or in a state which oculists call "granulated," as occurred sometimes, the passing of the blue stone over the surface was continued for a considerable time: if the appearance was only villous, a superficial and short application was sufficient. The application of blue stone to the surface of the everted eye-lid is attended with acute pain, and on one occasion has produced syncope; but the benefit which resulted, and which results in a short time, is far superior to what has been derived from any remedy hitherto recommended for the cure of this form of disease. Persons who are acquainted with the effects of blue stone on ulcers, &c. will probably revolt at the idea of touching the eye

with a substance so irritating; but when they consider that its use has not in any one case been attended with danger, during an extensive application of it in the treatment of this disease; that, on the contrary, it has been uniformly followed by benefit; and that the discharge, whether purulent or otherwise, has been changed in its nature, suspended or suppressed in a few hours; the irritability, pain, and disagreeable sensations mitigated or removed, soon after the application, they cannot well refuse to give it a trial. The author confidently affirms it to have, in his hands, proved a remedy greatly superior to any other hitherto employed. In this case he speaks with confidence, as justified in his opinion by experience, on an extensive scale, in the acute as well as the chronic stages of the malady. It is comparatively safe and little troublesome, and it is seldom followed by ulcers or other bad consequences. Let the application of blue stone to the upper eye-lids, and not unfrequently to the lower, be followed by fomentations, repeated four or five times in the twenty-four hours. If vision had been impaired, an alteration for the better in that respect will generally be observed on the second day, the discharge, if great and attended with nictitation, will be changed in quality and much diminished in quantity; the heaviness and pain will be lessened, if not entirely removed, in so much,

that the patient proclaims himself in a state of comparative happiness. A change for the better having been thus effected in a few hours, and danger in such instances obviated, it will be well, if the application of the remedy had been only superficial and transient on the first day, to repeat it on the second; but if it had been severe, and if the slough adheres to the lining membrane, as often happens where there is great debility of the parts from over distention of the vessels, it will be well to instil a solution of lunar caustic into the eye in the morning, in the proportion of ten grains to an ounce of water, and to repeat the fomentations as on the preceding day. A solution of lunar caustic, of the above strength, is an excellent remedy in this disease. It may be used at all periods, and, next to the blue stone, claims a preference to all others. Its action, when resorted to at an early period, tends to change and lessen the discharge, and to remove the pain and irritability, without causing any of those unpleasant symptoms which some have attributed to its use. It is certainly a remedy of great value, and may, in slight cases, or where the patient is averse from the application of blue stone, be depended upon as efficient means of cure. As an auxiliary in a severe or protracted disease, it ought never to be omitted. I have made trial of lunar caustic solution in different degrees of

strength, viz. from one grain to half a drachm, dissolved in an ounce of water; and, after witnessing the effects of all, I gave the decided preference to the ten grain mixture. On the second day I usually give a purge of the magnes: sulph: and occasionally repeat the lunar caustic drops in the evening, or touch the lower eye-lids slightly with blue stone; after which fomentations are again employed. On the third day the blue stone or caustic drops are repeated, and fomentations applied to the eyes. Under this plan of treatment, varied according to circumstances, more than eighty of one hundred will recover, without the use of other means; and it may be presumed, that, in consequence of the attention which is paid to the upper eye-lids, the condition which is commonly, but improperly, called "granular," will be prevented; relapses, although frequent, will be comparatively fewer than where the antiphlogistic plan is pursued; and ulcers, so common where copious bleeding is employed, will seldom appear; and when they do appear, they are of a mild kind, and rarely imply much loss of substance.

The foregoing were the remedies which I had recourse to early in this disease, and during its whole course; viz. sulph. cupri, solutions of lunar caustic, purgatives, and fomentations;

and they were generally sufficient to remove the disease.

I state a case, in illustration of the foregoing practice, taken almost verbatim from the Register.

WM. SKELTON, AGED 25, ADMITTED 27TH OF
AUGUST, 1823.

Unusual tumefaction of the eye-lids externally; internal villosity and thickening; abundant purulent discharge; chemosis considerable, causing the diminution of the diameter of the cornea; vision of right eye lost; the inflammation of the left inconsiderable; some pain of the right eye. *Sulph. cup. to the upper lid; fomentations; a purge.*—28th. Vision restored; chemosis abated. *Sulph. cup.; fomentations; a purge.*—29th. Chemosis diminished; tumefaction of the lids abated; slight purulent discharge last evening; free from discharge to-day. Vision impaired last evening; improved to-day. Eyes painful last night; free from pain to-day. *Gutt. argent. nit. gr. x. ad ʒj.; a purge.*—30th. The tumefaction of the eye-lids abating; chemosis subsiding; watery discharge considerable; right upper eye-lid thickened and villous; vision improving; some pain last evening; none to-day; left eye inflamed. *Sulph. cup. to the upper lids; fomentations.*—31st. Vision perfect; chemosis abating;

tumefaction of the lids nearly removed; no pain. *Gutt. argent. nit. ut antea; fomentations; a purge.*
 —Sept. 1. Chemosis diminished; vision not so perfect as at last report; discharge inconsiderable; eye-lids villous, but otherwise pretty free from disease. The drops were repeated last evening. *Sulph. cup. to the upper lids; a purge.*
 —2d. Chemosis diminished; vision restored; the discharge abated. *Cont. gutt. ut antea.*—3d. The rapid absorption of the fluid on the conjunctiva leaves the membrane in a very corrugated and detached condition; tumefaction of lids removed; redness continues; discharge abated.—4th. Discharge of a watery nature; the left eye inflamed to a greater degree than the right. *Fomentations.*—5th. The redness subsiding; some discharge last night; none today; the patient was removed from under my care; his recovery was perfect.

The foregoing case was one of a very aggravated nature. Bluestone was the principal remedy, and the reader can judge of its effects in the speedy restoration of vision. The subsidence of the purulent discharge in so short a time, and the flabby corrugated state of the conjunctiva, produced by its former distention and subsequent absorption of fluid, are circumstances worthy of notice.

The foregoing case, with some hundreds on record, of the different varieties, show with

what efficacy and safety bluestone may be applied to the eyes when under disease: its effects in removing the affection of the parts and allaying the irritation is remarkable. I can safely say, that abstraction of blood will rarely be necessary in this disease, if the plan recommended be strictly attended to; and I am moreover of opinion, that if an inquiry be instituted amongst the army surgeons, it will be found that those who used the greatest depletion were the least successful practitioners; and that sloughing ulcers, &c. more frequently succeeded the evacuating plan than when the patient was partly left to nature. It was a knowledge of this fact in the 64th regiment, that induced me to renounce the opinions, respecting the practice, which I had previously formed; and to abandon a treatment pronounced by experience to be inefficacious, under every condition of the disease.

From the plan of treatment here recommended, and from a full comprehension of the principles upon which the remedies act, I think I am warranted in asserting that the course of the disease is arrested in a much shorter time, and the restoration to health more rapid, than when the antiphlogistic plan is pursued. Moreover, it has been known, that diarrhœa and death have not unfrequently succeeded copious depletion and long confinement to bed. This

can never happen under the present plan; for it is recommended that the confinement should not exceed one week; and it never happens that the patient, who probably relapses five or six times in the course of a year, is reduced to that state of debility which necessarily succeeds confinement and venesection, as practised by the advocates of depletion. The mode of cure which I have pursued, as it has been briefly sketched in the preceding pages, is safe, and it is farther important as it abridges medical labour; for it is a fact, that the practitioner, if disencumbered from a detail of cases, can with facility prescribe for three hundred or more persons daily; while, as, following the common custom, he could not do justice to more than fifty.

Whenever deep seated and acute pain denoted internal disease, which was not often the case, recourse was had to abstraction of blood by means of leeches; and if the parts were carefully fomented after their application, they generally, though not always, produced relief. The relief was, in many instances, only temporary; the pain recurred to a certain extent when the fomentations were discontinued. Notwithstanding the want of success which frequently attended abstraction of blood, and its actual injury in some cases, still I considered it my duty, more particularly when I commenced the

system of treatment which I have recommended, as a precautionary measure, to have recourse to it and other means of depletion, where pain at the temples, &c. was severe, and effusion considerable. But though I conceived that abstraction of blood would prove advantageous by diminishing the action of the vessels of the eye and neighbouring parts, and by restoring balance in the circulating fluids, still more extensive experience convinces me, that if resorted to, where there are not *unequivocal marks of internal inflammation*, it ought to be conducted with care and circumspection; and it will moreover be necessary, in order to give effect to its operation, that powerful astringents, such as the *sulph. cup. solut. nit. argent.* be at the same time applied to the diseased part; for when the action is diminished by the loss of blood, a temporary collapse of the vessels succeeds, and a diminution of their diameter is then not only produced by astringents, but the exhaling mouths are actually closed. An arrest is thereby effected, and in many cases a progressive improvement commences, and goes on until the parts are restored to their natural state, and to the execution of their healthy functions.

I am thoroughly persuaded that ophthalmia, in its native or characteristic form, is a disease of less danger, in so far as regards the safety of the eye, than is generally supposed, provided

the patient be placed in a *healthy situation to which air and light have free access*. The instances in which vision has been permanently lost are owing, in nine cases out of ten, either to inflammation produced by the over distention of the ball of the eye from extravasated fluid, to over depletion by the lancet, or to ill treatment in confined apartments, where the air becomes contaminated:—they are not owing to the disease in its own nature. Inflammation produced by over distention from extravasated fluid may be considered as the effect of the lodgement of a foreign body, which deranges the internal structure of the organ; and where it is present in such quantity as to cause distention, the parts are sometimes thrown into a state of active inflammation. In this case, then, we have a new disease characterised by symptoms indicative of inflammation as in other parts, and wholly different from those by which ophthalmia is distinguished in its genuine form. For the removal or cure of this condition, it will be necessary to bleed largely from the arm; and we must here have recourse to the most rigorous means of depletion. If the bursting of the coats of the eye be apprehended from over distention, puncturing the cornea will not only afford relief from pain, but give hope that the disease may be ultimately cured; a circumstance which could not be expected if the evacuation of the fluid be

suffered to take place by the forcible rupture of the cornea.

Blisters were sometimes resorted to for the cure of this disease, but their efficacy appeared to be questionable in almost every case in which they were tried. They were, in fact, applied more with the view of punishing persons who were suspected of having applied irritating substances (it may be necessary to notice, that all stimulating substances, however applied, which are not possessed of astringent properties, are injurious in ophthalmia) to the eyes, for the disgraceful purpose of evading duty, than with the idea of producing benefit: they almost invariably produced injury both in the acute and chronic stages in persons of irritable habits and delicate complexions. The irritation from the blister occasioned general restlessness, prevented sleep, and actually increased the local irritability to so high a degree, on some occasions, as to induce a state of action which was speedily followed by lymphous effusion. I would therefore strongly recommend the practitioner to be cautious in the application of blisters in ophthalmia, particularly in the acute stage. Where they are deemed necessary, they ought to be applied at some distance from the seat of the disease, viz. on the arms, back, &c.

We sometimes observe in acute ophthalmia, that an elevated fasciculus of vessels appears at

the point where the conjunctiva joins the cornea, and sometimes even on the cornea itself. Pustules or ulcers are there formed; and if neglected, they become deep and foul. For removal, it is only necessary that they be touched with lunar caustic: they soon heal, and the turgid fasciculus quickly disappears.

CHAPTER II.

Practical Remarks on chronic Ophthalmia.

HAVING stated the principal means which are available for the cure of ophthalmia in the acute stage, I now proceed to offer a few remarks on the nature of the disease in what is called the chronic form.

In the disease under consideration it is extremely difficult to fix a precise limit to the two stages, acute and chronic. No judgment can be formed from duration merely. It is often observed, that persons who enter the hospital under aggravated forms of ophthalmia continue in a state of progressive improvement for weeks, so as to be gradually restored to health. In such, although the subject had been under treatment for weeks or months gradually improving, we have no distinct grounds on which we can say that the disease is chronic; for it has not changed form, except for the better, from the commencement. Neither can we form a judgment in this case from what oculists denominate the granulated state of the eye-lids, because that state is frequently synchronous

with, and even, in many cases, precedes the actual attack on the ball of the eye; and as there is scarcely a case of the aggravated kind, in which the eye-lids are not affected, under the common mode of treatment, in a few days subsequent to the explosion on the ball, the mark of distinction cannot be laid on the existence of that appearance. It is matter of importance, and of great concern to the practitioner, to be able to ascertain the commencement of the chronic form of disease; for it may not only be necessary, in consequence of the change, to alter the plan of cure; that is, to remove the patient from bed into the pure air, to support the system by means of nourishment, &c.; these means, when properly directed, are sometimes of more value than any remedies that can be locally applied.

I am of opinion, that in all cases of ophthalmia of the acute kind, the action of the arteries is inordinately increased, while that of the veins is stationary or diminished; and that upon the relative degrees of action in both depends the nature of the discharge. Where the action of the arteries is moderately excited, with or without a corresponding change in the action of the veins, a watery discharge is produced; where the action of the arteries is inordinately roused with a corresponding defect in the action of the veins, a purulent production is

the consequence: this appears to be the case in all forms of the disease. The determination of fluid to the parts is inordinate; and, as there appears to be a defect in the activity of the absorbents or organs of removal, the action of the glands being also augmented through the irritation occasioned by immoderate distention, an effusion takes place both vascular and glandular.

In chronic ophthalmia, on the other hand, although a state of activity exists in the trunks of the arteries, the blood is torpid in the minute branches; whilst a near approach to stagnation takes place in the veins, external as well as internal. In this case, as well as in the former (viz. the acute), the discharge of fluid from the eye is considerable; for the glands whose action is augmented according to the increase of disease and size, emit a fluid in quantity considerably exceeding perhaps that which is poured out in the acute stage. If we apply caustic or bluestone to the upper or under eye-lids in the chronic ophthalmia so as to produce a slough, the vessels, being destitute of power, are unable to throw it off in less than from three to six days; whilst in the acute stage, where the arteries are possessed of high action, the same quantity of slough is ordinarily removed in one night. This is a fact of practical importance. It furnishes us with the means of ascer-

taining whether the case before us be of the acute or chronic character; and no injury can result from the experiment, for bluestone is equally serviceable in both stages; in addition to this, we also find, that when the disease assumes the chronic form, the veins on the upper eyelids, forehead, and temples are gorged with blue blood, and as they appear wholly destitute of activity, the blood which they contain is in a state of demi-coagulation; the arteries also of the ball of the eye are inordinately distended and hard to the touch; they appear destitute of the powers of propulsion. I have given this subject a considerable share of attention; and I am of opinion, that a diagnostic can only be formed from the effects of remedies on the parts, or from the state of the vessels external and internal.

The writers on ophthalmia will, perhaps, be astonished when they learn, that I am sceptical with regard to the existence of granulations in the eye-lids of ophthalmic patients. Before I had the opportunity of treating the disease in its different varieties, I conceived that granulations actually existed, and that the most important improvement which had taken place in the treatment of the disease consisted in their removal with the scissars or knife; but experience has convinced me, that nothing can be more erroneous than the supposition of the existence of

granulations; and, that, for the removal of what is mistaken for them, nothing can be more injurious than the scissars or knife.

In illustration of the absurdity of the supposition of the existence of granulations in the eye-lids of ophthalmic patients, I must take the liberty of observing, that, in the first place, we see in the eye-lids of persons who never suffered from the disease an appearance similar to what is commonly designated "granular." This may be proved to the satisfaction of the most prejudiced, by the examination of the eye-lids of any body of men, viz. a military corps or regiment. In every large body of men, persons are to be found, whose eye-lids are overspread by villous floculencies or fungous productions analogous to what has been denominated "granulations," notwithstanding that from youth they may have enjoyed health, or absolute immunity from the affection under notice.

Secondly, We not unfrequently observe, that a thickening of the lining membrane of the upper eye-lids, similar to what is called "granular," is noticeable as soon as the disease manifests itself on the eye; a fact that places in a ridiculous light this granular doctrine, which has obtained the support of some of our most respectable oculists.

Thirdly, We find that the state of the eye-lids under notice exists in all varieties of oph-

thalmia, simple or complicated, watery or purulent; and as granulations, if we reason from analogy, are only produced in other parts of the human frame where pus exists, we cannot but be astonished at their appearance on the eye-lids where pus had not been seen.

Fourthly, We find that by the plan of cure which I have recommended, the purulent discharge, however copious, is arrested in a few days; probably in a few hours; and that the disease runs its subsequent course without the production of pus; yet the state of the eye-lids called "granular" exists whenever the cure is protracted, and it even occasionally exists in defiance of our best means of counteraction.

Fifthly, It appears contradictory to suppose, that granulations can take place without a breach of surface or loss of substance.

Finally, There is a considerable variety in that state of the lids called "granular;" sometimes an appearance similar to the finest sand-paper, rough, hard, &c. presents itself; at other times a part of the eye-lid is covered with excrescences, whilst the remainder is smooth and villous. Again, we notice a great diversity in the size and elevation of those substances; the whole eye-lid is in many cases covered with them, intermixed occasionally with fatty tumours. Those appearances do not obtain in other diseases. The granulations of ulcers may

vary in size and number, but they never exhibit the variety which is seen in this disease.

From a consideration of the foregoing circumstances, I think I am warranted in concluding that granulations do not exist in this disease; that the appearances which have given origin to the conjecture (for it is nothing more), are simply enlargements of a fungous nature from the glands and vessels, the former, if I mistake not, being far more numerous than has been supposed; that similar enlargements take place in scrofulous habits where the glands in other parts are diseased; that, in such cases, the affection of the glands of the eye-lids is sometimes the cause, and not the effect, of what is called inflammation; that the vessels which are numerous, when they intersect one another in a state of distention, become united and in part obliterated, not only from the effects of the union, a stagnant state of the circulation perhaps, but from the pressure of the glands in an enlarged state; and that the whole united, and deficient in excitement, is formed into an irregular mass, which, in many instances, acquires a degree of firmness unknown in granulated surfaces.

CURE OF CHRONIC OPHTHALMIA.

Chronic ophthalmia is, at times, a disease of difficult management. The practitioner frequently finds, that under the most favourable circumstances, he is occasionally taken by surprise, and opposed to a disease, which, although trifling at the onset, becomes wholly unmanageable for a time, that is, until the irritation subsides. Such sudden changes have often surprised me; I cannot say whether they are common in persons who suffer from ophthalmia in civil life; but where they occurred under my care, in subjects of suspicious characters, I must acknowledge that I attributed them to the application of irritating substances; for I could not conceive how a person, whose eyes were gradually improving, nearly well to all appearance at one visit, should, without change of diet, without exposure to transitions or changes of temperature, at the very next, probably in one hour after, be affected with cloudiness and effusion on the cornea, with high vascular excitement throughout. The women, children, and men of good conduct, rarely experienced such changes. In the worthless and lazy they were common; and, sometimes, they were observed in persons who had been reduced from the rank of non-commissioned officer to that of

private; and, who, from having at one time held a situation of command, were now amenable to the orders of persons over whom, only a short time before, they had exercised authority, gave grounds to believe that they had been produced by art. In such cases, and they were not few, I reproached the patient; confined him to bed; changed his diet; or punished him by ordering a blister to be applied to the nape of the neck. This mode of proceeding had the desired effect with some; but there were instances in which the most disagreeable measures short of cruelty were resorted to in vain, although there was no doubt as to the affection having been prolonged by improper practices.

Whenever the disease of the eye-lids resisted the means of cure which have been recommended for the removal of the acute stage, or, in other words, assumed a protracted course, the upper eye-lids became thickened and diseased; and as long as the disease in the upper eye-lids existed, so long were the marks of inflammation observable on the ball of the eye and inferior eye-lids. This was the case in every instance, with one exception; and in that the rough and disordered state of the upper eye-lid, which was unaccompanied by redness of the eye, produced defect in vision. Vision was restored on the removal of the disease from the lids.

For the cure of the thickened state of the eye-lids, commonly denominated "granular," it will be necessary to apply bluestone in substance daily, provided the irritation produced by it is of temporary duration; but should it occasion unusual pain, *which rarely happens*, it will be proper to instil, on the following day, a solution of lunar caustic into the eye, of the strength of ten grains to an ounce of water, and to foment three or four times in the twenty-four hours. Where bluestone disagrees (which is seldom the case) and the fomentations are unavailing in allaying irritation, or the lunar caustic drops possess but little efficacy against the disease of the eye-lids, recourse may be had to lunar caustic in substance, which, when slightly rubbed over the internal surface of the upper or lower eye-lids, frequently removes the irritation, and sometimes even cures the disease. The caustic in substance proved injurious occasionally; and, in one instance, opacity of the cornea followed its use when applied in force for the removal of the disease of the upper eyelid. It ought not to be employed for that purpose; for when used to an extent sufficient to produce a deep slough, it generally does harm. Its utility, therefore, in chronic ophthalmia consists in diminishing irritability, and, for that end, the slighter the application the better. It is not, however, good reason to

abandon the use of a remedy, because injury is sometimes produced by it. We are warranted in trying different agents, and the daily use of remedial means is admissible, except in cases where extraordinary irritation exists. If after repeated trials they all fail of mitigating pain and allaying irritation, a respite of two or three days will be advisable, merely keeping the parts clean with warm or cold water. I think that I have saved eyes by the use of the caustic where it previously had done harm. As the irritation subsided, the employment of the caustic was attended with benefit; and the cure in all probability was effected by that remedy alone, according to the modified manner of management.

The most efficacious remedies, in a general sense, will sometimes fail in individual cases, and it is necessary to caution the young practitioner on this head. He is not to be prejudiced against a remedy because it proves ineffectual, or even prejudicial, under peculiarities of constitution; nor must he be disconcerted, or lose patience, because his most persevering endeavours may be occasionally succeeded by unexpected misfortune. He must consider that several causes, constitutional, as well as atmospheric, &c. will sometimes interpose so as to counteract the effects of his applications; and he must moreover know, that, in certain

habits of body, time, an attention to constitutional derangements, and a change of air and climate, will effect in a few days what medicine has failed to accomplish. There are periods, as I before remarked, when active remedies should not be applied, and that period appears to be principally when lymphous effusion is about to take place on the cornea; when, in consequence of the very great irritation which accompanies that process, we ought simply to bathe the eyes in hot or cold water, and attend to the state of the bowels. After the irritation subsides, which generally happens before the termination of two days, in those cases in which it arises from effusion, it will be necessary to have recourse to the sulph. cup. and caustic solution, in order that an impression may be speedily made, so as to prevent a recurrence of the morbid changes, which, as they may be expected in these cases, should be guarded against, as far as our means and skill permit.

When the eye-lids bleed from the application of the bluestone, caustic in substance, &c. these applications should be discontinued, and the solutions as before recommended substituted. I have not known a case, in which applications of any kind were followed by a flow of blood from the internal surface of the eye-lid, that was not succeeded by unpleasant symptoms, when the

remedy, not friction, was the cause of the hæmorrhage.

It not unfrequently happens, in chronic ophthalmia, that after the disease is removed from the upper eye-lids and ball of the eye, a spongy state of the lower eye-lid remains, which resists the most active means of cure. For its removal I have found slight applications of lunar caustic in substance beneficial; and the use of the bluestone, severely rubbed on, so as to excite a degree of inflammatory action, has also proved advantageous; but mere change of diet, and of air from hospital to barracks, has produced a cure, in cases where medicine was of little avail.

It has been asserted by oculists, who have paid considerable attention to the state of the eye-lids in this disease, that if the "granulated state," as it is called, be removed, relapses rarely occur. This is not the case in reality; for, however perfect the cure of the eye-lids may be, relapses frequently take place; but the disease appears to me to be more tractable when the lids are properly attended to. Eyes once inflamed are liable to be reaffected upon exposure to the original cause; and, under such exposure, second attacks are common, whatever may be the state of the eye-lids. This was amply exemplified in the 64th regiment; for cases of relapse were numerous shortly after

their dismissal from hospital, when the convalescents were exposed to the operation of causes which existed at the out-post guards, where the state of the atmosphere was different from that of the town or south barracks.

The preventive measures against relapse, consist in the occasional application of bluestone to the eye-lids during the period of convalescence; and, for this purpose, it would be desirable to confine the convalescents to a separate barrack-room, where, when off duty, the eyes may be examined with the view of maintaining an excitement in the eye-lids, when a disposition to relapse manifests itself. I am thoroughly convinced, that by this means I have restored to effective service a number of persons who might have been disabled for months; and I am moreover persuaded, that in cases, in which organic lesion has been produced by chronic disease, the injury may be repaired in a much shorter time in barracks than in hospital; for it is presumable, and I am convinced that it is the fact, that an ophthalmic air (if I may use the expression) exists in ophthalmic hospitals, very unfavourable to the re-establishment of health, and highly prejudicial to the chronic state.

It is astonishing how quickly the state of the eye-lids, denominated "granular," is removed by the bluestone, if the subject be not of scro-

fulous habit, or the eye-lids spongy, watery, or covered with fatty dry lumps. In the latter case, the knife will be necessary for the removal of the tumours; after which a solution of blue-stone will complete the cure. *The case in question is the only one in which, in my opinion, the knife is admissible to the internal surface of the eye-lids.*

The following observations apply to the acute and chronic stages of ophthalmia:

In so far as my opinion goes, fomentations with warm water are always beneficial, and ought never to be neglected. The practice of bathing the eyes continually with washes of alumen and zinc, is prejudicial, more particularly where the same wash is used oftener than once: it ought, therefore, not to be adopted, or to be adopted with circumspection; that is, that the wash be recently made, and that it be applied, after fomentations, with warm water, to relax and remove all impurities from the eye and surrounding parts. I have, upon the whole, rarely used astringent washes; and when I have employed them, I could not satisfy myself of the benefits which they produced. Cold water possesses more power of relieving this disease, than the washes usually employed by practitioners. By repeating the application at short intervals, and renewing the wash after

the application, the good effect will be considerable. It abstracts preternatural heat, and promotes cleanliness; but, although water, cold and hot, be serviceable for specified purposes, I am still of opinion that local remedies are of no permanent value unless they have the power of diminishing diseased secretions, and of lessening the morbid sensibility of the organ and its investing membranes.

Oculists appear upon the whole to be undecided with regard to the treatment of ophthalmia. All agree that the depleting plan of treatment is injurious in certain habits of constitution; and no fixed or determinate rule is laid down by them, defining the nature and character of the cases in which it is to be adopted.

The following hints, as proved by fact, may tend to elucidate this point.

“The œdematous elevation of the conjunctiva is significant of a feeble action, and is by some regarded as erysipelalous.”—*See Travers, page 258.*

“In certain habits, or states of the system, whether the ophthalmia arises from constitutional disorder or local injury, bleeding, purging, and blistering, the ordinary means of arresting inflammation, are employed without apparent benefit, or at least with a very disproportionate degree of advantage; and if the plan is persevered in, it soon becomes injurious; the

irritability by which it is marked increasing as the strength fails."—*See Travers, page 259.*

“ There are inflammations, which, assuming a chronic character in the commencement; evidently depending on a state of atony of very partial extent void of pain; and scarcely possessing any sign of inflammation, except the congestion of vessels, or, if any, so feebly marked as to encourage us to disregard them in treatment: in such cases a single stimulus will often restore the healthy action at once.” In those cases Mr. Travers supposes, that a drop or two of the zinc or the lunar caustic solution, of water impregnated with calomel, or a minute portion of the citrine ointment, or any other stimulant introduced within the palpebræ, would do as much as the vinous tincture of opium, which has acquired a nostrum-like importance. “ It is the character of the morbid action, not the application, that explains this sudden recovery. The re-excited or increased momentum of the arterial action clears the stagnant capillaries, and the unloaded vessels recover their tone.”—*See Travers, page 258.*

I am forced to acknowledge that I do not comprehend the author's meaning in the foregoing passages; for I cannot but doubt the existence of chronic inflammation as an original disease; nor can I suppose that the “ congestion of the vessels ” constitutes inflammation, if that

congestion be unaccompanied by inflammatory symptoms, viz. pain, heat, and redness.

“It is seldom that simple inflammation becomes chronic;” “but the red and thickened state of the conjunctiva at the margin of the lids is an occasional and not unfrequent termination of it. Here scarifications and the diluted mercurial ointments are employed with obvious advantage.”—*See Travers, page 260.*

With regard to simple inflammation becoming chronic, it was by no means an unusual occurrence under the antiphlogistic plan of treatment; and it will sometimes happen under treatment the most approved; but I cannot conceive how scarifications of the eye-lids, or diluted mercurial ointments, can avail in the condition in question; the former, as causing a breach of substance, with consequent granular formations, being evidently injurious; and the latter no less so according to the authentic testimony of the generality of modern oculists, who are justly averse from greasy applications in any shape or form; as the author partially admits at page 261; “but with some persons all greasy applications inflame so much as to aggravate the complaint, and in such instances moderately stimulant washes may be substituted.”

From what has been stated it appears, that Mr. Travers reprobates the antiphlogistic plan of

treatment, under certain circumstances, in simple inflammation of the eye.

Inflammation modified by Struma.

“ When the inflammation is of the asthenic character, as is more frequent where rapid changes are taking place upon the cornea, as a diffused opacity, or the formation of pustule, and its passing into ulcer on that membrane, especially where the deeper-seated tunics are partaking by continuance of the inflammation, the necessity of a more active practice is differently demonstrated. But as a general observation, blood-letting is not salutary in these inflammations; they are rarely attended with any very acute pain.”—*See Travers, page 264.*
“ The principle of treatment indicated in such cases is, to lessen the irritability without materially depressing the power of the system.”—*Page 264.*

Acute suppurative inflammation.

At page 275, Mr. Travers disapproves of stimulant drops and astringents in the inflammatory stage of this disease. “ The advantages of them is fully admitted at a proper season; but during the presence of active inflammation their use is as revolting to common sense as it is injurious.” Here, however, in a note he mentions, that he has known certain cases to be benefited by stimulants, even by mustard; and he

attributes the temporary relief to the copious secretion and flow of tears which they occasion. After admitting their advantage at a proper season, he states, "I am satisfied many eyes have been thus destroyed. An anomalous species of ophthalmia, or a pseudo-ophthalmia, is produced by it, which differs as much from the real character of the disease in either of its forms, and may be as easily distinguished from it, as an artificial from a natural flower."

This I believe to be the fact; and I also look upon it as one of the strongest arguments in favour of the astringent plan of treatment, admitting that its efficacy was not fully ascertained; for it is a fact, known to every medical man, that the principal indication of cure, in many diseases, consists in perverting or counteracting the primary morbid process, and in producing a change different from the morbid act; which change is, in the majority of instances, succeeded by convalescence. We will suppose a case of fever. Are we to suffer the disease to run an uninterrupted course? Certainly not. Here the diseased process is perverted by remedy; the nature of the disease is changed, and the change is followed by convalescence. The same obtains in ophthalmia; the form is changed, a new action is produced, and things assume a better aspect. Bluestone has the same effect in this disease as arsenic or Balsam of Peru have on foul ulcers; it rouses a new action in

the vessels of the part, and thus cures the disease. It is, in fact, the fundamental principle of medical treatment.

The following paragraphs are pretty good specimens of Mr. Travers's caution as to the antiphlogistic plan:

“When inflammations in their nature destructive are arrested by the vigour of the means employed, the system stands in great need of the power thus lost for its recovery; to restore parts partially injured, and to supply the place of those which are destroyed. We see this fact exemplified in many instances both of disease and injury. A patient labouring under pneumonia is relieved, by excessive bleedings, of his attack, and dies a month afterwards of dropsy.”

“When I hear, as I have often heard, of sixty and seventy ounces of blood taken at one time for an ophthalmia, and this followed by repeated smaller bleedings, I must protest against the necessity of such a practice.”—*Travers, page 274.*

The foregoing appears to me to be illogical reasoning with regard to the abstraction of blood. Surely if the author considers ophthalmia a disease requiring venesection and other means of depletion, he must acknowledge that the loss of sixty or seventy ounces of blood, taken at once, produces a more certain

and decided effect, than double the quantity taken at different periods. Small bleedings, repeated at distant intervals, in inflammatory affections, are of little value; and the practitioner, who places dependance upon them for the removal of general or local inflammations, will, after repeated trials, be ultimately convinced of their inefficiency in restoring health.

“In many inflammations it is unnecessary to draw blood.” “In some, general blood-letting is contraindicated both by the character of the inflammation and habit of the patient.”—*See Travers, page 254.*

A medical gentleman of my acquaintance recommended the use of the nitro-muriatic acid bath; the internal use of iodine, seawater, sarsaparilla, cubebs, zinc, turpentine, the balsams, the internal use of antimon. tart. with other restorative means which had been adopted in the 64th hospital for several preceding months. I made an extensive trial, in the protracted cases, of the nitro-muriatic acid bath; of the different preparations of mercury which are in common use, both as alteratives, purgatives, &c. I tried sea-bathing; morning and evening exercise in the open air; change of air to Catalan Bay, but with no evident advantage. It was the very reverse in the latter case; for the convalescents who were sent to that out-post in a promising state, returned under

complicated relapses. I also had recourse to mercury so as to salivate; and salivation, so much insisted upon by some learned authors for its efficacy in the cure of this disease, had not the effect of removing it in any one instance. It was evidently injurious in some cases. In fine, I had, when I commenced the treatment of this malady, recourse to a variety of means and a variety of remedies for the cure of the protracted cases; and the result was the abandonment of the whole, with the exception of those which experience proved to be efficacious, and which I have taken the liberty of recommending in the preceding pages. When I contrast my own experience, and the views which I have formed at the bedside of the patient, with the statements and recommendations of some learned authors who have written on the subject, I cannot but be astonished at so total a dissimilarity of ideas relative to the nature and cure of the same disease. What I have stated is simply the result of clinical observation and considerable labour.

For some interesting facts relating to ophthalmia, as connected with general or atmospheric causes, I beg to refer the reader to the learned work of my friend and colleague, in the investigation of the Barcelona Fever, Dr. C. M'Lean, entitled, "Evils of Quarantine Laws," &c. Appendix, No. I. p. 437. During the month

following the earthquake in Syria, in August 1822, the ophthalmia was so prevalent throughout the district to which that calamity had extended, that, according to the account of Mr. Barker, the English consul at Aleppo, "not more than three persons in ten escaped."

CHAPTER III.

*Practical Remarks on Ulcers of the Eye, and on
lymphous Effusion.*

ULCERS appear in all stages and forms of ophthalmia: they are more prevalent and more dangerous in the chronic than in the acute stage. No part of the external eye is exempt from them; but the cornea is more frequently affected than others. They seem to derive their origin from two causes, viz. excess of action, and deficient circulation. In the former case, the blood-vessels of the cornea are so highly distended as to appear turgid; and, when they are unable, in this turgid state, to circulate the fluid through the membrane, small pustules or tumours are formed at the points of penetration, and soon assume an ulcerated character. These ulcers not only affect the conjunctiva, but even portions of the cornea, if remedies be not seasonably applied, to counteract the ulcerative tendency.

In the second description of ulcer, the trunks of the arteries are distended with fluid; but fluid is deficient in the extreme capillaries. The re-

sult is, that portions of the cornea, which had been previously nourished by blood, but which are now deprived of it, disappear by absorption, without pain, irritation, or loss of the covering portion of the conjunctiva. The ulcer, in this case, is clean and healthy in appearance, and not surrounded by undue vascularity. Indeed, ulcers of the cornea are rare, where that membrane exhibits marks of what is called inflammation. Ulcers of the cornea, although not very common in the 64th hospital, made their appearance occasionally; but they were principally confined to persons who had been ill for many months, and whose fair dealing was suspected. They were extremely annoying, for they were difficult of management. It sometimes happened, that, the eyes being nearly well, a sudden relapse occurred without any ostensible cause, and the condition was pitiable for weeks or months thereafter. Persons recently attacked were rarely afflicted with ulcers of the eye. This I attribute to the plan of treatment adopted, and the good ventilation of the sick wards; for the few which did occur in the primary state were observed in a large ward on the ground floor, which had no thorough ventilation; as the rear windows of it, being connected with a place of divine worship, were necessarily closed. This apartment answered well for convalescents; but when it was crowded with sick persons confined

to bed, and who were in the habit of closing the windows at night, the atmosphere became so impure, that an evident change for the worse took place in many cases; and if ulcer appeared in any instance, a change to a well-ventilated ward was deemed indispensably necessary to recovery.

When an ophthalmic patient, whose eye is ulcerated, is confined in impure or stagnant air, it is impossible to remedy the evil by treatment. Medicine is of little or no avail; but removal to a pure atmosphere has a sudden and striking effect upon the character of the ulcer; so striking indeed, that, independent of treatment, I have no hesitation in saying, that to an impure atmosphere, and want of ventilation, many of the lamentable effects, which occur from this disease in large cities in northern latitudes, are to be ascribed. We find, that some authors recommend the patient to be kept in a dark apartment; and not only that the light, but even the air be excluded. The practice produces much evil. The patient should not, in my opinion, after the third or fourth day, be allowed to wear a veil over the eyes. To this there may be exceptions, but they are few; there is no exception to ventilation, which should be maintained in the day time through open windows, and at night, in warm climates, through half-opened *jalousies*, or window-blinds.

When ulcers appear on the globe of the eye,

whether the effect of recent or chronic disease, they are remediable through the means now alluded to. They seldom or never appear, except where the upper eye-lids are implicated; and, whatever might have been the duration of the disease, in addition to the slight application of caustic to the ulcer itself, I conceived that the use of blue-stone to the eyelids was necessary; and I have the satisfaction to say, that the good effect was generally evident in less than twenty-four hours. On the next day, whatever might be the state of the ulcer, I dropped a strong solution of caustic into the eye, and repeated it in the evening. Under the alternate use of the sulph: cup: and solut: nit: argent: (viz. ten or twenty grains to the ounce of water,) if the air of the ward was pure, the diet proper, and the state of the bowels well regulated, the ulcers generally healed in a given time. If, however, the ulcers do not yield to the remedies recommended, but continue obstinate after the disease is removed from the eyelids, the eye itself, as influenced by the ulcer, being watery, red, and irritable, I apply the lunar caustic in substance lightly, either to the lower or upper lids; and this application, although sometimes hurtful when extensively used in cases of constitutional irritability, is generally useful by removing irritation, and inducing a favourable change in the condition of the sore. Where caustic agrees,

that is, does not irritate to excess, the cure is within our command; the application may be continued daily until health be restored. If, however, the blue-stone, caustic in substance, and caustic solution, do not afford the relief expected, a watery discharge being kept up by the irritation of the ulcer, I have ventured to divide the conjunctiva over the distended trunk or trunks of the vessels which communicate with the ulcer*; and when the blood ceases to flow, and after having syringed the eye well with warm water, I apply a pointed piece of caustic to the exposed vessels. This being done, warm

* The arteries of the eye become highly distended previous to the formation of ulcers. Those which branch forward in the shape of a poplar-tree are more frequently attended by ulceration than the arteries, whose branches spread widely; for the former, being generally of greater dimensions, penetrate the connecting substance at the exterior margin of the cornea in a distended state; and as they are unable, in their distended state, to circulate the fluid through that membrane, ulcers or pustules are formed at the points of penetration; whilst the latter, in consequence of the more diffused distribution of the blood, and consequent diminution of the size of the vessels, merely penetrate the connecting substance; so that if they appear on the cornea, their diameter is so inconsiderable as to be scarcely adequate to the formation of ulcers. I have seen cases of the latter description extremely difficult of management; whilst the former, although alarming from the number of specks, pustules, &c. were promptly removed by the direct application of lunar caustic.

water is again injected into the eye, and fomentations are subsequently employed during the course of the day. The operation of dividing the conjunctiva over the distended trunk of the vessel is frequently attended with trouble, in consequence of the irritable state of the organ; but the cases are few in which it cannot be effected with the aid of Pellier's elevator. The result of this operation is, that although a slough be produced in the part which was touched by the caustic, the redness is considerably diminished in and about the ulcer; and in those cases, in which the experiment was tried, a change for the better was soon manifest in the ulcer and in the whole of the eye. This change, where no improper means were resorted to in counteraction, after a few applications of the caustic, terminated in cure.

In the treatment of ulcers of the eye we must attend to the state of the upper eyelid; for we in general find that a change in the one is attended by a corresponding change in the other.

LYMPHOUS EFFUSION.

Ulcers, as I before stated, were rare in the recent cases with the management of which I was entrusted from the beginning; but lymphous effusion was common in those which were protracted. This seldom appeared in the early periods; but whenever unusual irrita-

tion took place suddenly in advanced stages, effusion of the kind alluded to was generally observed at the superior margin of the cornea. The effusion of lymph appeared to be synchronous with the irritation manifested on the eye generally; but whether the former produced the latter, or vice versa, I cannot take upon myself to decide. I have not unfrequently been surprised by the suddenness with which this unpleasant and dangerous symptom set in; and I account for it, in many cases at least, by the patient having, in a great measure, occasioned it, by the application of irritating substances. I may be mistaken; but it appeared strange to me, that the cornea, which was perfectly clear at one visit, should, at the very next, be partly covered with dark coloured lymph and variegated specks; the eye at the same time appearing vascular, watery, and irritable. The effusion of this dark coloured coagulum, or lymph, generally takes place on the superior margin of the cornea, from a cluster of vessels which discharge a dusky-coloured jelly-like substance. The matter which is ejected from the vessels, as they approach the margin of the cornea, descends to a greater or lesser extent, according to the accompanying irritation and morbid action, until it reaches a given point, to which it seems to adhere. The progress is slow at times, as when the action is

inconsiderable; but in general it passes quickly on, unless some efficient means be resorted to in counteraction of its tendency. When the course of the lymph is slow, it seems to be gradually pushed forward in layers. The first layer proceeds onward until it reaches a certain point (one third of the cornea generally); to which, after having attained what may be considered perfection, it seems to adhere. The first layer is frequently succeeded by a second, and sometimes by a third, if the action be great. When this effusion takes place, it seems to destroy the bond of union between the conjunctiva and external margin of the cornea; and the newly formed parts, which seem to exhibit a rugged appearance, are more prominent in the direction of the vessels which disem-bogued the matter than elsewhere. This effusion generally takes place from above downwards, on the superior hemisphere of the cornea; the extent which it occupies is not great on ordinary occasions; but the instances in which the whole circumference of the cornea is covered by it are by no means rare. When the newly-formed parts become as it were organized, the irritation, which is great during their formation, subsides, and the removal of the whole is afterwards effected by the combined efforts of nature, time, and artificial remedies. When lymph is thrown out in the manner de-

scribed, it is difficult to arrest its progress; for, independently of the violence of the disease, the irritation is so great as at times to prevent the application of suitable means of cure. I have endeavoured to counteract its tendencies in the commencement by means of topical blood-letting, strong solutions of lunar caustic dropped into the eye once or twice a-day,—by fomentations, &c.; but to no purpose. In some later trials I applied the lunar caustic in substance on the effused lymph, and also to the distended trunks of the vessels which poured it out, and by this means the disease was arrested. I have also divided the conjunctiva over the trunks of the vessels, and applied caustic to them, having previously syringed the eye for the purpose of removing the blood which the division occasioned. This plan seemed to answer where the eyes were large; but in persons who had small eyes, and where the irritation was great, it seemed next to an impossibility to expose the vessels so as to be operated on in the manner described. In cases of this kind, it will be necessary to attend minutely to the state of the eye-lids. If thickened and diseased, the use of the blue-stone will be necessary, and the lunar caustic drops will be also of service. The disease will, it is presumed, be arrested in a few days by the correct administration of the means recommended; and the absorption of the lymph

will be effected in a few weeks. In two cases which came under my care in the course of my experience, an effusion of pus, or pus and mucus combined, took place in the anterior chamber of the eye. When the irritation subsided, the absorption commenced under the use of the solut: nit: argent: and sulph: cup:, and the organs were finally restored to their natural state.

Note.—I regret that my notes relative to opacities of the cornea have been lost; I am therefore unable to give my ideas on the subject in a satisfactory manner. Opacities of recent date alarm the unexperienced, but they are not dangerous in reality. Scarpa's views, relative to their formation (See Chap. VIII.), correspond exactly with what I have seen in the 64th hospital.

To rouse a new action in the vessels of the part, when the irritation subsides, is the essential principle of medical treatment in such cases. The action of the absorbents is powerful where stimulation is scientifically employed.

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PART II. CHAPTER I.

Practical Remarks on Simple Remittent Fever.

THE following observations on remittent fever were made in a regimental hospital, and on subjects in whose fate the author was much interested. He spent a considerable portion of his time in the sick wards, noticed the occurrences with care, and now details them to the reader with fidelity. He has not, to his knowledge, been biassed by pre-conceived theory to warp or pervert the facts which fell under his notice; and in the consideration that they are correct, for they have been often verified, he offers them to the public in hopes that they may be useful. The subjects of the disease were soldiers, and the climate in which the observations were made, was what may be called a hot one; but the circumstances, though they might and certainly did modify the same, did not change the base of the character. The same outline of history will be found to exist, and a similar principle of cure will apply, in higher latitudes and among the different classes of civil society. If any hints here suggested, with regard to the discrimination of circumstances and application of means, should be serviceable to others, the author will

be amply rewarded for what he has done. Book-making is not his trade, and the candid reader will not be a severe critic as to the manner of composition. Fact is the material point, and that he trusts is correct.

REMITTENT fever is a disease of considerable importance to the army surgeon, being the most common and dangerous of the febrile varieties, with which he has ordinarily to contend in warm latitudes. Its attacks are not limited to any class of persons or forms of temperament. The sanguine, lymphous, serous, &c. are equally liable, under peculiar degrees of modification, to suffer from it. It may be viewed under two forms; namely, the simple, active, and progressive; the complicated, torpid, and congestive.

In the simple form of remittent fever, the onset is generally marked by slight pain of the abdomen, which the patient frequently attributes to the drinking of cold water, or to some other trivial cause. This is succeeded by general uneasiness, drowsiness, depression of spirits, giddiness of the head, and not unfrequently by nausea. These feelings are soon followed by cold or chilliness, or fixed or flying pains in the back and loins; or where the sensations of cold and pains in the back are not noticeable, by violent head-ache, nausea, vomiting, and frequently pain in one or other of the

organs within the abdominal cavity. The pain of the abdomen, which is so obscure at first that the patient can scarcely point out its actual place, increases after the cold stage, which generally continues from three to eight hours, has subsided. The head aches, and there is sometimes a sense of tightness about the eyes with pain and redness of the ball of the eye, and intolerance of light. The countenance, which was sad, dull, and what may be called abstracted, during the tumultuary stage of invasion, becomes flushed, clouded, and distressed with a peculiar expression of weariness not easily described. The tongue is clean during the first stages; it ordinarily changes after a short time, and becomes foul and white; it is sometimes slimy and yellow, sometimes rough, dry, and brown, and in some instances not perceptibly different from natural. The heat is sometimes ardent, at other times inconsiderable. The salivary secretions are diminished more or less, sometimes almost suspended. There is a bad taste in the mouth, with loathing of food. The stomach is generally irritable; anguish or acute pain, considerably augmented on pressure, is commonly felt at the præcordia. The abdomen is frequently distended, impatient of pressure, and painful to the touch (Some of the abdominal contents are invariably affected in this disease; the intestines, if I may judge correctly, are more commonly im-

plicated than the other viscera). The bowels are constipated; when otherwise, the evacuations are watery, corrosive, and excoriating, sometimes of a bilious green or blackish colour. The urinary discharge is diminished, sometimes nearly suspended; the colour of the urine is always high; the skin is sometimes dry and constricted, even parched; the impression that it makes on the hand which touches it unpleasant, as pungently irritating; sometimes it is greasy, damp, and clammy. The pulse generally ranges between seventy and eighty; I have observed it as low as twenty-five; it is frequently under forty, full and expanded, seldom constituting what may be called a febrile pulse. Transient, or fixed and deep-seated pains in the lower extremities, are common in this form of disease.

The above symptoms characterize this form of malady during the period of invasion and the immediate subsequent excitement. They are subject to risings and fallings at stated periods, and they subside to a considerable extent in what is called the remission; but they do not disappear. The aggravation generally takes place in the evening; the remission is towards morning. During the continuance of the exacerbation, there is sometimes more or less of delirium, anxiety at the præcordia, vomiting, and general restlessness.

These symptoms, which I have noticed, as constituting the primary period of excitement, undergo a change about the twenty-fourth hour. A diminution of febrile irritation then takes place, indicated by a temporary abatement of the head-ache, of the heat of the body, vomiting, &c. and by a gentle moisture on the surface, particularly on the upper parts.

Diminution of febrile tumult and momentary relief are discernible, as now said, about the twenty-fourth hour. The respite is invariably succeeded at short intervals, if active preventive measures be not promptly resorted to, by an aggravation of all the sufferings. The head-ache, which was violent in the preceding period, now becomes distressing; so much so, as at times to occasion delirium. The temporal arteries throb violently; the pain and redness of the eyes increase; the cheeks flush; the tongue is foul and loaded; the thirst excessive; the lips parched; the respiration difficult; the vomiting incessant; the urine suppressed; sensations of indescribable anguish about the præcordia; continual watchfulness; mental wanderings or high delirium, moanings, startings, and frightful dreams, are urgent symptoms.

The above symptoms constitute the second stage of excitement, which proceeds to a similar termination as the first; and in this manner the disease goes on through a succession of pe-

riods until a termination be effected by favourable crisis, or by death.

The history now given characterizes the disease; more particularly as it acts on persons of a sanguine temperament. In lax and irritable habits, or in constitutions broken down through habits of intemperance, there is more or less variety. In such cases, the distinction of paroxysm is not well marked at the beginning: it is only discernible by obscure risings and fallings at given times; at later times, or towards the termination, where active remedies have been employed during the first stages, paroxysms and remissions are distinctly and easily traced. But where proper means of remedy have been neglected at early periods, they are so obscure from beginning to end that they cannot be followed and calculated with certainty.

Remittent fever is for the most part a disease of short duration, when properly and decisively treated; but when palliative measures only are employed, it runs a protracted course, and it terminates not unfrequently in dropsy or visceral obstruction. Yellowness, black vomiting, hæmorrhages from the nose, mouth, &c. are not uncommon in this form of disease, where depletion is not carried to sufficient extent during the incipient stages. Such appearances are not common where evacuation has

been fully employed. Yellowness of the body is then rare; the conjunctiva of the eye notwithstanding is more or less tinged with yellow. Under a judicious plan of treatment, signs of crisis are rarely clear and unequivocal; commencing salivation, where calomel is used, betokens the ostensible subsidence of the febrile process. Where the disease is left to nature, the critical periods are often marked by copious evacuations from the bowels, skin, &c.

Treatment.

This form of malady, as appears from the foregoing description of it, and also from the appearances that are visible in the dead body on dissection, is of an inflammatory character; the action being manifested more or less on one part, or on one series of parts, than another. It is a destructive disease when the action is prominently manifested on those organs within the abdominal cavity which are essential to life. In such cases, it is necessary to have recourse promptly to the application of vigorous means of cure, with a view of arresting the disease before the destruction of the suffering organ be effected. An unusual impulse of blood to a particular part, or to a series of parts, constitutes, as it would appear, the proximate cause of this disease. It is therefore evident, that blood-letting, as subtracting the impulse from

the diseased organ, presents itself as the most effectual means of arresting the destructive process. It will, however, be proper, as a means preparatory to blood-letting, that the patient who labours under this disease be immersed, at admission into the hospital, into a warm bath of high temperature, and that he remain in it fifteen or twenty minutes, or until the whole of the body be perfectly cleansed from impurities by means of soap, coarse cloths, or flesh brushes; and when this is done, that he be carefully dried and put to bed. A vein is then to be opened in one or both arms, and the blood allowed to flow until the pulse manifests a decided change in its condition, or until fainting supervene from actual loss of blood. It will be necessary to abstract from two to five pounds at the first bleeding, bearing in mind, at the same time, that the quantity taken must be proportioned to the age, habit of body, and urgency of the symptoms. I was always anxious in bleeding to induce a state of syncope, in so far as that might be done with safety to the patient; and I did so, with the view that he might receive the benefit of the sudden change in the system, from the interruption of febrile action which that state induces. There are few diseases, over which venesection possesses a more sovereign command, than remittent fever. I have given it an extensive trial for many years, and

its application has generally been attended with advantages of the most decided kind. In some cases, it arrests the progress of the disease in its cradle as it were; in others, it changes the form, and converts a malignant disease into a simple fever; and in all, if carried to sufficient extent, it removes the head-ach and general distress. Of the good effects of this remedy, the medical records of the 64th regiment bear ample proof. I do not hesitate to say, that blood-letting ought never to be neglected; as the advantages derived from it, when it is carried to a sufficient extent, are decidedly superior to any with which I am acquainted, or probably to any hitherto known. I am fully aware that the lancet, without the auxiliary aid of the warm bath, and other remedial means, will not remove fever in any form; but, as it averts the impending danger, destroys the susceptibility to morbid action in the organs essential to life, and changes the malignant character and rapid destructive tendency into a comparatively mild form of malady, it ought never to be neglected. The mode of subtracting blood, and the quantity to be taken away, vary considerably, according to the circumstances of the case, and condition of the subject. If the head-ach be great, the eye red, inflamed, and prominent, the countenance flushed, the limbs painful, and if sickness at the stomach be present with a

strong and full pulse, the patient should be placed in a recumbent posture, and a vein opened, from which blood should be allowed to flow until a change for the better be evident in the state of the pulse, or, until syncope supervene; after which a brisk cathartic, composed of calomel and jalap, or the compound extract of colocynth, is to be administered immediately, followed by a solution of salts with infusion of senna at an interval of two hours; to which may be added, such a quantity of the liquor ammoniæ acetatis as may act on the skin, while the purgative acts on the bowels. If these medicines be slow in operation, purgative enemata may be also administered; and if these fail of procuring evacuation by stool, a stimulating draught composed of eight grains of the powder of jalap, ten of rhubarb, six drams of the tincture of jalap, and half an ounce of water, will seldom fail in producing the desired effect. After the patient is bled, and the bowels evacuated, if there be much irritability of the stomach, a very large blister should be applied to the epigastric region; and effervescing draughts may be given every hour, or half hour, according to the urgency of the symptoms, and given with advantage. If the head-ach return after bleeding and other evacuations have been carried to some extent, the head may be shaved, and blisters applied to the temples and

nape of the neck, extending downwards between the shoulders; while cold lotions, composed of lime juice, vinegar, and water, are to be applied to the head and continued until all uneasiness subsides. In the evening of the first day, the warm bath may be repeated.

If the plan of treatment which I have now sketched be properly attended to during the first day, it will generally be sufficient to arrest the disease, and often to stop the fever altogether; but if in the evening, notwithstanding what has been done, the pulse be full and strong, and especially if symptoms of a determination to the head, indicated by flushings of the face, suffused eyes, head-ach, &c. be still present, the lancet should be again employed, and, if the strength permit, a further quantity of two or three pounds of blood may with safety be abstracted. On the second day, and even earlier, if the disorder be violent, calomel and James's powder, in form of pills, given in the proportion of five grains of the former, to three or four of the latter, every second hour, will be found a valuable medicine. This combination, notwithstanding the nauseating effects of the James's powder, frequently remains on the stomach when nothing else will. It keeps the bowels open without producing that distressing and alarming purging which too often arises from the imprudent use of drastic purges;

while, by its operation on the system at large, it produces the most salutary effect on the constitution. The warm bath is to be repeated on the second day, and if the symptoms indicate the necessity of the lancet, the vein is to be opened; for while the body is under immersion, a large quantity of blood may be abstracted with safety. If the irritation of the stomach still continues, the effervescing draughts with liquor ammon. acet. and tincture of opium may be repeated; or a weak solution of superacetas plumbi or the sulphas zinci, should be administered. These means frequently restrain the vomiting without suspending the purgative effects of the calomel. It not unfrequently happens on the second day, notwithstanding every attention has been paid to the measures which have been recommended, that the bowels are affected with flying or fixed pains of the most distressing kind, causing an extraordinary change in the countenance of the patient, which, from being animated, becomes sad and dejected; the pulse contracting, and general restlessness, attended with tenesmus of the most harassing nature, sets in. In such cases, and they are of frequent occurrence, the patient is benefited by fomentations to the abdomen, anodyne enemata, and frictions of the abdomen, with hot stimulating oils; but, the medicine upon which we are to place our principal dependence, is *castor oil*, which seems to

possess peculiar efficacy in removing this alarming affection. I have known patients, in multitudes of instances, to have been tormented by pain of the abdomen for hours, and which had resisted a variety of applications, instantly relieved by a dose of castor oil.

The patient, who has been treated in the manner which I have described, from the commencement to the third day, will, in the majority of instances, find himself under the influence of mercury; after which his recovery is almost certain, and generally rapid.

As the administration of calomel and James's powder is not commonly resorted to for the cure of fevers, and as the efficacy of the latter is questioned, I hold it right to state the reasons which led me to adopt it. My attention was first drawn to this remedy, by observing the success which attended its exhibition, after the use of the lancet, in the continued and remittent fevers of the West Indies. I made trial of it myself, in a number of instances, in some of the West India Islands, along with venesection, and found that this practice was much more successful than any other that was there employed. Two or three years afterwards I had the opportunity of observing, in a cold climate (viz. Halifax), the utility of this remedy in the cure of fever. In some other trials made in France, England,

Ireland, East and South of Spain, I found it equally beneficial; and the result of its extensive employment, in the various cases of fever which have occurred in Gibraltar under my superintendance, in the 64th and 75th regiments, has not diminished the favourable opinion I before entertained of it. The ordinary visible effects which attend its administration are, a determination to the skin, marked by a gentle moisture on the surface, and an open state of the bowels, in which the alvine discharges, after a few days, are bilious. I believe the beneficial operation of this medicine may be partly ascribed to its action on the skin and bowels, and partly to the peculiar effect of mercury on the hepatic system, and even on the system of general secretions. A morbid condition of the liver is generally present in the fevers of hot climates; even frequently, if I have observed correctly, in colder countries, at least in so far as respects its peculiar function, the secretion of bile. The calomel and James's powder seem, when exhibited in fevers, to remove that morbid condition of the hepatic system, by means of a peculiar action exerted on the liver. To this peculiar action, the combination of calomel with James's powder may, probably, effect the beneficial purposes which are so conspicuously manifested in the cure of fever.

Objections are made to the use of calomel

and James's powder, on account of the irritability of the stomach, which the latter is supposed to increase; but combination with calomel appears to counteract the common effect of the antimonial, insomuch that I have frequently found the medicine alluded to remain on the stomach when nothing else did. If, notwithstanding, nausea and vomiting should follow its use, it may be advantageously given with effervescing draughts; or, should the irritability of the stomach still continue, the application of a blister to the scrobiculus cordis seldom fails to remove it effectually. (In speaking of James's powder, the reader is to understand the real powder of Dr. James, not the antimonial powder of the London Dispensatory, which, in so far as I can judge, is good for nothing.)

Venesection, as I before observed, has a decided superiority over the remedies which have been recommended for the cure of remittent fever; and next to venesection, the combination of calomel and James's powder alluded to, claims, when judiciously administered, the practitioner's attention. I have of late, for experiment, depended solely on the latter remedy for the cure of this disease; and the symptoms of organic congestion and general febrile excitement, have, in most cases, undergone a change for the better when the system

became affected by the mineral, after which the patient rapidly convalesced; but although I am satisfied, that the disease, generally speaking, is completely under the control of this remedy, yet, I am disposed to think that relapses are more common, and chronic visceral diseases more likely to occur, under this mode of treatment, than when the lancet is freely employed in the early periods.

The diversity of opinion which prevails with regard to the utility of venesection, and other means of depletion, in the disease which I have cursorily sketched, induces me to make the following extracts from the works of some of our most discriminating and learned physicians.

“The cure of gastric fever, though more or less complicated, is directed, in all its stages, by the general principle assumed in this work as the base of medical practice, viz. arrest of diseased action by one set of means, and excitement of action analagous to that of health by another. The means, through which this end is attained, have been already explained and adjusted to the cure of general fever in its different conditions: they are applicable to the present with more or less modification. The base of the diseased action is here more distinctly local: the subversion of the base is preliminary

to cure, that is, the first step in the proceeding. I shall endeavour to explain the application in as few words as possible."

"In the first place, if the patient, whether of the sanguine, lymphous, or serous temperament, be submitted to medical care at an early period, that is, within twelve hours from the commencement of indisposition, the body is to be immersed in a warm bath of moderate temperature, rubbed with soap, and scrubbed with brushes over its whole surface; but more particularly on the epigastric and abdominal region. When the skin is freed from impurity, its sensibility being augmented by the heat of the bath and by friction, a vein is to be opened in the arm and blood abstracted, while the body is under immersion, to such extent as the circumstances of the case indicate; viz. until there be evidence of change in the form and character of the febrile act, whether indicated by faintness or actual fainting, evacuation upwards and downwards, general relaxation of excretories, expansion, or other change in the condition of the pulse; sensations of ease and freedom; and, more particularly, by absence of uneasiness in the epigastric region, and in all parts contained within the abdominal parietes. Three quarters of an hour, even an entire hour, is not too long for immersion where the surface is strongly constricted; half an hour may be sufficient in others. It is indispensable, that the local morbid act, which characterizes this form of disease, be totally subverted; that the tide of circulation be solicited to the exterior; and that vascular action, when thus equalized, be maintained in equal tenor throughout the system, even that it be artificially directed to the surface, and supported, in an especial manner, in the excretories of the skin. Hence, when

the patient is removed from the bath, wiped dry with linen towels, and afterwards rubbed dry with flannels heated at the fire, it is, moreover, essential that the skin be rubbed with warm oil, or volatile liniment, as mainly conducive to the purposes of cure. The diseased action, subverted by the proceeding here stated, is liable to recur; and preventive of recurrence, it is proper to employ certain means of impulse, which give extra activity to the function of parts that are situated in the abdominal cavity. Among the means employed on this occasion, the emetic may be reckoned one of importance. The emetic is safe after preparation of the subject by bleeding and bathing; and it is useful, not simply as evacuating what may be offensive, but as exciting new and effective action in the parts upon which the disease principally acts. The purgative presents itself as a remedy on the same ground of reasoning as the emetic; and, of the various kinds employed, jalap, with calomel, and a few grains of James's powder, is one of the best. The operation is facilitated, and the effect rendered more extensive, by dilution with saffron tea, or other agreeable aromatic effusion; and, on particular occasions, by the addition of salt of wormwood, or muriate of ammonia, in repeated doses. These rank among the securities against recurrence: a further security is derived from the action of blisters applied to the whole of the abdomen, at least to the epigastrium."

"If these means be applied in time, and if they be applied under a proper discrimination of circumstances, there is reason to believe that the disease, if not absolutely arrested, will be so changed in its nature, as to leave no cause for apprehension on account of its dangers. The gastric fever often requires blood-letting, and

it sometimes requires it to great extent. We do little or nothing towards the cure, if we stop short of subverting the base of the irregular action; and, as abstraction of blood is the chief remedy by which we can expect to subvert it, it is necessary that it be applied with effect. Three pounds, abstracted in the manner recommended above, will generally be sufficient to assure it. But, as absolute quantity cannot be defined by prescription in this case, it is necessary to try to proceed experimentally, and to ascertain, in the course of proceeding, that the morbid foundations are actually moved before the remedy be dismissed. Where the omentum and its appendages are materially implicated, the quantity required is great, almost extreme; and the difficulty of judging the measure is great, for the ostensible symptoms rarely indicate what is necessary to be done."

"If the disease be advanced to a late period, viz. to the fourth or fifth day, before it is submitted to medical care, though the principle which directs the cure, and the means which effect it, continue unchanged, considerable modification becomes necessary in the rule of applying them. The gastric fever, as a form of disease prominently local, does not proceed to a regular and final termination by a process of the whole system. The gastric action has a tendency to vitiate the secretions of particular organs, to form local depositions or congestions; and, instead of terminating by open and decided crisis through the skin, it has a disposition to subside in a state of imperfect health. If this be so, it is evident that the existing form of action must be changed, by means of art, at whatever period the case may be presented; for, if left to itself, there is no prospect of a speedy recovery, and little chance of a perfect one."

“ The first curative step is here the same as in the earlier stage, viz. immersion in a warm bath of moderate temperature; frictions of the skin, and particularly of the abdomen, while the body is immersed; abstraction of blood, not to the same extent as at the early period, but still to such extent as to act on the base of the disease, and thereby to lay the case open to the action of other remedies. When the patient is removed from the bath, rub-dry with flannels heated at the fire, friction with warm oils or volatile liniment; and when the friction is finished, adjustment in a warm and well-aired bed, with sufficiency of covering, constitute the first step in the point in the cure. As the main cure consists in turning the tide of circulation to the exterior, in maintaining it there, and thereby disembarassing the interior organs, the warm bath, and abstraction of blood while the body is immersed in the bath, are to be repeated as often as appearances indicate that the forward process begins to languish. The act will be aided and the effect assured by the application of blisters to the epigastric region, even to the whole of the abdomen. If the force of the disease be principally exerted on the secreting surfaces of the intestinal canal; an emetic, and, after the operation of the emetic, a purgative is of eminent service, more particularly if twenty or thirty grains of powder of charcoal be joined with it. On the contrary, if the principal action of the disease be manifested upon the peritonæal coat of the intestines, the omentum and its appendages, or the interior substance of the larger organs, the effect of the emetic or purgative is very equivocal, not always useful. The remedy consists in such case in abstraction of blood, warm bathing and friction, blisters applied in succession to the epigastrium and abdomen, dilution by

means of alkalized drinks, muriate of ammonia, &c., new forms of action induced in the organs of secretion by calomel or other mercurial preparation, with diaphoresis excited by antimonials and other means, which move and maintain an active circulation in the surface and extremities. When the force of the morbid act is removed from the gastric system, the circulation equalized by the means here recommended, aromatics and tonics, viz. bark, powder of arnica, and, at suitable intervals, acetated water of ammonia, muriate of ammonia, with such other addition as particular circumstances may indicate, rank among the means which prevent recurrence, and thereby assure recovery; more especially as assisted by daily gestation in spring carriages in the open air."

" Further, if the disease be not submitted to medical care until a very late period, viz. the tenth or twelfth day from the commencement; and if the febrile act be still prominent in the gastric system, the cure is difficult. It cannot, I think, in fact, be conducted to a safe issue except through a tedious process, every step of which must be directed with care and circumspection. If the tongue be black and dry, covered with a sooty-coloured pellicle; or if it be dry, red, and glossy, the skin dry and parched, withered and harsh, or damp, greasy, and inelastic, the eye surcharged with red veins—the white of a deep tinging yellow, the abdomen inflated, the hypocondria distended—impatient of the touch or of pressure, &c., the disease may be considered as more or less complicated in its condition. If the disease be complicated, the first step towards removing it, obviously consists in simplifying it: the principal means of effecting simplification consists in bathing and bleeding. Though there be sufficient evidence in experience that blood may be abstracted largely,

and with safety, in the late stages of fever ; yet it is not here recommended that the abstractions at one time be large: it is, however, necessary that they be repeated frequently, and even carried to such extent at one time as to act impulsively on the organic condition. Besides bathing and bleeding, frictions of the body generally, and of the abdomen more particularly, rank among useful remedies in the case under view. Calomel, or other preparation of mercury, administered with a view to excite salivation, daily gestation in the open air in spring carriages, the juice of deobstruent herbs, viz. dandelion, scurvy-grass, endive, &c., dietically, and occasional purgatives of the deobstruent class, constitute the principal means of remedy. Where the epigastrium is tense and painful to the touch, the distention temporary as proceeding from inflation, the purging tincture of aloes and myrrh, with half an ounce or more of rectified oil of turpentine, move the bowels with effect, and generally remove the tension more effectually than any other remedy that is known to me. Ablutions with cold water, by means of the sponge, are generally refreshing, and they are upon the whole salutary ; complete affusion is not a safe or useful remedy, prescribed where there is cause to suspect internal congestion : it is not recommended in the present case."

" If the gastric fever be attended from the beginning with symptoms of nervous irritation, viz. tremors, startings, spasms, convulsions, delirium; or, if symptoms of this description supervene at a late period, the person who has duly considered what has been said in the preceding pages will not, it is presumed, be embarrassed as to the manner in which he must act. In the earlier stage, abstraction of blood; and, after abstraction, an emetic of severe operation, often entirely removes the ner-

vous irritations, spasms, and even delirium, more especially as aided by the affusion of cold water on the head and shoulders. The nervous irritations alluded to, appear to depend in a great measure on certain modes of derangement in the biliary secretion, that we cannot appreciate correctly; at least they often cease, after copious evacuations by vomit and stool have been provoked by antimonial emetics. Where the irritations are violent, whether corporeal or mental, tincture of opium, to the extent of eighty or one hundred drops, with camphor, James's powder, and valerian, in large doses also, often has the effect to allay them, provided there be no extraordinary congestion or fulness in the vessels of the brain. Opium is of value; but ten or twelve grains of pure cobweb, given in pill or bolus, is more certain and constant in its effect. Where the nervous irritations make their appearance at advanced periods, the curative process moves under the same principle; but it requires to be conducted with more caution, in so far at least as regards abstraction of blood. Emetics are sometimes beneficial in cases of torpor and coma: purgatives of brisk operation are considered by most as of chief dependance. Blisters to the head and to the nape of the neck generally stand among the prescriptions of physicians; and, if the subject has been properly prepared by previous evacuation, they contribute materially to safety. In cases of extreme weakness, inability to move, or to bear to be moved without danger of fainting, a condition not unfrequently connected with gastric fever in its latter stages, sponging, or aspersion of the body with cold salt water, even affusion of cold water in tropical latitudes, is safe, refreshing, and invigorating; but though useful, gestation in the open air in a suitable carriage is, of all others, the most import-

ant, the safest, and the most effectual remedy, in the delicate and alarming condition of gastric fever here alluded to, of which I have knowledge."—*Jackson's Sketch of Febrile Diseases*, Vol. ii. page 12.

“The quantity usually amounted to two pounds, sometimes three or more, at the depot of military recruits and invalids during the year 1801, while I superintended the medical duty of that establishment, and executed the office of physician. In the West Indies, in the island of Barbadoes, and more expressly in the hospital of the Royal Artillery, the quantity of blood, abstracted at one time during the years 1813 and 1814, was rarely less than three pounds, frequently four or five, sometimes six; the vein was even sometimes re-opened at a short interval, the blood allowed to flow to the extent of four pounds additional, amounting in all to ten pounds in twenty-four hours. It is almost unnecessary to say, that it was only in the most concentrated forms of disease, particularly in forms which indicate congestion or adhesive inflammation in the substance of the brain itself, that these excessive evacuations were necessary or proper. They may appear to the reader, who has no knowledge from experience of the forms of disease to which they were applied, to be unsafe; but I am warranted to say, from a retrospect of the whole proceeding, that no accident occurred in any instance from the most excessive bleedings that were made in the Artillery Hospital; and I may add, that strength was so little impaired by this apparently revolting practice, that the greater number of persons who were treated in this manner returned to their duty, within a fortnight, in the full vigour of health.”—*Jackson's Sketch of Febrile Diseases*, Vol. i. page 228.

DR. JOHNSON, in his description of the endemic of

Bengal, commonly called marsh remittent fever, observes, page 43, "The impression made on my mind, by the dissection on one hand, and the perusal of Dr. Clarke's case (Henry Pope) on the other, determined me to try venesection, notwithstanding the accounts which Dr. C. himself gives of its fatal effects. I had now several down with the fever, and must confess it was with a trembling arm and palpitating heart that I first opened a vein, expecting every instant to see my patient die under my hands."

"He did not die however, nay, he seemed evidently relieved; but the bad symptoms soon returned, and the bleeding was repeated, with brisk evacuations. He recovered."

"I now carried the evacuating plan with a high hand, and with much better success than I expected. Fortunately for my patients, a great majority of them were fresh from Europe, and high in health and strength; these recovered wonderfully, after bleeding and evacuations, though not always."

Page 45. "But to return to our subject. The first symptom that claims our most serious attention in this disease, is that irritability of stomach, accompanied by a distressing vomiting. Till this is allayed, nothing can be done towards cure by way of medicine. Now venesection has considerable effect in procuring alleviation even of this symptom; but the dribbling manner in which it is too often performed, when it is ventured on at all, does more harm than good. *Bleed boldly and decidedly till the head and præcordia are relieved, or draw no blood whatever.*"

"While this is doing, a scruple of calomel, with half a grain of opium, should be immediately given; this will act like a charm upon the stomach. I shall prove, in the

course of this Essay, what, indeed, is known to many of my brother officers who have served in India, that twenty grains of calomel will act as a *sedative*, and, so far from griping and producing hypercatharsis, it will soothe uneasiness, and rather constipate than purge. On this account, in the course of a few hours, when the vomiting is assuaged, some purgative must be given. Cathartic extract, with calomel, castor oil, or even salts, will seldom fail to bring away a most copious discharge of intolerably foetid, bilious, and fœculent matter, to the unspeakable relief of the head and epigastrium.’”

Page 46. “ If there be now any of those dangerous symptoms, extreme head-ach, delirium, or pain in the epigastric region, no apprehension need be entertained of the lancet once more. Those bugbears, debility and putrescency, still paralyse the arms of medical men in hot climates, notwithstanding the clearest evidence in favour of venesection, particularly where the subject is lately from Europe, and not broken down by the climate.”

“ Immediately after the operation of the cathartic, the mainspring of the cure must be acted on. For this purpose, from five to ten grains of calomel, according to the urgency of the symptoms, combined with half a grain of opium, should be exhibited every four or six hours, till ptyalism is well raised, when in nineteen cases (I might say forty-nine out of fifty) there will be a remission of all the febrile symptoms, and safety secured. This is undoubtedly the *sine qua non* in the medical treatment of this fever, as well as every other fever in the East.”

Page 50. “ Large and repeated blisters to the epigastric region, will be found a most valuable auxiliary to the above plan of treatment; and where torpor in the lymphatic system is evinced by difficulty in affecting the

mouth with mercury, the denuded surfaces should be dressed with mercurial ointment. With these means in use, I have generally awaited, with a kind of patient anxiety, the first symptoms of ptyalism; and on the third morning I could frequently perceive a certain odour upon the breath prelusive of salivation. When this last came on *free*, I pronounced my patient to be secure."

"But if no symptom of salivation appeared, I have then,—or, indeed, if things wore an alarming aspect, I have, sooner than this, either increased the doses of calomel, exhibited them at shorter intervals, or conjoined with them mercurial frictions. For if relief could not be procured on the third, fourth, or fifth day, the chance of recovery became smaller and smaller in proportion."

Page 51. "This relief sometimes preceded, sometimes succeeded, but was generally synchronous with, the visible or sensible effects of mercury on the constitution, as evinced by the gums or breath; and mild and uniform diaphoresis, a refreshing sleep, and the appearance of natural stools, were the usual indications of this happy change; after which, as the ptyalism advanced, the train of morbid symptoms proportionably subsided, till at length the inability to eat, in consequence of the soreness of the mouth, became the principal complaint of the patient."

DR. BURNETT, on the Mediterranean Fever, 2d edition, alluding to the inflammatory stage, says:—"At this time it is a disease simple in its nature, and easily to be managed; but if allowed to run into disorganization, or if, by improper treatment, the inflammations and congestions be increased, it soon arrives at that stage, when the utmost powers of medicine will be exerted, too often, in vain."

"For the removal of the local affections, blood-let-

ting, both general and local, should be had recourse to, and repeated according to the urgency of the symptoms. It will often happen, after a few ounces of blood have flowed, that syncope will be induced: this must not prevent the repetition of the bleeding, while the symptoms require it. In the course of an hour, the bleeding may generally be repeated, and thirty or forty ounces taken away without producing it. In bleeding, the patient should be placed in a horizontal position. I have often seen a bleeding from the temporal artery of thirty ounces, aided by a brisk purgative, put an end to the disease. It will frequently happen (as I before observed), if the patient complains sufficiently early, that the loss of thirty ounces, more particularly from the temporal artery, will produce a complete remission, especially if the bowels be freely evacuated. The head-ach, if not entirely removed, is greatly ameliorated by the abstraction of blood from the temporal artery; in many instances so immediately, that the patient has declared he felt the pain escaping with the blood."

"If, before this evacuation, the pulse should have been oppressed, it will rise under the lancet; and patients, who have been led or carried into the hospital or sick birth (so great have been their apparent debility) have, after the loss of thirty ounces of blood, risen and walked about, expressing their surprise at their former condition. The relief thus obtained is not always permanent: the patient must be carefully observed; and on a return of the head-ach, increased vascular action, heat, or other symptoms of pyrexia, the lancet must again be resorted to, as well as the use of purgatives. In one instance I ordered blood to be taken from the temporal artery, to the amount of ninety ounces, in the course of

six hours. He was convalescent on the third day after he came under my care, and recovered his strength very rapidly. Should the patient be ordered to be bled without attending to the effect, probably little good will be done, and in all likelihood much harm."

"If the disease remain the following day; if the pulse be still full, hard, or strong, with increased velocity; if the flushing and tumefaction of the face, with suffused eye, be still present; or if the head-ach continue, with increased heat, recourse must again be had to the lancet and purgatives, and blood be evacuated according to the urgency of the symptoms. In many cases where the disease has been obstinate, and the symptoms violent, blood has been taken to the amount of 130 or 140 ounces, and even as far as 200, with the most marked advantage; and so far has this been from inducing any great debility, or a protracted convalescence, that the restoration of the patient to perfect health and strength has been most rapid, and relapse has seldom taken place."

"In the second stage of the disease, when the head-ach is present, with flushing of the face and suffusion of the eyes, and the pulse firm, blood should be taken away, and at this time particularly from the temporal artery, as a smaller quantity from thence will relieve the morbid affection of the brain, and unload the distended vessels; but the bleeding should, for the most part, be small; and during the time the blood is flowing, the pulse and general appearance of the patient should be strictly attended to." "It is unnecessary to say, that the bleeding may be repeated with advantage, if the symptoms require, and the state of the patient allow it."—Pages 19, 20, 21, 22, 23, 25, 27.

The following protracted cases are detailed, with a view of exhibiting in a particular manner the nature of the disease, the history of which I have cursorily delineated. The subjects were not possessed of much bodily strength, the measures were consequently not of the active kind which are necessary to insure safety in the sanguine and robust.

The reader's attention is directed to Appendix, III. for a well-detailed case of remittent fever, as it appears in Gibraltar.

CASE I.

James Johnson, aged 40.—Admitted 5th June, 1818.

5th. Seized this morning with giddiness of the head; shivering, succeeded by cold sweats; great and sudden prostration of strength; head-ach; thirst; white tongue; loss of appetite; countenance pale; skin hot and dry; pulse 80, hard, full; constipation of the bowels; urine copious, high-coloured. *Bled to the extent of one pound; calomel and extract of colocynth, H: 2: P: M:* The stomach became irritable soon after the bleeding, the pills were rejected; the irritability of the stomach removed; head-ach violent. *Repeat the pills.*—Evening: the medicine has not operated; pulse 80, full; skin hot and dry. *Salts.*

6th. Passed a bad night; very little sleep; tongue foul; pulse 70. Head-ach abated;

countenance flushed; skin hot and dry; pain of the lower extremities; breathing oppressed; no pain on making a full inspiration; thirst great; stomach retentive; bowels free. *Bled to the extent of one pound and a half; calomel and James's powder every third hour.*—Evening: passed the day quietly; sleeps at present.

7th. Slept well; tongue loaded; head-ach abated; thirst; skin hot, moist; pulse 70 full; bowels open; six stools last night; urine scalds, scanty; face flushed; pains of the loins and lower extremities. *Bled to the extent of one pound and a half; continue the calomel and James's powder.*—Evening: became chilly after the bleeding; the chills continued for several hours; pulse 80 hard, full; bowels open.

8th. Head-ach removed; sweated profusely last night; pulse 75 soft; skin cool moist; tongue white in the centre, clean at the edges; states that the appetite is good. *Continue the pills.*—Twelve o'clock. Became chilly about eleven o'clock, the chills continued for one hour; the heat of the body is now beyond natural; the pulse 90 expanded; three dark-coloured stools to-day; slight pain of the head; urine colourless.—Evening. Skin moist; heat abating.

9th. Chills set in at the hour of twelve last night; a hot stage succeeded, which is now subsiding; bowels rather constipated; slept a little; pulse 90, full, soft; tongue foul, moist;

urine copious, transparent; countenance clear; mouth not yet affected by the calomel. *Calomel and colocynth to purge.*—Evening. Freely purged; the skin cool, moist; pulse 78, soft; some vomiting; stomach retentive at present. *Calomel and James's powder at bed-time.*

10th. A restless night; stomach irritable; countenance wearied; eyes dull; skin cool, moist; pulse 80, soft; several black-coloured stools; urine copious, transparent; debility; states that the appetite is good; sweated profusely during the night; the head and extremities free from pain. *Continue the calomel and James's powder with effervescing draughts, H:11: A. M.* Some vomiting. *Discontinue the pills; repeat the draughts; a blister to the epigastrium.* Hour 1. P. M. *Purgative draught.*—Evening. Well purged from the draught; feels debilitated; skin cool; pulse 70, weak.

11th. Stomach retentive; slept last night; pulse 80, full; skin cool; bowels open; tongue loaded, moist; urine scanty, high-coloured; debilitated; mouth affected. *Effervescing draughts every two hours.*—Evening. Countenance animated; is much improved.

13th. Abscesses forming on the fore arms; small of the right leg very painful.—16th. The inflammatory affection of the arms subsiding.—Evening of the 19th. An accession of fever; of short duration.—July 5th. Discharged.

CASE II.

Robert Steelman, aged 20.—Admitted Aug. 13th.

14th. Admitted last evening. Intense head-ach; flushed face; skin hot, dry, parched; pulse 160, hard, strong, full; constipation of the bowels. *Bled to the extent of three pounds; purging medicine;* the head-ach and redness of the face removed; heat of skin great, tongue white; thirst, and total loss of appetite; dyspnœa; scanty and high-coloured urine. *The bleeding repeated to the extent of two-and-a-half pounds; calomel and colocynth followed up by salts, to act on the bowels.*—Evening. Skin, hot, dry, tongue dry. Three stools since last report. *Aqua ammon. acetat.*

15. Slept well; two stools in the night; pulse 100, full; skin hot, dry; tongue white, loaded; urine scanty, high-coloured. A copious sweat last night; stomach retentive. *Calomel and James's powder.*—Evening. Passed the day quietly. *Aqua ammon. acetat.*

16th. Slept well; bowels open; tongue yellow, loaded; skin hot, moist; thirst abated; urine copious; relish for food. *Salts.*

17th. Slept well; sweated profusely last night; pulse 90, full; skin hot, dry; tongue cleaner; urine copious. *Nitre and James's powder.*—Evening. Sweats profusely.

18th. Slept well ; copious sweats last night ; dyspnœa and tremors of the limbs ; depression of spirits ; skin hot, dry ; tongue white, moist ; thirst ; pulse 95, full ; urine copious, high-coloured. *Calomel and James's powder.*

19th. Sweated profusely in the night ; tongue cleaner, moist ; skin hot and dry ; no thirst ; relish for food continues.—Evening. Skin cool ; sweats.

20th. High delirium last night ; delirium continues ; anxiety of countenance ; oppression of breathing, and a short dry cough. Skin parched, hot ; tongue brown, dry ; pulse 106, full ; constipation of the bowels ; thirst. *A blister to the præcordia, and nape of the neck. Calomel and James's powder.*—Evening. Delirium ; skin hot, dry ; tongue dry, brown. *Liq. ammon. acetat.*

21st. Delirious all night ; still so ; tongue as before ; skin hot, dry ; dyspnœa ; pain of the hypogastric region ; pulse 105, full ; urine scanty, and of a dark-red colour. *Purgative draught ; frictions, with mercurial ointment. A blister to the head.*—Evening. Sensible ; a change for the better ; blister not applied.

22d. Slept well ; skin hot, dry ; tongue foul, moist ; pulse 100, full ; six scanty stools of a brownish colour ; urine copious, high-coloured ; voided with pain and difficulty ; anxiety of countenance, prostration of strength, and de-

jection of spirits. *Continue the ungu. hydr. and saline mixture.*—Evening. The urine discharged with freedom.

23d. Slept well; sweated; difficulty of breathing after the slightest exertion; tongue cleaner; countenance stupid. *Saline mixture.*—Evening. Considerable dyspnoea; skin hot, dry.

24th. Slept well; sweated profusely; skin hot, dry; pulse 100, full.

25th. Passed a good night; sweats; countenance sad; depression of spirits.—Evening. Delirious about half an hour since, not so at present.

26th. Cough and expectoration; incoherency of language; pulse 95, full; dyspnoea abated; skin hot, dry, parched; tongue loaded, white.

27th. Urine scanty, high-coloured, voided with difficulty; cough abated. *Head blistered. Calomel and colocynth to purge.*—Evening. Expectoration considerable. *Calomel and James's powder; frictions with mercurial ointment.*

28th. Composed since last report; tongue cleaner; appetite pretty good; sweats. *Continue.*

29th. Profuse sweats; passed a good night; pulse 100, full; urine copious, depositing a yellowish sediment; appetite pretty good. *Continue.*—Evening. Sweats copiously.

30th. Skin hot, dry; pulse 97, full; appetite good.

31st. System under the influence of the calomel; cough troublesome; expectoration free.

Sept. 1st. Mouth very sore; sweated last night.

9th. Convalescent.

The following abridged cases are intended to show the exasperated nature of the disease in the incipient stages, and the efficacy of the plan of treatment which has been recommended for its cure.

CASE III.

Francis Patterson, aged 20, admitted September 1st. Sept. 2d. Admitted in the afternoon of yesterday. Head-ach; pulse 90, hard; skin, hot, dry; bowels constipated. *Bled on admission to the extent of two pounds; calomel and colocynth to purge.* Symptoms more urgent at present; face flushed; tongue white; skin hot, dry; bowels still constipated; pulse 90, hard, full; urine scanty, high coloured; inappetency. *The bleeding repeated to the extent of two pounds; calomel and colocynth, followed up by salts, to purge.*—3d. Copious stools from yesterday's medicine; slept well; sweated; skin hot, moist; tongue white; thirst; urine clear, copious. *Repeat the calomel and James's*

powder.—H. 10, P. M. The patient was seized with a fit of coughing not long since, and expectorated a large quantity of blood. *Bled to the extent of three pounds.*—5th. Syncope occasioned by the loss of blood; blood buffed; face flushed; pulse 108, hard; skin hot, dry; tongue white, dry; constipation of the bowels; some tenesmus last night. *The bleeding repeated to the extent of two pounds; salts.*—6th. Slept well; sweated.—8th. Convalescent.

CASE IV.

Thomas Skerritt, aged 24, admitted September 10th. Head-ach; flushed face; foul tongue; thirst, and total loss of appetite; hot and dry skin; constipation of the bowels; scanty high coloured urine. *Bled to the extent of three pounds; calomel and colocynth to purge.*—11th. Syncope, occasioned by the loss of blood; head-ach; hot and dry skin; pulse 90, full, hard. *The bleeding repeated to the extent of two pounds; calomel and James's powder.*—12th. Slept well; sweated; head-ach abated; tongue white in the centre, red at the edges; pulse 75, full; thirst; urine free, copious. *Calomel and James's powder.*—Evening. Skin exceedingly hot, dry; headach augmented; tenesmus. *Salts.*—13th. There appears to be a remission of fever this morning, although there is still head-ach. *Calomel and*

James's powder.—Evening. An exacerbation of fever at three o'clock. The skin moist at present.—14th. Giddiness of the head; face flushed; pulse 90, strong; skin hot, dry; tongue white in the centre, red at the edges; urine scanty, high coloured. *Bled to the extent of two pounds and a half; calomel and James's powder*.—Evening. The fever abated after the last report. An exacerbation took place at five o'clock this evening. *Aq. ammon. acetat.*—15th. No sleep; sweated; skin hot, dry; pulse 90, hard, full; excessive thirst; scanty high coloured urine. *Calomel and colocynth to purge*.—16th. The medicine produced copious stools; skin cool; tongue cleaner; thirst removed; slight head-ach; pulse 80, full; urine copious; mouth affected; appetite returning. *Calomel and James's powder*.—17th. Free from fever. *Calomel and colocynth to purge*.—18th. Convalescent.—25th. Discharged.

CASE V.

John Molloy, aged 21. Admitted Sept. 1st. Head-ach; flushed face; foul tongue, with thirst, and total loss of appetite; skin hot, dry; pulse 100, full. The urine, he states, is yellow and thick. *Bled to the extent of three pounds. Calomel and colocynth*.—2d. Syncope occasioned by the bleeding; blood not buffed; head-ach abated; skin hot, dry; pulse 90; contracted

tongue, brown in the centre; thirst; looseness of the bowels; urine of natural colour. *The bleeding to be repeated to the extent of two pounds. Calomel and James's powder.*—3d. Slept well; pulse 90, full; tongue brown, moist; skin hot, dry; excessive thirst; urine scanty, depositing a sediment. Calomel and James's powder.—4th. Mouth sore; no febrile excitement.—9th. Convalescent.

CASE VI.

William Boyle, aged 21.—August 28th. Severe head-ach; inflamed appearance of the face; inflamed eyes; tongue white; thirst; total loss of appetite; pulse 100, small; skin hot, moist; bowels constipated; urine high-coloured, scanty. *Bled to the extent of four pounds. Calomel and colocynth followed up by salts.*—29th. Syncope from the bleeding; head-ach removed. Complains of weight in the præcordia; face flushed; skin hot, dry; tongue foul; bowels griped; passed a restless night. *The bleeding repeated to the extent of three pounds. Calomel and colocynth followed up by salts.*—30th. Slept well; skin cool; tongue clean; urine scanty. *Calomel and James's powder.*—Evening. An exacerbation of fever. *Warm bath.*—31st. Skin cool; tongue clean; bowels open; thirst inconsiderable; urine copious; appetite returning. *Calomel and James's*

powder.—Sept. 1st. Pulse 90, full; skin hot; tongue moist, clean; urine scanty; mouth affected. *Calomel and James's powder.*—2d. Free from fever.—13th. Discharged.

CASE VII.

John Mornan, aged 26. Admitted August 26.—Excessive head-ach; flushed face; inflamed and watery state of the eyes; tongue foul; excessive thirst; total loss of appetite; skin parched, dry; bowels loose; considerable irritability of stomach; the onset marked by chills. *Bled to the extent of four pounds and a quarter. One scruple of calomel.*—Evening. Syncope occasioned from the bleeding; head-ach as in the morning; face flushed; pulse 90, hard, strong. *Bleeding repeated to the extent of two pounds.*—27th. Head-ach removed; face still flushed; eyes inflamed; pulse 95, hard, contracted; stomach retentive; bowels open. *Calomel and colocynth with salts. The bleeding repeated to the extent of two pounds.*—28th. The head free from pain; the face and eyes natural; pulse 90, full; tongue cleaner; bowels open; urine copious. *Calomel and James's powder.*—29th. Pulse 84, full; bowels open; tongue cleaner; appetite returning; mouth sore.—31st. Convalescent.—Sept. 6th. Discharged.

CASE VIII.

George Lemonth, aged 20. Admitted Aug. 26th.—Violent head-ach; pale face; thirst, and total loss of appetite; tongue foul; hot and dry skin; pulse 100, small; bowels loose; urine scanty, high-coloured. *Bled to the extent of three pounds and a quarter.* Salts.—Evening. A copious sweat.—27th. Slept well, sweated; head free from pain; face red; skin hot, dry; tongue foul, white, moist: pulse 100 hard, strong; bowels open, griped. *The bleeding repeated to a pound and a half.* Calomel and colocynth, with salts to purge.—28th. Very little sleep; skin hot, dry; pulse 90, hard, strong; tongue foul; thirst. *Bled to the extent of two and a half pounds.* Calomel and James's powder.—29th. Pulse 95, full; skin hot, moist; tongue white; slept well; sweated; appetite returning; mouth affected. Salts.—30th. Convalescent.—Sept. 6th. Discharged.

CASE IX.

John Trimlet, aged 22. Admitted Aug. 24.—Delirium; violent pain of the head; flushed face; inflamed eyes; foul tongue, with thirst; pulse 95, hard, strong, full; skin parched; constipation of the bowels; scanty, high-coloured urine; dyspnœa. *Bled to the extent of three pounds.* Calomel and colocynth.—25th. Deli-

rium ; face flushed ; eyes pretty natural ; foul tongue ; copious pale urine ; pulse 95, contracted, hard ; short dry cough, with dyspnœa. *Bled to the extent of two pounds. Calomel and colocynth.* Hour 2. P. M. The delirium subsided soon after the bleeding ; face flushed ; pulse 95, hard. *Bled to the extent of one pound.*—26th. Slept well ; skin cool, moist ; tongue white, dry ; pulse 84, full ; face flushed ; urine high-coloured, scanty ; dyspnœa and pain across the chest. *Bled to the extent of two pounds. Calomel and James's powder.*—27th. Slept well ; sweated ; tongue clean ; pulse 90, full ; urine copious ; appetite returning. *Calomel and James's powder.*—28th. Mouth under the influence of the calomel ; skin cool ; urine copious.—29th. Convalescent.—Sept. 1st. Discharged.

CASE X.

William Simons, aged 23. Admitted Aug. 24.—Head-ach ; inflamed appearance of the eyes ; foul tongue, with thirst ; pains of the breast, back, loins, and limbs ; pulse 84, hard, strong ; skin hot, dry ; constipation of the bowels ; scanty high-coloured urine ; languor, lassitude, and depression of spirits preceded the attack. *Bled to the extent of four pounds. Calomel and colocynth.* 26th. A copious sweat last night ; head relieved ; skin cool, dry ; tongue

foul; thirst; face less flushed; pulse 90, full; bowels open; urine high-coloured, scanty. *Calomel and James's powder*.—26th. Skin somewhat heated beyond natural; tongue cleaner; pulse 84, full; bowels loose; urine copious, high-coloured; relish for food; slept well; sweated. *Calomel and James's powder*.—27th. Slept well; skin cool, dry; appetite pretty good.—28th. Mouth slightly affected.—29th. Convalescent.—Sept. 6th. Discharged.

CASE XI.

James Crispen, aged 24. Admitted July 7. Slight head-ach; foul tongue; loss of appetite; hot and dry skin; constipation of the bowels; pulse 95, full. *Calomel and colocynth*.—In this case the patient became convalescent on the 11th, and continued so until the 24th, when a relapse took place. He was rather a weakly subject, and apparently incapable of sustaining active depletion; but as it was obvious, from the suddenness and nature of the second attack, which set in with high delirium, that, if active measures were not resorted to, his life was in extreme danger, I determined upon having recourse to the lancet. The attack or relapse commenced, as I before observed, with high delirium. The pulse was full, frequent, and as high as 130. The forehead was covered with a clammy sweat, while the other parts were dry. The dys-

pnœa was violent. Four pounds of blood were immediately abstracted from the arm, which reduced the pulse to 75, without producing syncope. The patient was bled at night. On the following morning the pulse was 90. The delirium subsided soon after the bleeding; the bowels were moved, and copious stools produced. The skin became cool; the tongue white; the dyspnœa, which was violent, had nearly subsided. *Calomel and James's powder.* From this period the patient gradually improved until the 24th, when he was discharged.

There is not on record, I believe, a more remarkable case than the one I have now sketched. The patient was a debilitated subject. The first attack was exceedingly slight, and he appeared convalescent after a short illness; but about the 14th day, his countenance was sad and dejected; his spirits bad; from which I concluded, that latent mischief, which appeared during the preceding days to undermine his constitution, would soon develope itself in a malignant form; I was consequently prepared, and, waiting in anxious expectation, I paid several visits daily. At length the patient became suddenly delirious; and as the symptoms were of so urgent a nature as to threaten his destruction, I determined (regardless of the supposed ill consequences of blood-letting under such circumstances) upon abstracting blood until

fainting supervened, or until a change was effected in the suffering organ; and I have the great satisfaction of observing, that never was venesection attended with better effects; although I am well aware, that the majority of practitioners would conceive that, under the circumstances, the loss of one pound of blood would be certain ruin.

CASE XII.

Robert Hall, aged 25. Admitted August 1. —Head-ach; flushed face; foul tongue; thirst, and loss of appetite; skin parched; pulse 75, full, strong; bowels loose; urine high-coloured, scanty; chills, succeeded by flushes of heat and vomiting, marked the onset. *Bled to the extent of four pounds. Purging pills.*—2d. Syncope occasioned by the loss of blood; increase of febrile excitement, during the night attended with vomiting: head-ach at present abated; skin cool; tongue white; thirst; pulse 95, full, hard; bowels open; urine scanty; pain in the epigastric region on coughing; a restless night. *Calomel and James's powder.*—Evening. Heat of surface augmented; pain of the abdomen. *Castor oil.*—3d. Bowels freely evacuated; abdomen still pained; excess of heat during the night; skin cool at present; pulse 90, full; foul tongue with thirst; head-ach diminished. *Calomel and colocynth. A blister to the abdomen.*—Evening.

Intense head-ach; hot and dry skin; thirst; the heat increased about five o'clock. *Effervescing draught*.—4th. Pain of the abdomen removed; slight head-ach; heat of skin great during the night; still so; want of rest; foul tongue; thirst; scanty, high-coloured urine. *Warm bath. Calomel and James's powder*.—Evening. Febrile excitement considerably augmented; intense head-ach; stomach irritable.—5th. Free from head-ach; skin cool; tongue cleaner; thirst abated; bowels loose; stools watery; urine brown, viscid; stomach retentive. *Calomel and colocynth, with salts to purge*.—6th. An accession of fever about six o'clock yesterday evening; the skin cool at present; pulse 80, full; bowels open; mouth affected by the calomel.—7th. The patient was free from fever at the evening visit: states, that he was feverish all night; no febrile excitement at present; mouth sore.—8th. An exacerbation of fever last night; no febrile action to-day.—9th. Convalescent.—24th. Discharged.

CASE XIII.

John Burns, aged 43. Admitted Aug. 10th. Attacked about 11 this morning in camp; became suddenly insensible, and fell to the ground; the head-ach violent; loins severely pained; nausea; the skin is cool, moist; pain of the loins abated; pulse 90, full; abdomen painful;

foul tongue; thirst, and total loss of appetite; bowels loose; urine high-coloured, scanty; no previous illness. *Bled to the extent of four pounds; warm bath; calomel and colocynth.*—11th. A disagreeable night, occasioned by febrile heat; a profuse sweat broke out this morning; tongue foul; bowels open; urine scanty; pulse 95, full; head free from pain. *Calomel and colocynth, with salts to purge.*—12th. An accession of fever last night; skin at present cool; foul tongue; looseness of the bowels; thirst; giddiness of the head. *Calomel and James's powder.*—13th. No febrile excitement since last report; pulse regular; tongue foul; bowels open.—15th. Convalescent.—31st. Discharged.

CHAPTER II.

Remittent, Complicated, or Congestive.

THERE is another variety of this disease, different, in many respects, from that which has been described. It is characterized throughout its whole course, especially when the termination is fatal, by partial or general deficiency of vital heat and vascular energy, impaired sensibility, diminution, in some cases almost to privation, of muscular power. (It is to be understood, that although this disease be described under the denomination of congestive remittent, yet every remittent fever is considered as a congestive disease in its real nature; but this in so great a degree as, in the author's opinion, to warrant the distinction which has been made.)

In the first form of remittent fever, vascular energy accompanies the inflammatory condition of the organs upon which the principal action is manifested; in this, the topical determination is so great as to oppress and produce sudden diminution of vital energy, and partial suspension of the activity of the circulating system.

The symptoms which mark the onset vary more or less according to the nature and im-

portance of the organ to which the afflux of blood is directed; but, in general, the patient is instantaneously, and without any previous notice, attacked with rigors, chills, shiverings, or actual shakings, analogous to the tremors of the cold stage of malignant tertians. The head is heavy and vertiginous: the face pale; the lips pale; the eye dull and inanimate; the expression of the countenance sad, irksome, and, as it were, wearisome. The loins painful; the tongue clean; the skin clammy, moist, and relaxed; the temperature diminished generally, greatly diminished on the lower extremities. The pulses of the artery are scarcely perceptible where the force of the disease acts principally on the organs within the abdominal parieties; where it acts on the brain, the temporal arteries throb violently, while the pulse is scarcely perceptible at the wrist. There is nausea and vomiting, pain and oppression at the præcordia, frequent sighing, heavy or uneasy respiration, jactitation and writhing of the body in various manners. The bowels are often loose, frequently torpid in their action. During the stage alluded to, surrounding objects are in a manner neglected; there is often muttering or incoherent rambling.

The symptoms here observed are conspicuous at the commencement, and they subside before the termination of the eighth hour. If a vein be opened during their continuance, the

blood flows languidly, or not at all. Towards the termination of what may be called the period of accession, the head, which was only slightly affected, is now tortured with deep-seated pain. The eye, where the principal action is on the head, is red and painful, staring or agitated, and impatient of light; where the action is prominently on the organs within the abdominal cavity, it is white and glossy generally, red and watery at times. The face is pale; the aspect wild or dejected, sometimes agitated and grim. The tongue is clean for the first six or seven hours, after which it becomes foul, clammy, and thickly covered with mucus; the taste is vitiated, and the appetite impaired. The lips are deadly pale; the thirst considerable. The temperature of the skin varies. The heat, when the course of the disease has not been interrupted by means of art, is invariably below the standard of health; the extremities colder than the trunk. The skin is dense, greasy, and constricted, or greasy, damp, and relaxed. The heat, which is greater at the præcordia than the other parts, although not high, is pungent and unpleasant to the feel. Partial perspirations appear on the forehead and breast, while the other parts are dry. The vomiting, which is inconsiderable during the first stage, becomes distressing in this, and there are unavailing retchings at times which harass the patient greatly.

The pain and distress in the epigastric region is augmented by straining to vomit. The sense of internal heat, while the surface is cool, is distressing. The respiration, interrupted by deep sighing, and occasionally by eructations of wind from the stomach, is hurried and laborious. The pulse is variable, sometimes irregular, and scarcely perceptible—sometimes full, expanded, and about 70 in the minute—more frequently contracted and depressed. The bowels are sometimes torpid; when otherwise, the evacuations are small, dark-coloured, and rarely feculent:—they are highly offensive in the advanced stages. The urine is frequently suppressed; when discharged without impediment the quantity is small, high-coloured, and corrosive, causing excessive pain when voided. The limbs suffer from pain, transient, or deep-seated and fixed. There are watchfulness, mental wanderings, moanings, confusion of ideas, or high delirium in some cases; in others, the patient is indifferent to surrounding objects, mutters incoherently, falters in his speech, and, totally regardless of danger, appears perfectly reconciled to his fate, or careless about it.

The symptoms now described are succeeded about the 24th or 48th hour, by a shaking fit, which continues from one to six hours. The system is then often thrown into such a state of convulsive agitation, from the severity of the

rigors, that a cold, clammy, copious sweat, is forced out in agony, as it were, without the intervention of a hot stage. It is not possible precisely to define in words the appearance of the countenance during this paroxysm:—it is grim and overcast, with confusion and distress strongly depicted in it. There is also a peculiar malignity in the appearance of the eye, which cannot be correctly conveyed in verbal description. The pulse is irregular and intermitting; and the body, from which a disagreeable odour exhales, is cold and bedewed with clammy sweat. A prognosis may be formed of the event, from the intensity and number of the cold fits; the danger increasing in proportion to their severity.

Universal reaction, or general excitement, seldom or never takes place from the condition described, where it appears in aggravated form after the second or third day of the disease. The progress towards dissolution is then extremely rapid, the slightest degree of what is commonly called fever being seldom perceptible throughout the subsequent course, although diurnal risings and fallings are not unfrequently observed. The heat of the skin gradually diminishes; the temperature of the lower extremities is under that of the trunk; the respiration is oppressed; local pains subside; the pulse is irregular and intermitting; the skin, relaxed, greasy, damp, and of a leaden colour, exhales a

disagreeable odour. The irritability of the stomach, which is distressing from the commencement, increases towards the termination of the course. The bowels are loose; the stools brown or black, and occasionally streaked with blood; the epigastrium becomes distended; and there are distressing eructations of wind from the stomach. General torpor and suppression of urine take place; petechiæ appear on the body, and blood oozes from the nose, mouth, &c. After this, the blood begins to stagnate; the articulation of speech becomes indistinct; apathy, or indifference to surrounding objects, is conspicuous. Subsultus tendinum; obscure and interrupted hiccuping; difficult deglutition; confused mutterings; tremors; picking at the bed-clothes; convulsions; coma, &c. close the scene.

The symptoms now enumerated characterize this destructive malady under its worst form. The termination in death usually takes place before the fifth day. Where active measures are resorted to, the course is protracted to a longer period, but the base of diseased action continues the same. The shaking fits seldom observe regular periods, nor are they frequent: they appear, when long continued and violent, after the second day of the disease, to be disposed to induce a state of system to which reaction does not belong. When the disease terminates fa-

vourably, febrile excitement appears at an early period, and the type becomes purely remittent, in the same manner as in the simple form, into which it may be said to be converted. The conversions are reciprocal, the simple form sometimes assuming the congestive; and the congestive, on the contrary, sometimes resolving itself, as it were, into the simple.

TREATMENT OF CONGESTIVE REMITTENT FEVER.

There is no disease of the febrile class, with which I am acquainted, more difficult of management, than the one now described. Every hour, in the majority of cases, aggravates the mischief; in so much, that, if active measures be not resorted to at an early period, not a ray of hope is left for the preservation of the patient's life. As the disease is particularly characterized from the commencement by a deficiency of vascular energy and animal heat, so the indication of cure may be naturally supposed to consist in restoring heat and animation to the surface; a purpose to be effected by the prompt application of rigorous means of remedy, prior to the disorganization of animal structure. The first step, in the curative process, is directed to the state of the skin and circulation, with the view of exciting general reaction; the next, the prevention of immediate destruction of those organs upon which the

principal force of the destroying cause is manifested. It is generally necessary, in inflammatory and febrile diseases, where topical determinations exist, to attend to the local affection as primary. For this purpose, the lancet is employed with advantage; but, in the form of disease in question, venesection, although a sovereign remedy where preparatory measures are well laid, is inadmissible, or rather prejudicial, at an early period, before reaction or febrile excitement take place. The loss of a small quantity of blood, which in general flows languidly where the surface is cold and damp, produces syncope followed by increased cold; and, if the patient under those circumstances be immersed into a warm bath of high temperature, the animal heat artificially restored to the surface, by this proceeding, subsides soon after the artificial cause is removed, and a relapse into the former condition is soon manifest. Venesection then, upon which our principal dependance ultimately rests, is inadmissible in the majority of cases, unless as a secondary remedy. Its extensive application may be followed by death, or by a state indicative of stagnated circulation, from which the patient never emerges. The progress towards dissolution is then rapid; the scene sometimes terminates on the second, third, or fifth day. Where blood-letting is employed, it must be employed under

circumstances favourable for its good effect, and with the utmost caution in all cases. If we succeed in producing excitement by artificial means, we do not generally succeed in rendering the surface equally warm in all parts, the heat of the extremities being for the most part under that of the trunk. It is obvious, that in the case in question abstraction of blood to a large extent, and in a short time, which will not fail to induce syncope, will be attended with injury. The parts, as deprived of animal heat upon the occurrence of the change, become relaxed, greasy, and torpid; and it results as a consequence, the truth of which is known to the writer by experience, that the most powerful means of stimulation are now inadequate to restore the natural heat and animation, and to give a fair chance of counteracting the destructive tendencies of the disease. When I mention the danger attending copious venesection, and the state of syncope induced by it, it is not my intention to say, that the lancet is interdicted in all cases, at the early periods of the disease, as a primary means of remedy. Its employment is admissible, but only admissible, I believe, where the head is the seat of congestion, as was the case with Andrew Ramsay (Case I.). In a case of that kind it is difficult, almost impossible, to induce syncope. The blood, it is to be observed, from its greater de-

termination to the superior division of the system than the lower, flows with greater freedom from the vein when the head is affected, than where the abdominal organs are the principal seat of the disease. Where the head is chiefly implicated, the state of system, which indicates stagnated circulation, and which invariably attends the aggravated forms of the disease, is different from what it is where the action is prominently manifested upon the organs within the abdominal parietes. Sensation of cold, or diminution of animal heat, which is considerable on the inferior extremities, is not felt on the superior; and this circumstance, together with the difficulty of inducing syncope, and the essential importance of the affected organ, may be supposed to warrant the early and free use of the lancet; but in no other case should the depletion be attempted, in my opinion, until reaction take place. When that is established, the lancet, under judicious management, is the sheet anchor upon which our hopes depend. It is principal, as subtracting the impulse from the diseased organs, reproducing balance in the circulating system; and it is moreover auxiliary, as rendering the system susceptible of the impression of remedies, which are calculated to restore a form of action analogous to that of health. I before observed, that a deficiency of vital heat was one of the characteristic symp-

toms of this form of disease; and, as it is obvious that every attempt to restore health will be ineffectual until heat be restored, our first steps must be directed to the employment of means calculated to produce that effect. For the accomplishment of it, it will be necessary to place the patient in a hot bath of high temperature, and to detain him in it until the body be thoroughly warmed; he should then be rubbed dry, and covered in bed with more than the usual quantity of clothes. When he is disposed in bed, a purge of calomel and colocynth should be administered immediately; and if the heat of the body be not increased before the termination of two hours from this time, the conjoint use of pills composed of calomel, opium, camphor, and ammonia, with brandy, æther, or stimulating tinctures, should be repeated at short intervals. If these means fail in producing artificial excitement, massive pieces of wood, heated to a high temperature, should be applied to the sides—heated bricks to the feet, and bladders of warm water to the stomach and abdomen. Under this plan, if resorted to at an early period, it is more than probable that artificial fever will be produced, which in general is accompanied with excessive heat, partial or general sweats, and augmentation of distress. If however, notwithstanding the adoption of the measures recommended, the skin continues dry, rough, and

constricted, and that no increase of natural heat takes place, it would be prudent to repeat the bath, conjoining with it the extensive use of the most powerful stimulants repeated at short intervals; but, if the stomach be so irritable as to render the administration of medicines by the mouth unadvisable, recourse should be had to blisters, to the head, temples, epigastrium, &c. artificial heat, as recommended before, and frictions with hot stimulating oils. After action is produced, and not until then, except where the head is implicated, the abstraction of a small quantity of blood will, it is presumed, be beneficial; and if the heat and febrile action continue, it will be advisable to repeat the bleeding at the termination of an hour, but not in quantity sufficient to induce syncope. After the first bleeding, it will be prudent to give one scruple of calomel with camphor and opium, which may be repeated three times a-day, either by itself or with effervescing draughts, especially if irritability of the stomach prevail.

When general febrile action is securely established, and the heat, which is equally diffused over the whole surface, is above natural, the abstraction of blood to considerable extent will be followed by benefit. It will then be proper that calomel, camphor, ammonia, and opium, be given every two hours, with a view of supporting action, counteracting the immediate

effects of the lancet, and of affecting the system by the operation of mercury. Where the system is under the impression of mercury, the symptoms of topical congestion subside rapidly in most cases, and the disease assumes the simple form, soon followed by convalescence. But when the parts, upon which the morbid act has been prominent, suffer such derangement in their organic structure as to impede or obstruct the proper performance of function, the fever, although modified in its form, still has diurnal changes or exacerbations, and remissions — (it is remarkable, that when the system is saturated with mercury, the ptyalism, which is profuse during the remission, is wholly suspended during the exacerbations), which continue until such time as a change is effected by the action of remedy in the condition of the organ, or until a chronic state supervene, followed by other consequences, such as dropsy, &c., which are only remediable by a change from the climate in which the original disease arose.

The above is a brief sketch of the plan of treatment which I have of late pursued, and which I recommend for the cure of this disease. I now subjoin a few cases, illustrative of the history in its changes from day to day.

CASE I.

Andrew Ramsay, aged 20. Admitted 20th June.

June 21st. Admitted yesterday evening; the febrile symptoms apparently of a mild nature; had some purging medicine with the desired effect; extremely ill this morning; a shaking fit at present; shakes the bed; countenance grim, dejected, anxious and wild; head painful; face flushed; eyes suffused, red, swollen; lips pale, dry; tongue loaded; the temperature of the lower extremities below the natural standard; upper parts above it. Pulse 90, contracted; insensible at times; stomach retentive; the attack commenced on the Mole Guard. *Warm bath; bled to the extent of two pounds from the arm; camphor, calomel, and opium, every second hour; blisters to the temples; cold lotions to the head.* H. 9. A. M. Dyspnœa violent since admission; low delirium; the pain of the head, which is excessive, not relieved by the bleeding; lower extremities cool; face flushed; pulse 90, contracted; the surface hot and clammy. *Bled from the temporal artery to the extent of one pound; cupped on the left temple to the quantity of eight ounces. Two grains of ammonia were added to the pills, and taken as directed. Hot bricks were applied to the feet, and renewed every half hour. Half a glass of brandy was*

administered, and repeated at the termination of an hour. H. 5. P. M. Vomited twice since last report; had one scanty stool; heat of the lower parts augmented, rather moist. The upper parts are hot and dry; countenance flushed; delirium; head as before; pupil dilated; lips pale; tongue loaded; dyspnœa; pulse 84, full; urine suppressed; abdomen painful on pressure. *Bled from the arm to the extent of twenty ounces.* H. 8. P. M. Heat of the surface augmented; feet moist; the other parts hot and dry; pulse weak, not exceeding 70; stomach irritable; somewhat more rational. *Camphor, calomel and opium, at bed-time.*

22d. Little sleep; the countenance gloomy, dejected; the eye as yesterday; tongue loaded, moist; lips parched; cheeks flushed; thirst; pulse 95, expanded; pain of the abdomen; bowels open; stools scanty; passed a small quantity of urine this morning. *Calomel, camphor, and James's powder, with effervescing draughts; a blister to the epigastrium.*

23d. Some sleep during the night; the lower extremities resumed their natural heat about twelve o'clock yesterday; they continue hot and moist; the heat of the body beyond natural; pulse 90, sharp; countenance sad; tongue as before; mouth seemingly under the influence of the calomel; lips pale, dry; urine voided with free-

dom; vomiting last night; stomach still irritable.
Calomel, camphor, with effervescing draughts.

24th. The improvement great; ptyalism; had one stool from an enema; pulse 80, full; skin cool; urinary discharge free, copious. *Salts and senna.*—25th. No febrile excitement.—11th July. Discharged.

The foregoing case was truly alarming; but the prompt measures which were adopted on the 21st. saved the patient's life. The case is taken almost verbatim from the register.

The history of the symptoms in the next case will give the reader a more perfect view of the course of this disease from day to day; but he is not to consider that it is curable on the plan which I then pursued, and which will be detailed for his consideration.

CASE II.

Mrs. G—, aged 46. Attacked on the morning of the 20th October. The onset ushered in by chills; was speedily succeeded by intense head-ach; face flushed; eyes painful, red, the pain augmented by moving the ball; tongue white, not loaded; thirst inconsiderable; heat of skin below natural; feet cool; forehead and breast moist; pulse full, expanded, not exceeding 70 strokes in the minute; pain of the lower extremities, augmented by pressure; pain of the abdomen on pressure; constipation of the

bowels ; occasional belching. *Bled to the extent of twelve ounces. Pediluvium ; calomel and colocynth to purge.*

19th. Head-ach removed ; pain of the abdomen augmented ; distress and pain at the scrobiculus cordis ; bowels open ; stools feculent ; skin dry, cool ; feet cool ; the eyes inflamed, move with more freedom than before ; tongue as yesterday ; thirst urgent ; pulse 75, full ; countenance gloomy and dull. Had a shaking fit about an hour since. *Pills of calomel, camphor, and ammonia, every third hour ; Salts and senna.*—Evening. Three clay-coloured stools, white-coloured slime floating in them ; heat of skin below natural. *Pediluvium ; calomel, and opium, at bed-time.*

20th. Reported as having passed a good night ; had two watery brownish stools ; no augmentation of heat ; pulse regular in time, diminished in force ; abdomen as before ; distress at the scrobiculus cordis continues. *Ab blister to the region of the stomach. Continue the pills of calomel, camphor, and ammonia.*

21st. Cold fit in the night, succeeded by heat ; face flushed ; circumscribed redness of the cheeks ; eye of pearly whiteness ; some vomiting ; the temperature of the lower parts below natural, upper parts warm ; bowels loose ; offensive stools ; mental aberrations ; gums red, swollen, ulcerated ; no ptyalism ; abdomen ten-

der to the touch. *Pediluvium*; *calomel*, *camphor*, and *opium*.—Evening. Three black offensive stools since last report; suppression of urine. *Fomentations to the abdomen*; *spirit of nitrous æther*, with *tincture of opium*.

22d. Frequent vomiting last night; countenance dark, dejected, and wild; distress and pain at the precordia; pulse diminished in force, regular in time; temperature of the skin far below natural; the feet cold; urine suppressed; rumbling noise of the bowels; flatulent eructations when the body is erect; mental alienation bordering on folly. *Mulled wine*, *bark*, and *nitric acid*. *Pediluvium*.

23d. Hiccough, eructations of wind from the stomach, and vomiting, occasioned great misery during the night; eyes bright; countenance more natural; conjunctiva tinged with yellow; skin of an olive colour; pulse expanded, destitute of force; passed some bloody urine. *Nitric acid*, with *bark* and *brandy punch*.

24th. Extremities cold; hiccough distressing; delirium, &c. Died in the evening of the 25th.

CASE III.

Andrew Castles, aged 27. Admitted 22d July.

Head painful; face flushed; eyes red; lips pale; tongue foul; excessive thirst; hot and dry skin; abdomen painful; pain of the loins

and limbs; pulse 80; dyspnœa; chills marked the onset more remarkably about the shoulders than elsewhere. *Bled to the extent of two pounds; calomel and colocynth; warm bath.*

23d. Syncope, followed by incoherency of language, was produced by the bleeding; head-ach; face flushed; eyes inflamed; dyspnœa considerable; tongue highly loaded; heat of the body not above natural; bowels free from pain; pulse 60, full, oppressed; bowels open. *Bled to the extent of two pounds; calomel and James's powder every two hours; warm bath.*—Evening. Some improvement; pain in the left side of the head extending to the shoulder. *Calomel, camphor, ammonia, and opium, every third hour.* H. 8. P. M. Delirious; the extremities cold; the upper parts clammy; temperature about natural; pulse feeble, irregular, and not exceeding 60 pulsations in the minute. *Warm bath; blisters to the epigastric region and temples.*

24th. Slept a little during the night; frequent vomiting; free from pain; pulse 100, sharp; skin beyond natural temperature; damp; eyes dull; countenance sad; respiration difficult; constipation of the bowels. *Calomel, 15 grains; James's powder, 3 grains; opium, a quarter of a grain, every third hour; an enema at one o'clock.*—Evening, Frequent vomiting; the mouth seems under the influence of the ca-

lomel; the heat of the lower parts augmented; the vomiting seemed to have been checked by some brandy-punch; pulse 95, full; countenance more animated. *Calomel 15 grains, camphor 5 grains, opium a grain and a half, to be taken at bed-time, with an effervescing draught.*

25th. Passed a quiet night; mouth under the influence of the mineral; no ptyalism; pulse 80, full and expanded; skin moderately heated; countenance animated; tongue cleaner; thirst. *Calomel six grains, James's powder three, every second hour. H. 2. P. M. Purging draught, followed by an enema.*—Evening. Frequent vomiting since last report; one copious stool after the enema; on the whole, better; vomited the medicine.

26th. Slept well; ptyalism; tongue cleaner; the surface above natural temperature; countenance improved; pulse 90, full; one scanty stool in the night. *Salts and senna.*

27th. Ptyalism profuse; skin cool, moist; bowels open.

28th. Convalescing.—11th July. Discharged.

CASE IV.

Charles Murphy, aged 30, was admitted on the 22d of July, 1822. The attack, ushered in by chills; commenced when on guard at Jumper's Battery. Symptoms on admission:—Head-ach; pain of the abdomen, with looseness of the bowels; the pulse 80, full; the skin cool; the

tongue foul ; the countenance distressed, heavy; and lurid; inappetency; the stomach retentive; nausea.—23d. The pain of the abdomen removed; the pulse 90, full; the skin moist; the tongue foul; the thirst considerable; head-ach and pains of the small of the back violent. *Vespere*. Exacerbation of fever at two o'clock, ushered in by a shaking fit of unusual intensity; the skin, during the paroxysm, assumed the scarlatine hue; the dyspnœa, which was violent during the accession, still continues; the pulse, depressed as if from an overwhelming load, does not exceed 70 strokes in the minute; the skin clammy and cool; tosses the extremities about in bed; the agitation of mind and body excessive; pain of the abdomen; sense of internal anguish. The face and lips pale; the eye bright and glossy; the tongue white and loaded; constipation of the bowels. H. 8. P. M. Cannot explain the cause of the general restlessness, and tossing about of the extremities; the pulse 78, contracted; the countenance pale, dejected; the extremities cool, clammy; the abdomen painful.—24th. Some sleep; rigors at 9 o'clock last night; sweated copiously; vomited frequently during the night; the pulse irregular and feeble; the discharge from the blistered surface yellow, the conjunctiva of a yellow tinge; the countenance sad and dejected; the skin damp; the feet warm. Moans incessantly,

but states that he has no pain; prostration of strength; the head collected, and free from pain; thirst. *Vespere*. Vomited frequently during the day; some of the pills were retained, others rejected. A little brandy-punch seemed serviceable in restraining irritability of stomach; pulse irregular and low; the skin damp and greasy; constipation of the bowels; the feet about natural temperature; the countenance haggard and grim; rigors about noon; dyspnoea; the urinary discharge pretty natural, no pain whatever. H. 8. P. M. The bowels constipated; the temperature of the skin, which is clammy, cold, and damp, not augmented by the bath; copious stools without feculence; incessant vomiting; the retentive powers of the stomach are totally lost; the pulse irregular and feeble; the surface profusely bedewed by a cold clammy sweat; giddiness of the head in the erect position; whilst the body is cold and clammy, the patient complains of heat; a rumbling noise in the intestines.—25th. Passed a bad night; incessant vomiting until one o'clock, when the stomach became retentive. The action of the blisters on the sides was inconsiderable and partial; those on the legs and temples have not acted; the pulse irregular, scarcely perceptible; the temperature of the skin diminished; the powers of life nearly exhausted; three stools since last report, composed of whitish mucus,

floating in the urine; the tongue brown; the conjunctiva yellow.—Died at five o'clock P. M.

Dissection, examined one hour after death.

The vessels on the surface of the brain unusually distended with blood; those in the internal parts were also gorged with blood. The left lateral ventricle contained about two ounces of serum, the right less than the usual quantity; some whey-coloured serum on the base of the cranium; the vessels of the medulla oblongata shewed unequivocal marks of inflammation. The lungs attached to the pleura; the adhesions not of recent formation. The stomach, distended with air, contained a dark-coloured fluid, which, when superficially viewed, resembled black vomit; but when accurately examined, was found to differ very materially from the matter commonly known by that name. The stomach was sufficiently capacious to contain a gallon and a half of fluid; the marks of inflammation were inconsiderable; slight redness of the cardiac orifice; the liver unusually large; the gall-bladder contained an uncommon quantity of thin bile. The small intestines were so much contracted as to be impervious, even, it would appear, to fluid; a quantity of bilious matter in the large intestines; the urinary bladder so contracted, as not to be capable of containing even an ounce of urine.

APPENDIX I.

As the following observations may be of service to young medical officers who have the charge of troops in Gibraltar or other warm climates, I conceive it right to give them a place in this Treatise.

The febrile diseases which appear within the lines of Gibraltar may be classed, the intermit- tent and pestilential epidemic excepted, under three heads ; viz. 1st. A simple form of malady arising from inebriation, or the exposures and accidents that are connected with it ; 2d. A form of inflammatory tendency analogous to the fever usually called synocha ; and, 3. The bilious remittent, by some called gastric.

It is difficult to say, whether excess in the use of spirituous potations actually produces fever, or only accelerates the explosion of a dis- ease already in abeyance. But were we to form an opinion from the course and termination of the fever which so frequently follows intoxica- tion, we should be disposed to conclude that, in

place of accelerating the attack *, it produces direct indisposition, only to be distinguished

* “ The delusion, in respect to vinous and spirituous potations in hot climates, is kept up chiefly by this circumstance, that their bad effects are in reality not so conspicuous as one would expect; and that they rather predispose to and aggravate the various causes of disease resulting from climate, than produce direct indisposition themselves; consequently superficial observation places the effect to other agents. But the truth is, that as *drunkenness*, in a moral point of view, leads to every vice, so, in a medical point of view, it accelerates the attack, and renders more difficult the cure of every disease: more particularly the diseases of hot climates; because it has a *specific* effect, I may say, on those very organs, to which the deleterious influence of climate is peculiarly directed. If the northern inebriate is proverbially subject to hepatic derangement, where the coldness of the atmosphere powerfully counterpoises, by its action on the surface, the internal injury induced by strong drink, how can the Anglo-East or West Indian expect to escape, when the external and internal causes run in perfect unison, and promote each other's effects by a wonderful sympathy?”—*Dr. Johnson on the Influence of Tropical Climates*, page 450.

“ The destructive effects of intemperance as a predisposing cause, are equally conspicuous, and I might say peculiar, in a tropical climate; for the injuries it occasions in Europe, great as they are, bear no proportion to those which we witness in the East or West Indies. Whether vinous and spirituous potations act as stimulants or sedatives, or both in succession, we need not stop to inquire, since the final result is universally allowed to be debility. From the temporary increase of excitement in the system, and energy in the circulation, it is not impossible that the

from inflammatory fever by an absence of the premonitory symptoms of rigors and chills, and by the gradual and progressive diminution of febrile excitement in the course of time to total cessation.

For the cure of this disease, it is proper and for the most part necessary to confine the patient to his bed ; and, as habitual bacchanalians are more liable to suffer injury than those who transgress only occasionally, and as there is generally more or less derangement in the hepatic systems of the former, it will be prudent to administer a cathartic, of which calomel forms the base ; this is done with the view of emulging the biliary ducts, and of improving the condition and altering the tone of the organs of assimilation. The efficacy of emetics is equivocal for the cure of this disease ; for, as there is in gene-

biliary secretion is for a short time augmented, and of course vitiated, by strong drink. This supposition is strengthened by the diarrhœa crapulosa, which we frequently observe succeeding a debauch. But the great mischief seems to arise from the torpor communicated to the liver, through paralysis of its ducts, by which the secretion of healthy bile is not only greatly diminished in quantity, as well as obstructed, but deteriorated in quality ; and hence the way is paved for fever, dysentery, and hepatitis. The debility of the stomach, too, occasioned by the climate, is further increased by inebriety ; and this is readily communicated to the liver, which bears the onus of disease in all hot climates."

—*Dr. Johnson on the Influence of Tropical Climates*, p. 86.

ral a determination to the head, the straining and agitation occasioned by the operation may be supposed to be detrimental by increasing the flow of blood to the brain, upon which the action of spirituous liquor is principally manifested. It sometimes happens, while the lower extremities are cold, which is not unfrequently the case when the inebriate has been long exposed to the influence of night rains, that the superior parts are supernaturally hot, and that the circulation, which is languid on the trunk and lower extremities, is so preternaturally excited in the head as to cause delirium; a symptom which, if not attended to, may be speedily succeeded by apoplexy and death. In such cases, it will be necessary to bleed the patient largely, or till such time as the head be relieved, and all symptoms of cerebral congestion removed. The tepid bath may be resorted to after the bleeding, with the view of equalizing the circulation, and of restoring heat and animation to the inferior extremities, &c.; but when the exhaustion of animal caloric takes place from a long continued application of intense cold, to so high a degree as to threaten the death of the parts*, the tepid bath, which is

* The cold is never sufficiently intense in Gibraltar, however long applied, to produce the mortification of any part of a European's frame. I am not aware of the 4th West India Regiment having suffered severely from cold on this

beneficial in the former case, is inadmissible in this. The indication of cure, then, consists in frictions with cold water impregnated with ammonia, æther, vinegar, &c., persevered in until such time as sensibility and heat are restored; after which, the lancet may be had recourse to, if symptoms indicate its necessity.

APPENDIX II.

CONTINUED FEVER.

THE form of disease superficially noticed above, and that which is now brought into view, have, together with the simple remittent, been commonly introduced into the hospital returns of this garrison under the denomination of Febris C: C: The simple continued fever of authors is generally regarded as a contagious disease, inflammatory symptoms predominating at the commencement, and symptoms of typhoid character towards the termination. The disease, properly called Typhus, is not a product of the south of Spain; and when imported, the contagious property is so quickly dissipated, or so

Rock; but the blacks at New Orleans are said to have been so susceptible, as not only to have been injured in the extremities, but actually to have lost their lives.

materially changed by heat or other causes, as to be perfectly innocuous, even under circumstances apparently favourable for propagation. As it is therefore obvious, that simple continued fever of the typhoid character does not, according to the systems of Nosology, claim a place among the diseases of Gibraltar, I may seem to err in assuming this term. But as the malady which I am about to delineate, and which is not of rare occurrence in the different countries in which I have served, as well as in Gibraltar, is distinctly of continued form, and as the form seldom or ever changes from the time of attack to the time of termination, I have taken the liberty to place it in the class of continued fever, and to distinguish it as such.

This form of fever, which is not very formidable in its own nature, seems to be occasioned by the incautious exposure of a heated and probably exhausted frame, to sudden changes of temperature, to currents of chill and piercing winds descending from the mountain, and blowing through the hollow passes and ravines as through a funnel; to drinking copiously of cold water when the surface is relaxed, as under the impression of excessive artificial and natural heat; and to the general effect of solar influence upon subjects unassimilated to the climate into which they are introduced.

This form of disease comes on suddenly in

most cases. The attack is marked by a sense of cold in the back and loins; sometimes by shivering and creeping in the flesh. The sensation of cold, which is rarely intense or of long duration, alternates with transient flushings of heat, until heat at last prevails, and continues throughout with more or less intensity. The heat of the skin, during the incipient or tumultuary stage, is seldom above the natural temperature, frequently below it. The mouth is dry; the thirst considerable; the head slightly affected with pain. As the sensations of chill abate, the heat of the surface increases. The head-ach, which is inconsiderable during the period of invasion, now becomes severe; the countenance is flushed; the tongue is white, sometimes covered with a slimy coat; the thirst is considerable; the lips are dry; the pulse, which is small during the tumults of invasion, becomes full and expanded, the pulsations rarely exceeding 80 in a minute; the bowels are generally constipated; the urine, which is secreted only in small quantity, is high-coloured.

The foregoing symptoms, subject to slight changes, gradually diminish in degree of intensity from the third to the seventh day, where active means of remedy have been employed. The termination of the disease is then effected without the clear and unequivocal signs of crisis

which frequently denote the ostensible subsidence of the diseased act in other fevers. The signs which indicate returning health are, principally, decrease of thirst; separation of mucus from the tongue; absence of pain; relish for food; absence of irritation from the pulse; moisture on the skin, with calm and easy sleep.

For the cure of this disease, it is necessary that the patient be immersed in a warm bath of high temperature; after which, if the head be severely affected, a vein is to be opened, and blood allowed to flow until a visible change take place in the condition of the suffering organ, or until syncope supervene. When the patient is bled, and properly adjusted in bed after the bleeding, a brisk cathartic, composed of calomel and colocynth, is to be administered immediately, followed at a distance of two hours by an ounce of salts dissolved in six ounces of infusion of senna. When the bowels are well evacuated, a course of calomel and James's powder may be commenced in the proportion of six grains of the former to three of the latter every third hour, and continued until such time as the mouth be affected. The affection of the mouth, or rather a certain degree of ptyalism, is invariably, in so far as my observation and experience enable me to judge, followed by convalescence.

CASE I.

Pat M'Conven, aged 24, admitted 19th April. Head-ach; pain of the back; foul tongue; thirst; constipation of the bowels; high-coloured and scanty urine; frequent and full pulse. The attack commenced with chills. Attributed the indisposition to too great exposure to the sun. *Bled to the extent of twenty ounces; purgative medicine.*—20th. The medicine operated briskly, the febrile excitement abating; transient pains in the temples; the pulse 80, full; the pain of the back diminished; the skin hot and dry; the tongue foul; the urinary discharge more copious. *Calomel and James's powder every third hour.*—21st. The febrile irritation continues to abate; the head and back free from pain; the bowels have been freely evacuated in the night; the pulse 90, hard; the skin hot, dry. *The calomel and James's powder to be repeated.*—22d. Passed a good night; the fever abated; the skin cool and dry; the tongue cleaner; the bowels open; the urine copious; the pulse 80, expanded. *Calomel and James's powder.*—23d. The febrile excitement removed; the mouth slightly affected; the pulse 75; the skin cool and moist.—25th. Convalescent.—3d May. Discharged.

CASE II.

John M'Keeny, aged 23. Admitted June 30th. Vomiting, languor, lassitude, and head-ach; the pulse 82, small; the skin hot, moist; the tongue white; the bowels constipated; the urine scanty. *One scruple of calomel.* Hora 10. P. M. The stomach rejected the calomel; the dose repeated.—July 1st. The calomel being retained, produced two stools; the pulse 84, full; the head relieved; the skin hot, the tongue white; the urine secreted in small quantity. *Five grains of calomel, and four of James's powder every fourth hour.*—Evening. The mouth slightly affected; the skin moist; the bowels have been well evacuated.—2d. Passed a good night; the pulse 80, full; the skin hot; the tongue white; the urine high-coloured; the affection of the mouth increases. *The pills to be continued.*—Evening. Sweats profusely.—3d. The pulse 80, soft; the skin cool, moist; the appetite returning; the bowels constipated. *An ounce and a half of salts.*—Evening. The febrile excitement removed.—4th. Convalescent. 12th. Discharged.

CASE III.

William Henderson, aged 29. Admitted August 12. Head-ach; flushed face; clean tongue; pains of the back and loins; sensation of weight at the præcordia; looseness of the

bowels; scanty and high-coloured urine; occasional chills. *Bled to the extent of four pounds, which produced syncope. A purge of calomel and colocynth, with salts in dilute solution.*—Evening. Considerably relieved.—13th. Reported as having slept well; head-ach removed; pain of the back augmented; pulse 85, full; tongue foul, less so than at last report. *The purging medicine to be repeated.*—Evening. Has had several stools; the pain of the bowels diminished.—14th. Several stools during the night; passed some clotted blood. Notwithstanding that the abdomen is griped, the patient feels better; tongue foul; pulse 80, soft and full; skin cool and moist; urine small in quantity and high-coloured. *Ten grains of the pulv. ipecac. comp. immediately; calomel and James's powder every third hour.*—15th. Several stools yesterday; only one last night; sweated copiously since last report; sweats at present; tongue cleaner; pulse 80, full; urine copious: mouth slightly affected.—16th. Febrile excitement removed; appetite returning.—17th. Convalescent.—23. Discharged.

APPENDIX III.

The following case is extracted almost verbatim from the register. It is a good specimen of the Gibraltar remittent fever under an aggravated form. The extraordinary quickness of the pulse throughout was astonishing, and unusual.

John Blackford. Aged 21. Admitted 13th July, 1818.

Admitted at the hour of twelve. Dyspnoea; countenance flushed; eyes red; inflammation and pain of the throat, with difficult deglutition; pulse extremely quick, between 140 and 150 pulsations in the minute; sometimes small, hard, and irregular; occasionally strong, full, and regular; skin hot and dry; lower extremities painful to the touch; circumscribed redness of the forearms externally; tongue clean; total loss of appetite and constipation of the bowels; depression of spirits and prostration of strength. States that he had been employed during the last week washing sheets in the heat of the sun, and that previous to admission, he drank a large quantity of cold water to allay insatiable thirst. He also states, that he was seized last night with pains of the lower extremities, succeeded by temporary

stupefaction and inability to move. He, however, regained strength sufficiently to enable him to walk to the hospital. *Bled to the extent of two pounds; warm bath; calomel and colocynth to purge.* 2 o'clock P. M. *Warm bath.* 4 o'clock P. M.; pulse as before; the redness of the fore-arms removed; dyspnœa abated; 7 o'clock P. M. Pulse low, small, and intermitting; extremely quick; cannot be counted in consequence of the irregular intermissions; found benefit from the baths; lower extremities cool, tense, and painful; tongue moist, clean. *Calomel, one scruple; a purging enema at the expiration of two hours, if the constipation of the bowels continues.* H. 10. P. M. It was found necessary to administer the enema, the calomel not having the desired effect. The enema produced a copious brown-coloured stool. Pains of the shoulders, neck, and back of the head; the neck stiff and painful to the touch.

14th July. Pulse about 145, hard, the pulsations irregular; respiration less difficult; throat not so painful; tongue white and moist; thirst; pains about the neck as yesterday; loins painful; extremities as yesterday, very painful; skin cool, covered with a clammy sweat; groans incessantly; countenance anxious; considerable irritability of stomach during the night; no sleep; urine copious, of natural colour. *Bled to the extent of thirty ounces; calomel, one scruple.*

ple immediately ; purging enema ; warm bath. H. 9. A. M. The bleeding produced a slight degree of syncope ; blood buffed ; the pills were no sooner taken than rejected ; the pulse retained a degree of regularity during the bleeding, and the bowels were soon affected after it ; the stools were scanty, and composed principally of the injection ; the pains of the extremities, &c. as yesterday ; pulse irregular and intermitting. *Five grains of calomel every half hour ; warm bath.* H. 10. A. M. Violent dyspnœa ; superior parts rather below natural temperature, and covered with a clammy sweat ; the temperature of the lower extremities somewhat higher than the upper ; pulse not perceptible. *Blister to the epigastric region.* H. 12. The pulse perceptible, irregular as before ; dyspnœa abated ; two alvine evacuations since last report ; the stomach irritable ; the pills rejected with a quantity of dark-green watery fluid ; the superior extremities have resumed their natural heat. *Calomel, ten grains, with an effervescing draught.* H. 3. P. M. The calomel retained ; pulse irregular, weak ; stomach retentive ; twice at stool ; countenance anxious. *The calomel repeated ; warm bath.* H. 6. P. M. The calomel retained. *A blister to the chest.* H. 9. P. M. Passed a large worm by stool about 8 o'clock ; pulse full, and 130 ; the skin beyond natural temperature ; the pains of the extremities, shoul-

ders, neck, and back of the head, continue; anxiety of countenance; depression of spirits, and prostration of strength considerable; general restlessness; dyspnœa removed; two watery stools; throat less painful; urine copious. *Calomel ten grains, with an effervescing draught.*

15th July.—Pulse 130, full; no sleep during the night; twice at stool; the stools watery, scanty; the inferior extremities painful; the pain augmented by pressure; extremities more flaccid than before; stiffness of the neck abated; shoulders and head less painful; skin hot and dry; tongue foul; urine copious and high-coloured; thirst excessive; occasional nausea and vomiting; coughs occasionally; much anxiety of countenance, with restlessness. *Bled to the extent of twenty ounces; calomel, ten grains, James's powder, two grains, opium, one grain, every third hour, with an effervescing draught.* H. 10. A. M. Syncope occurred from the bleeding; the blood buffed; sweated profusely after being bled, and is now asleep. *Warm bath as soon as possible; purging enema.* H. 12. The sleep continued for one hour; the enema produced a copious evacuation of black hard fæces; the pulse 120, soft, weak; the skin cool; the extremities less painful; the countenance as before; dyspnœa removed; thirst insatiable; stomach occasionally irritable; the pills have been

retained. H. 3. P. M. Pulse 124. *Warm bath.*
—H. 6. P. M. Has had a very copious stool
of a dark-brown colour; pain more violent in
the calves of the legs than at any former period.
*Friction of the calves of the legs with compound
soap liniment.*—H. 10. P. M. Notwithstanding
that the stomach has been irritable, the pills
have been retained; four stools in the course of
the day; the pulse has been more regular and
full to-day than at any former period; it ranged
between 120 and 130.

16th July.—Took two and a half scruples of
calomel yesterday, which seem to have produced
beneficial effects; the mouth tender; no sleep
last night; pulse 110, soft, full; skin cool,
moist; one stool last night; tongue white, not
much loaded; thirst considerable; extremities
less painful; countenance more lively; throat
free from pain: no dyspnœa; irritability of sto-
mach. *Warm bath; continue the pills; effervescing draughts every two hours.*—H. 3. P. M.
The skin turning yellow; countenance improved;
pulse 106, full, soft; one black copious stool.—
H. 9. P. M. Pulse 105; thirst abated; skin
cool; stomach retentive since 10 A. M.; pain
of the extremities abated; restlessness incon-
siderable.

17th July.—The yellowness of the skin has
not increased much since last report; well
purged in the night; the stools fœtid and black;

mouth slightly affected ; some sleep last night ; the skin moist. States that he sweated profusely in the night ; the lower extremities are nearly free from pain ; the tongue foul, of a dark-brown colour ; urine high-coloured and scanty ; thirst abated ; countenance improved ; irritability of the stomach nearly removed ; pulse 110, soft, full ; took two scruples and a half of calomel yesterday. *Continue the pills.*—H. 12. Had two stools, rather copious and better coloured ; the stools resembled those which are passed in aggravated cases of tape-worm, where the worm had been destroyed, being principally composed of purulent matter of a slimy nature, and flaky white substances, which are mistaken by some for portions of the internal coats of the intestines.—Evening. Skin hot and dry ; increase of thirst ; pulse 122, expanded, full ; had five copious stools since morning,—they contained the substance described in the preceding report ; passed a worm about two hours since ; considerable anxiety of countenance and general restlessness ; the pains of the calves of the legs and thighs have returned. *Warm bath.*

18th July. Passed a restless night ; one copious stool ; troubled with hiccough last night ; free from that symptom at present ; skin moist, beyond natural temperature ; pulse 124, soft and expanded ; urine copious, high-coloured ;

tongue brown, moist; thirst, and total loss of appetite; lower extremities painful to the touch; the irritability of the stomach inconsiderable; moaned incessantly during the night; the skin of a bright yellow; countenance stupid. *Calomel, five grains; James's powder, four in the form of pill, to be taken every fourth hour with an effervescing draught.*—Evening. Has had two copious stools since morning; pulse 120, soft, full; skin cool, dry; tongue brown in the centre, moist; an eruption appearing about the mouth; mouth under the influence of the calomel, and well affected; pain of the extremities removed; stomach retentive.

19th July. — Incoherency of language; anxiety and despair depicted in the countenance; copious consistent stools of a dark-blue colour; copious high-coloured urine; very little sleep; some cough; pulse 110, harder than at any former period, full; skin cool, dry; tongue moist; considerable thirst last night, diminished to-day; extremities free from pain; mouth very sore; eruption increased; some tendency to coma. *Omit the pills; the head to be shaved and blistered.*—H. 10. A. M. Skin dry; somewhat above the natural heat; pulse 106, strong. *The body to be sponged with cold vinegar and water.*—H. 3. P. M. Passed a brown-coloured stool about half an hour since, and with it some blood; the tendency to coma is greatly les-

ened, and the patient seems on the whole better; pulse 104, full, compressible. The sponging of the body diminished the heat, and occasioned sleep, which continued for nearly half an hour; had some camphor, nitre, and aq. ammon. acetat. about half an hour since, which the stomach rejected; the lower extremities continue free from pain; no return of dyspnœa.

A blister between the shoulders.—Evening. States that the lower extremities and palms of the hands are disagreeably hot, but they appear cool to the feel, not heated beyond natural; the countenance is more lively, and the tendency to coma is removed; perfectly rational; the mouth well affected; ptyalism; tongue moist; urine copious. *James's powder, five grains; extract of opium, a grain and a quarter, at bed-time.*

20th July.—About two hours sleep last night; two yellow-coloured stools; urine copious, orange-coloured, thick, and depositing a sediment; tongue moist, cleaner than before; very little thirst; some appetite; wishes for an egg and a little wine; pulse 115, soft, and weaker than yesterday; eruption about the mouth considerable; mouth considerably affected; ptyalism suspended; cough last night; none to-day. *Calomel, three grains; James's powder, five, three times a-day.*—H. 12. Relished the egg, and some Madeira wine and

water; he soon fell asleep.—Evening. Passed a good day; pulse between 100 and 104, since morning; three dark-green stools; urine orange-coloured, turbid, and viscid; skin moist, cool; some sleep; ptyalism increasing; cough diminished; relished some beef-tea, an egg, with some wine and water.

22d July.—The mouth very sore, and the discharge of blood from the gums considerable; pulse 102, soft, full; skin cool, moist; three stools last night, a little blood on one occasion; the stools were bilious; urine copious, depositing a sediment; some sleep last night; copious sweats. *A gargle of alum, and tincture of bark.*—Evening. Ptyalism profuse; yellowness of the skin diminishing; appetite returning.

23d July.—From this period he continued to improve slowly until the 15th of August, when he was discharged hospital. He was ultimately restored to perfect health.

THE END.