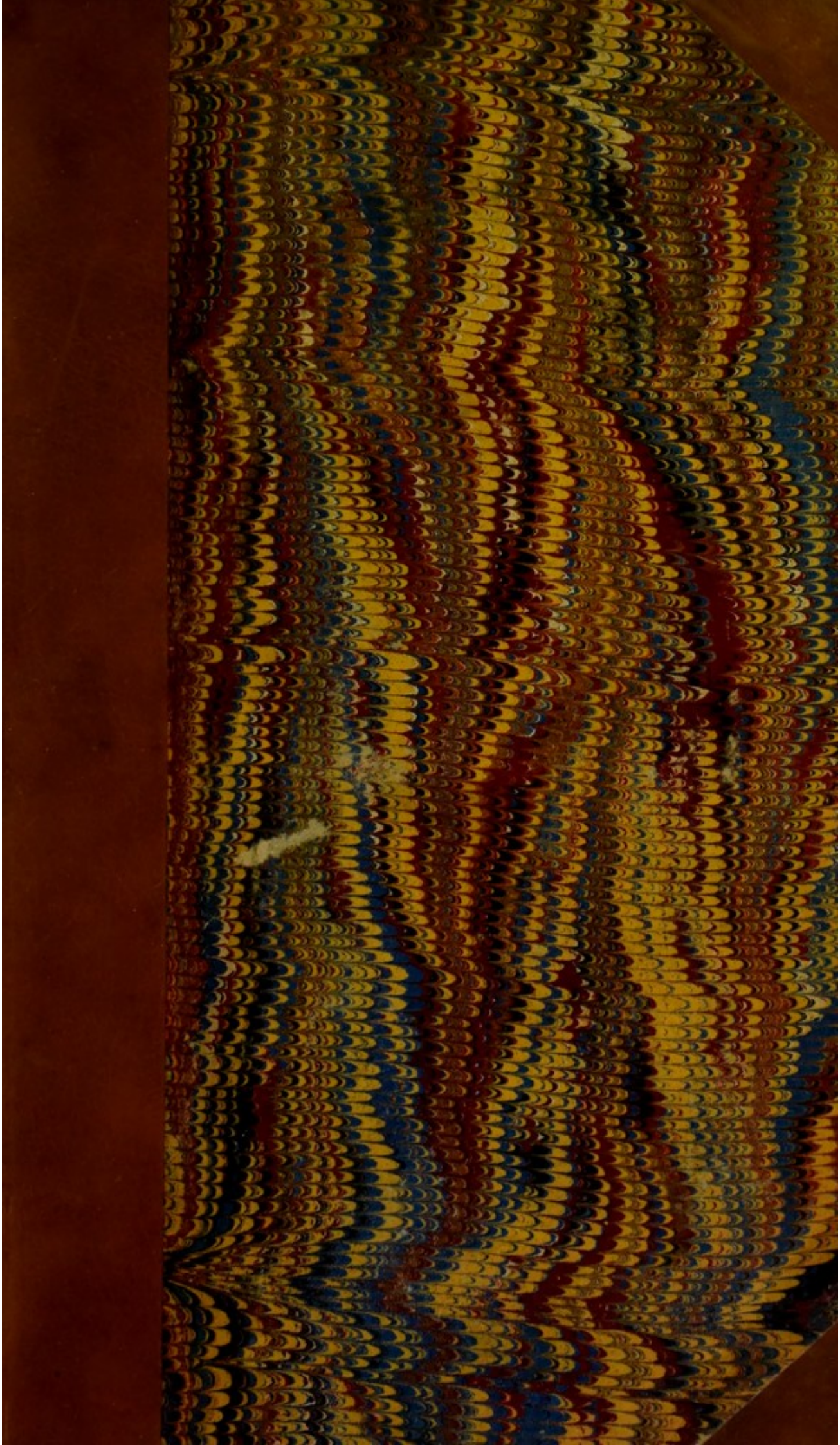

From the Author
to his Friend
Captain Browell

# *SYNOPSIS MORBORUM.*

A

SUMMARY VIEW

OF

# OBSERVATIONS

ON THE

*PRINCIPAL DISEASES*

INCIDENT TO SEAMEN OR SOLDIERS,

WHETHER ENGAGED IN ACTUAL SERVICE OR RETIRED FROM IT;

CAREFULLY ABRIDGED AND DIGESTED,

FROM THE LATEST EDITION OF THE AUTHOR'S WORKS,

IN FOUR VOLUMES.

DESIGNED CHIEFLY FOR THE USE OF

YOUNG PROFESSIONAL PRACTITIONERS

IN THE

*NAVY AND ARMY.*

IN TWO VOLUMES.

VOL. I.



BY

ROBERT ROBERTSON, M.D. F.R.S. F.A.S.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS,

*And Physician to the Royal Hospital for Seamen at Greenwich.*

Opinionum commenta delet dies;
Experientiæ judicia confirmat.

LONDON:

Printed by D. N SHURY, Berwick Street, Soho,

FOR THE AUTHOR;

AND SOLD BY CADELL AND DAVIES, STRAND.

1810.

# DEDICATION.

TO

THE RIGHT HONOURABLE

***SPENCER PERCIVAL,***

FIRST LORD OF THE TREASURY,

CHANCELLOR OF THE EXCHEQUER,

&c. &c. &c.

SIR,

THE observations on diseases incidental to seamen and soldiers, of which the following compilation is an abridgement, comprise the last half century—memorable for the grand national jubilee, the completion of which happy period of His Majesty's reign filled the joyful hearts of all ranks of his subjects with gratitude to the Almighty—a period which will ever mark your administration with importance.

The Synopsis, as well as the original, being intended to benefit the empire, an object which, in the exalted situation you fill in His Majesty's councils, you, no doubt, will consider within your peculiar province to promote; I

have presumed to inscribe it to you, and to beg you will honour it with your acceptance, as a small testimony of the great esteem and regard which, I think, are due to your public and private character.

I am,

SIR,

With every consideration,

Your most obedient

Most humble servant,

R. ROBERTSON.

*Royal Hospital for Seamen, at Greenwich, October 2d,* 1810.

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# PREFACE.

HAVING been frequently requested, by many whose judgement I have reason to value and respect, to re-publish in an abridged form, the latest edition of my works; which are considered as too voluminous for the generality of young practitioners in public service, and the present period appearing to be particularly favourable for its general reception and utility, I am induced to offer to them *the following Synopsis*, which contains the substance of my former observations with references to the various facts, and cases from which my inferences and conclusions are deduced.

My *old* opinions on the important subject of fever are continued, and differ materially in many respects from the generally received and acknowledged ones. *As they are, however, the result of an experience of more than fifty years, and the fruits of the most diligent and laborious investigation into those cases that have fallen under my management during that period,* I submit them with confidence: and so well convinced am I of the justice and accuracy of those opinions, founded

and supported, as I conceive them to be, on a durable basis, as to have no hesitation to affirm, that if duly attended to, and acted upon by young medical practitioners, an effectual check may be given to the progress of *Fever*—a disease which has hitherto, on many important occasions, in various regions and situations, proved the *Opprobrium Medicorum*, by the destruction it has occasioned among our seamen and soldiers.

# PART I.

## GENERAL REMARKS.

EXPERIENCE being the only evidence which the practice of Physic can admit of, it is obvious, that theoretical systems of individuals, however plausible and ingenious, unless supported on this basis, are liable to doubt, controversy, and confutation.

Experimental truth, indeed, is in the Medical Science, what demonstration is in the Mathematics. If, in the latter, some propositions are more tedious and difficult in solution than others, in the former, the history and successful manner of treating certain diseases are more difficult to be obtained, and understood, explained, and established than others: and some are so abstruse, that their nature and method of cure are still unknown to us. To insist, therefore, on the importance of accurate observations is needless; for it is to these we owe all the practical

knowledge we have in Medicine. By these alone are we enabled to trace the slow and irregular progress of medical science, from its rude beginning to its present improved, though still very imperfect state. No other mode to acquire, and ascertain truth in therapeutics, than by collecting, and by collating with fidelity, observations on diseases, and eventual success of different treatments, having yet been discovered; it certainly behooves every practitioner to contribute his best assistance, to enlarge the general stock. It may be presumed, as an inducement thereto, that the most experienced, and faithful observer will be considered the most eligible practitioner.

That the science of Medicine has not advanced towards perfection, in an equal degree with many other sciences, is a fact too obvious to be disputed. For this various causes may be adduced, a few of which I shall take notice of.

The first I shall mention, is the disingenuousness of medical authors, in endeavouring to suppress, instead of promulgating, the works of those men from whom they have received the best proofs of successful practice, with much information on the subjects on which they treat. This arises, either from an idea that they will lessen their own, by making known the just merits of others; or from a vain desire to be thought the original authors. This unfair mode of proceeding must, no doubt, tend to retard

the improvement, and to lessen the dignity of the medical science; whereas, a manly, candid, and liberal acknowledgement, would redound as highly to their own honor, as to the credit of the discoverer, and the benefit of the public community.

The theories, hypotheses, and dogmatic doctrines, which are impressed on the minds of medical students by their teachers, instead of experimental facts, have also, probably, been a bar to the improvement of the medical science. The bad consequences of this improper method of instruction are many; for the pupils become wedded to particular opinions, however erroneous, and so infatuated with their teachers, and the favorite authors they recommend, that they consider them as infallible, and treat every person who avows a contrary opinion as a sceptic, or medical infidel.

Medical writers also, instead of coming forward with a simple narration, or plain history of the symptoms of the disease as they occurred, and giving a faithful account of the manner of treatment, and a just statement of its success, so as to enable the reader to judge for himself, are too apt to act in a very different manner. Sometimes they obtrude on him a laboured theoretic disquisition on diseases, and sophistically blend much borrowed theory with a little observation, to make it believed, that through extreme dili-

gence, and by most acute discernment, they have fortunately discovered a new disease, and that, by the most wonderful ingenuity, they have luckily hit on the only method by which it could have been successfully treated. This certainly retards improvement, for, instead of a new disease, some of these writers have imposed on the unexperienced and credulous reader a symptomatic affection, only peculiar to the idiosyncracy of the patient, or the situation in which they practised.

Some writers introduce ostentatious and misleading quotations from authors, whose erroneous theories and practice they vainly imagine will sanction their own: as if the errors of others could stamp theirs with veracity. Whether these errors were accidentally fallen into, at first, and from pride or obstinacy have been persevered in, contrary to their better judgement, is best known to themselves. At any rate, they appear to retard the improvement of Medicine, by thus sacrificing to vanity, instead of endeavouring to acquire celebrity by their own merit and industry.

To these obstacles to medical improvement may be added the heat and animosity with which medical controversy is conducted. The practice of those sciences which, as already observed in regard to Medicine, do not admit of mathematical demonstration, furnishes great latitude for

debate. As it is therefore possible that the disputants may err on both sides, there cannot be any solid ground for supercilious replications, or positive triumph. Much less reason is there for maintaining against each other rancorous envy and malignity. The intelligent reader, displeased with such animosity, throws the work aside, in disgust; so that, however useful it might have proved, had it breathed the spirit of moderation, combined with instruction, the intention of the author is defeated and his labors misapplied. Most devoutly, therefore, is it to be wished, that such unworthy passions should be banished from among medical professors, giving place to candor, benignity, liberality, and public spirit amongst us. How highly would such a temper tend to uphold the dignity of the profession, to improve the science, and, consequently, to promote the general good of mankind.

The implicit confidence placed in the writings of some of the ancient and modern authors, has also obstructed the progress of Medicine. To such an absurd length have many been carried by their superstitious fondness for them, that they have imagined nothing more remained to be said or known on the subject, and that any further observations on diseases would be superfluous. Those who have had spirit to think otherwise, and to swerve from the precepts of those medical idols, have been branded as professional infidels.

But, though the writings of Hippocrates, with those of other medical authorities, both ancient and modern, have long overspread a great part of the world, how little of numerous diseases has, until lately, been known? For instance, does not febrile infection, at this day, render fleets useless, moulder armies away, depopulate garrisons, and decide the fate of nations? Would such consequences have happened, had the disease been understood, and a successful method of treating it, been known by the ancients or moderns; who, instead of observations, experience, and successful practice, have held up to us, for our guides, ill-founded theories and hypotheses? Shall we then, as if infatuated, still continue to tread in their footsteps, though marked with devastation? Let us rather use their writings and practice, as mariners do beacons and light-houses, to warn the uninformed of shoals and rocks, upon which thousands of our predecessors have fatally split.

Besides these obstacles to our improvement of Medicine, which, to our discredit, are entirely of our own creation, many occur in practice, which it is not in our power to obviate. The passions, the prejudices, the weakness, the disingenuousness and impatience of the sick, of their relations and of their friends, besides others, are altogether such powerful obstacles to medical improvement, that any liberal-minded person might

imagine, that professional men would unite in the closest ties of candor and friendship, in order to bear down, as much as possible, every opposition to successful practice, and to the reputation and honor of the profession.

Having mentioned these obstacles to medical improvement, to which many others might be added, I cannot help noticing, in opposition to the opinion of some eminent professional characters, what, I think, would be the most effectual method for its improvement; I mean the publication of a faithful medical ephemeris or diary. The argument brought against this method, that cases may be feigned, has, with me but little weight, unless such opponents can point out a more certain method of attaining so desirable an object. Because, among professional men, there may be a few without probity and candor, does it follow, that the greater number should be suspected of being so? Far, far from us be such illiberality. The desire of obtaining fame by false means, will never, in the estimation of honest men, outweigh the only just and certain means to deserve it—adhering stedfastly to the path of rectitude and truth. Impressed with this opinion, I have been collecting, for upwards of forty-five years, the materials which form the basis of this work: during that time I have enjoyed a very extensive field for observation, in three quarters of the world. At my first entering into the field,

however, I own I was almost deterred from executing my intentions to collect observations; for, according to the system of professional writers, human life appeared too short for composing a nosology; nay, thousands of years, I found, had been insufficient. Besides, I observed nosologists differing widely amongst themselves, and eminent practitioners continually adding new diseases to the already numerous collection; so that, instead of being instructed by those writers, I was perplexed and bewildered in their mazes of theory and hypothesis. Thus circumstanced, I had, indeed, no other alternative than to think and act for myself; to attend the sick diligently, and to note down every medical case which might occur to me, in every country, climate, and season; from the execution of which plan, laboriously and sedulously pursued for nearly half a century, the information I have derived, has, I confess, far exceeded my expectations. On the subject of fever, to which my attention has been more particularly directed, I have been enabled to ascertain, that this disease, from whatever cause proceeding, whether from marsh miasmata in Africa or the West Indies, or from human effluvia in jails, hospitals, ships, camps, or in other confined situations, in Europe and America; comprehending all the nominal sources of febrile infection, and all the varieties and nosological distinctions of fever—exanthemalous

or symptomatic fever, (what arises from topical affection) alone excepted; whether appearing in spring, summer, autumn, or winter; whether the subject be young or old, I have been enabled, I say, to ascertain, that fever is the same universal idiopathic disease; and I was the more directly led to this inference, from having observed, that there is but one principle upon which the cure is conducted successfully throughout the universe. This inference being founded on faithful observation and experience, becomes, in fact, the fairest and most obvious philosophical induction, and is proof, I presume, against the most specious sophistry. I was also thence enabled to infer that febrile infection has been, in all ages and in all situations, one and the same idiopathic disease, differing only in virulence and mildness according to circumstances, which inference is daily confirmed, by its being successfully cured *every where*, upon one philosophical principle, of supporting and stimulating the vital energy. The necessity of attending to the state of the bowels in some situations more than in others, does not constitute any essential difference of fever. Practitioners affirming, that this or that fever is not infectious; or that bark will not cure febrile infection; admitting their observation to be correct, no more invalidates the doctrines of the universality of febrile infection, and of its being cured *every where*, on one

general principle, than their saying, that the small pox is not infectious, or that hydrargyrus will not cure syphilis; because individuals have escaped the former, even after inoculation, and some individuals have not been cured by the latter, by its not having been administered to them in a manner adapted to the idiosyncracy of their system. The fact is, that constitutions, unless they are predisposed to be infected, will resist any infection; and there are constitutions, of which the idiosyncracy is such, that it is difficult to exhibit certain medicines in a quantity or a form agreeable to them. But these are exceptions, which do not often occur, nor militate against general laws. Besides, when some practitioners fail in obtaining both these ends, others succeed with the same means, which is another argument in favor of my position.

At different periods, as the opinions and theories of fever have been various, the indications of cure and the method of treatment, have varied accordingly. But, from its being generally understood, that fever is either the immediate cause or effect of inflammation, it was concluded, that the cure was to be obtained only by evacuations and the reduction of the general strength. The choice, likewise, of the most proper means to effect that purpose, has been a source of much contention amongst medical professors, to the great per-

plexity of young practitioners; consequently, as their theories have been at all times incongruous, their practice has been, even totally, unsuccessful. Thus circumstanced as to instruction from others, I was compelled to adopt a method of treating febrile infection, deduced from my own theory of the disease, and which diligent observation and long experience alone had furnished me with, and has now confirmed me in.

The author's first fever case occurred, at a very early period of his studies, in his own family; and while I continued to receive the rudiments of instruction, I had an opportunity of seeing considerable practice both in private, and in the French prison, which was under the direction and care of my instructor; and in the summer of 1760, on board the Grand Tully, at Greenland, or rather on the Frozen Sea. In 1761-2, on board the Prince of Orange, in the English Channel, and at the reduction of Belleisle. In 1763, on board the Terpsichore, at Lisbon, Newfoundland, and Ireland. In 1764-5 and 6, on board the Cornwall, at Plymouth. In 1766-7, 8, 9, on board the Adventure, Ferret, Preston, and Diligence, in Port Royal. Hospital at Jamaica, and at Pensacola. In 1769, on board the Weasel, on the coast of Africa. In 1770, on board the Æolus, at Newfoundland. In 1771, on board the Arrogant at Portsmouth. In Haslar Hospital. In 1772-3-4, on board the Rainbow, on the coast

of Africa, and in the West-Indies. In 1775-6, 7, and 8, on board the Deal Castle, in the Medway. On board the Fox and Juno, in Portsmouth harbour, at Quebec, and various other parts of America. In 1779-80-1-2-3, on board the Edgar, Romney, and Blenheim, employed on Channel service, and at Gibraltar. In 1783-4 and 5, in Hampshire. In 1786-7 and 8, on board the Salisbury, at Newfoundland. In 1789-90, in part of Hampshire; numerous cases of fever (proceeding either from marsh misasmata, or human effluvia) have fallen under his management and observation; and from the latter end of 1790, until the present time, (comprising a period of nearly twenty years,) all the cases of fever which have occurred in Greenwich Hospital, have been exclusively under his management. [See vol. i. page 17—42, and to the end of vol. iv.]

These are the sources whence the author has derived his information and experience; and which he has thought it right to lay before the reader, as the most satisfactory apology he can offer, for having differed from so many high authorities on the important subject of Fever.

Here I think it right, in justice to myself, to state, that whatever knowledge of fever individuals possessed, before the author made his first voyage to the coast of Africa, it was then as much dreaded on that coast as the disease, vul-

garly called the *Yellow Fever*, is now dreaded in the West Indies; neither the history of the fever on that coast, nor the method of preventing it, nor a successful method of treating it, were published, until the author's Meteorological and Physical Journal was printed. [See the Meteorological and Physical Journal, published in 1777.]

For the same reason I think it proper to mention, that a successful mode of managing fever on board of ships, or in other situations, arising from infection, was not made known before the publication of the author's first edition of his Observations on Jail, Hospital, or Ship Fever.

Nor had fever been declared to the public as an idiopathic universal disease; which was to be cured every where upon the general principle of stimulating the vital energy by tonics and roborants, before the author's Essay on Febrile Infection was published, early in 1790. But since the author's different works appeared, numbers of practitioners have published their observations on the diseases of hot climates *particularly*. Numerous productions concerning the disease termed *yellow fever* have since made their appearance. How far such writers have condescended to profit by the author's writings, in their writings or practice, is best known to themseleves. Some have evidently done so, and acknowledge it; and many who have not published have, without the

author's solicitations, furnished him with handsome testimonies of their having profited by his works. One of these testimonies, which also shows that the roborant treatment of fever in the fleet was not *generally* practised, I think it incumbent on me to insert. What respects the practice, which the gentleman, alluded to followed, will appear more properly in his own words:

" *Defence, Spithead, June* 30, 1794.

" DEAR SIR,

" You are to know, from the year 1775, " when I superseded you as surgeon of the Deal " Castle, to the date of this letter, my time has " been mostly devoted to the diseases of seamen. " In that period I have often had occasion to wit- " ness and remark (particularly in long voyages) " mournful inefficacy of the *common remedies*, " when applied to the cure of ship-fever.

" On my appointment to the Defence, about " a year ago, Mr. Youile, my first mate, put the " last edition of your book into my hands; and " having, after the late war, again sought for " information in Edinburgh; where, among " other courses, I attended the eccentric lectures " of John Brown; from his *leading principles*, " my attention was first directed to the remedies " *you had anticipated and confirmed by experience*. " And as I had hitherto found myself alike

" baffled in the cure of fever, whether I resorted
" to the *Observations* of Hippocrates or Syden-
" ham, or had recourse to the reveries of Stahl,
" Boerhaave, or Cullen; I was determined for
" *one year to follow your footsteps*, on board the
" Defence: the result you will find in a note [the
" substance of which will be related hereafter]
" added to the cases, at the office for Sick and
" Hurt. Hoping soon to have the pleasure of
" seeing you in town, I beg leave to remain,
" with a grateful sense of your public labours,

" Your's, very sincerely,

" JAMES MALCOLM, M. D.

" Late Surgeon of the Defence."

The doctor concludes the note, to which he refers, in the following manner:

" I entertain no doubt, if the physician of the
" Channel Fleet shall be directed to subject the
" different theories of fever, and the practice
" founded on each, to the test of unbiassed ex-
" periment, in ships promiscuously chosen, that
" it will be found greatly in favour of that
(meaning the author's) " now inculcated."

Signed and dated as above.

After these, I shall not trouble the reader at present with any other of the numerous testimonies in his possession, confirming his asseveration,
" That until the publication of the author's
" Essay on Febrile Affection, the nature of fever,

" and a successful method of managing it, " appear to have been very little understood " either locally or universally," if, one may be allowed to judge from what has been written on the subject.

These two important desiderata, the nature of fever and a successful method of treating it, having then providentially been attained by experience, it is of no great consequence to society, whether the symptoms by which we can distinguish fever from any other disease, be denominated diagnostic, or otherwise.

Whatever the symptoms are, by the presence of which we are enabled to distinguish fever from other diseases, they are, I think, fairly entitled to the denomination of *diagnostic*. But all the symptoms which I term, as coming under this denomination, are seldom complained of by any one patient. Of this the most obvious reasons that occur are, the ignorance, and inattention of the sick; or the violence of some of the symptoms which divert their attention from those that are less violent.

To describe fever with accuracy, from the first morbid change that takes place in the system, to its termination, physiologically and pathologically, such a patient, in my opinion, would require the comprehension of a Newton; the understanding of a Lock; the precision of an Euclid; united in a professional man, not less eminent in ana-

tomical abilities than Dr. W. Hunter was. And granting such a patient had ever lived, we should be only in the possession of the description of *one solitary case of fever.* For, as no two cases were ever perfectly similar, in order that we might obtain, *what is impossible to be obtained,* a correct pathological history of fever, to furnish the necessary data for that purpose, I say, every person afflicted with it ought to possess the talents I have described, to enable him to relate his own case with the same accuracy and precision as before-mentioned, without any answer being put into his mouth by the physician or practitioner called in to prescribe for him. This is a degree of accuracy very desirable, I say, but not attainable. Because we are often under the necessity of gleaning our information amongst the most ignorant of mankind; and without assisting them with words to convey their ideas and feelings, we should only gain from one, "*that he is ill and sore all over, and* "*can't eat:*" from another, "*that he has a sore head,*" i. e. head-ach; and from a third, "*that he has a pain at his heart.* In so vague and unsatisfactory a manner do many of them answer or reply to questions concerning their illness, unless we direct their attention, by some means, to their particular sensations and ailments. Here I am speaking of seamen; and to

them we may add soldiers, and all the lower classes of people.

If any mode more eligible, or less objectionable, for coming at the knowledge of the feelings of the sick, and symptoms of diseases, could be pointed out, it would be extremely beneficial to mankind in general, and still more so to practitioners. The *precise* physician would not then be shocked with answers which convey no accurate information as to the state of the ignorant sick, who think they give answers sufficiently indicative of all their complaints, in the answers before-mentioned. But what other means will the physician resort to, I say, who is far from being satisfied with so imperfect an account, to be more fully informed? He must of necessity condescend to conform to the only method by which he can possibly be informed; that is, to interrogate the patient, so as to put the words into his mouth by which he may answer, and express his feelings; otherwise the physician must remain in the dark, as to what information he wishes to learn from the sick.

If any method, that conveys all the information which is sufficient to enable us to distinguish fever from any other disease, or any other disease from fever, be followed, what further minute information do we stand in need of, even should we not be able to explain the various phenomena in the most accurate physiological manner?

I know, that in many cases of fever, to have an accurate and correct history of them, it is necessary, strictly speaking, to refer to the state of the patient's health for a considerable time antecedent to his complaining; because we now and then meet with intelligent people, who have been able to date an alteration of the state of their health, for many days before they complain: for instance; in that introductory state to illness, vulgarly called *drooping*, after having been infected with or without the patient's knowledge. 'Tis then the patient begins to droop. Then the change from the healthy to the morbid state may be dated, and be said to commence. But, in many cases, the transition from health to illness is so slight as not to be observed. Such a state, however, is inseparable from cases of infection, be it long or short. The moment the patient is infected, that moment, whether it is, or is not, known by the sick, or by the physician, the morbid change commences; and the subsequent phenomena of the fever will depend chiefly on the state of the patient's system when he is infected; and upon his manner of living until the symptoms, defined *diagnostic*, as hereafter mentioned, begin to manifest themselves in the system. But the incipient state is often accompanied with symptoms sufficient to attract the attention of the sick, though reluctantly, to his own situation, and consciousness of his indispo-

sition; though they are not yet sufficient to induce him to complain. And, even though some do complain, they will not yet conform to any advice by way of cure or prevention.

I have several times been sensible of being infected at the instant the infection was admitted in, or imparted to, the system.

# CHAP. I.

## *Previous Observations and Remarks on Fever.*

BEFORE I proceed to the practical observations and remarks on fever, I shall glance at the different doctrines which have been gravely insisted on by eminent authors, concerning fevers, and then state what I have been enabled, by long experience and close attention, to say further on the subject,

### SECTION I.

The writers on the subject of fever, both ancient and modern, differ widely in opinion, and consider it of great importance to divide and subdivide fever into genera and species; according to its different appearances, or types, which it assumes; the frequency of its recurrence, and the duration of the paroxysms.

It is remarkable, that when professional men have a darling theory to support, the consequence of carrying it into effect, or of its being adopted, is seldom considered; and this darling is cried up as being more important than any of its predecessors.

" Fever," *it is said,* " is to be divided into " essential, and symptomatic."

Again; " essential fever is to be subdivided " into ephemera, or diary; intermittent; conti- " nent, or remittent; and continual fever"— which are further explained:

" An ephemera, or diary, is a fever of one " day's continuance."

" Intermittent fever is either quotidian; ter- " tian; quartan; septan; semi-tertian; double " tertian; double quartan, &c." which are considered as the different types of fever; and in like manner are the following:

" Continent, or remitting fever, is defined " continued, but has its remissions and its exa- " cerbations, at very uncertain periods."

" A continual fever is said to have no remis- " sion, nor periodical return of exacerbation." Of this type, malignant and pestilential fevers and the plague, are very unjustly " supposed," in my opinion, " to be." Because I have never met with one case of fever, wherein some alteration or remission was not discernible within twenty-four hours.

These genera are again subdivided by nosologists, according to the symptoms and appearances of each individual case. " Synocha or causus," when the fever is inflammatory: " typhus," when fever is accompanied with nervous symptoms: " synochus," when fever participates

of both inflammatory and nervous symptoms. Besides these, are enumerated many other species of continued fever; of which the following are a few examples: "Synochus imputris; synochus "putris; lipyria; elodes; febris syncopalis; "spurij, &c." amongst the ancients.

According to the moderns, however, they are distinguished by "inflammatory; nervous; pu-"trid; bilious; yellow; miliary; scarlet; pe-"techial; malignant; pestilential; contagious; "infectious; marsh; jail; hospital; camp; and "ship fever."

But Sydenham says, that "the constitution of "the air is to be regarded, as it produces *a fever* "*sui generis*."

When the symptoms were violent, Boerhaave called the fever "acute." When they were mild and more lenient, he styled it "slow."

Some eminent practitioners, however, divide fevers into "inflammatory; putrid; a mixture "of both; fever upon the brain; and fever "upon the nerves."

Others have divided fevers into "hectic; hu-"moral; and ephemeral;" and explain these terms in the following manner: "Hectic is that "which arises from an affection of the solids, or "containing parts. Humoral is said to arise "from some derangement of the fluids, or con-"tained parts. And ephemeral is explained, as

" arising from some disturbance of the spirits or
" nervous system."

What symptomatic fever is—being the febrile state consequent to any external injury, or internal, local cause, and to topical infection, every practitioner must well know.

Whether all these distinctions and appellations have ever been useful to experienced practitioners, is not important: but the greatest advocates for them must, on serious consideration, allow that they have answered no other purpose to the young and inexperienced than to puzzle and mislead them, instead of holding out any instruction or guide to them, which ought to be the principal object of medical writers.

I believe the same remark respecting a minute attention to the types, or periodical returns of fever, will equally apply; and I fully believe, will never be found to answer a better purpose; however pleasant it may be to the old and experienced practitioners, to indulge themselves in making such nice discriminations within a narrow and limited practice.

## SECTION II.

Physicians, both ancient and modern, are found disagreeing in the same manner on the various doctrines of fever. Many load Hippocrates with reproaches, because his prognostics

and critical days have not strictly applied to their practice; forgetful of the great difference of circumstances under which they practised; nor are they less forgetful that the treatment alone of the fever will very much alter the appearance and symptoms throughout all its different stages, as well as the period of its termination, whether favourable or unfavourable. This, indeed, affords no matter for wonder, when we consider that two physicians in the same place seldom agree upon any medical subject whatever. Hence the adage in every person's mouth, "Doctors will differ;" and which but too plainly shows upon what vague and uncertain principles medical practice is often conducted.

The reader, who desires to be more fully informed concerning the doctrine of prognostics, may consult the writings of Hippocrates; and of his translators, Clifton and Le Roy; or the translation of the latter.

Respecting critical days, they are said to be the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 21st days of the patient's illness, and so on. Many eminent writers to this day continue to pay great regard to these, and to place great dependence on them, and expect the favourable secretion, concoction, and evacuation of the morbific matter to happen on these days only, or at least chiefly.

SECTION III.

## *Indications and Modes concerning the Treatment of Fever.*

As to the indications, and modes of treatment of fever, the prevailing opinion among moderns is, that for the cure of continued fevers we are, 1st, to remove the spasmodic affection of the surface; 2d, to moderate the violence of *re-action;* 3d, to remove the causes, or to obviate the effects, of debility; and, 4th, to obviate or correct the tendency of the fluids to putrefaction: which in other words signify, that we are, 1st, to abate the inflammation, by debilitating the patients, according to the antiphlogistic mode, and starving the disease; 2d, then to strengthen the patients; and, lastly, to obviate or correct the tendency of the fluids to putrefaction, by tonics and antiseptics.

This is the most prevailing doctrine at present, though, in fact, it contains nothing essentially different from the old doctrines, as this only divides the indication into four, I say, *nominally* distinct parts; and using other words to express the same meaning of other writers.

The mode of treatment, however, notwithstanding the most generally received doctrine of fever among physicians was considered "to be "an effort of nature to throw off, or to free her-

" self of, some morbific matter, it was judged " highly improper to impede or to accelerate her " operation; which constituted the famous doc- " trine, the *vis medicatrix naturæ.*" But of this sacred *axiom* and injunction how soon they lost sight, appears very evident from their practice, and how little they regarded their own precept. Receding constantly from this theory, they adopt another in their practice, which furnishes them with the most cogent reasons for diminishing the violence of " *re-action,*" i. e. the impetus of the blood; or, in other words, the *vis medicatrix naturæ*, by letting blood repeatedly, according to the violence of reaction which employs the first day, and perhaps several days, in the beginning of the patient's illness. The same theory urges the necessity to carry off part of the morbific matter, by vomiting, purging, sweating, and warm bathing alternately for days.

Again, the more effectually to remove spasm from the extreme vessels; to promote, keep up, and to moderate perspiration, and all the different secretions and excretions, the same theory prescribes neutrals in different forms, saline draughts, nitre, crude sal ammoniac, kali vitriolatum, kali tartarisatum, antimonials in different forms, particularly James's powder; or, what is still more pernicious, perhaps nauseating doses of tartar emetic frequently repeated. Several important days having been employed after this manner,

they have fully accomplished their first and second indication, "to moderate the re-action, by re-"ducing the strength of the sick."

The third indication, therefore, viz. "to re-"move the causes, and to obviate the effects of "debility," becomes necessary. And for this purpose febrifuges and tonics are prescribed; amongst which camphire, contrayerva, myrrh, and blisters are in high esteem, and are greatly depended on by many physicians. Some apply the latter as stimulants, and others apply them to keep up a drain of the morbific matter. It follows, however, either from the too greatly debilitated state of the patients, induced by attaining the first indication, or from the insufficiency of those tonics; or, more probably from both of those causes, they are soon compelled to fly to the medicines intended to fulfil the last indication, "to obviate or "correct the tendency of the fluids to putrefac-"tion." Which, if practicable, can be effected only by bark, wine, opium, acids, and diffusive stimuli. But again, either from the tone of the stomach and digestive powers being already too much debilitated; the antiseptics, in the manner they prescribe them, are too seldom effectual. And the failure of the practice is *unjustly* attributed to the inefficacy of the cinchona.

The incongruity of such theory with such practice is too obvious to require a commentary; and

the alexipharmic practice, which varies, (after beginning as before mentioned with the antiphlogistic mode of treatment), only in prescribing warm medicines to expel the morbific matter through the pores of the skin, instead of *dilutents*, *refrigerants*, and *aperients*, administered by the other sects, is equally incongruous.

From what has been said, it appears obvious that the difference between ancient and modern practice has been chiefly in words, and but very little in fact. For the whole scope or aim of treatment has been to debilitate the sick in the first instance; to purge off by various means part of the morbific matter; then to obtund acrimony; to neutralize acidity; and to render all other morbid particles bland and innocent, or to carry them off; and lastly, to strengthen the patients. So that theorists differed only in their choice of more or less violent medicines, as they still adhered to a choice in the same class; and meant to act upon the same principle.

Such have been the doctrines, and such has been the management of fever, with the exceptions before mentioned, from the time of Hippocrates to the present day—doctrines and practice greatly reprobated by Drs. Miller, Brown, Jones, and others lately.

Here I think it right to notice one fatal source of the antiphlogistic treatment of fever; and perhaps all the other sources are not better

founded. The fatal source, I allude to, is the mistaken idea of physicians, " that when people in high life, who live luxuriously, are seized with fever *of any type*, it is imagined to be impossible it can be otherwise than inflammatory fever. And therefore the strength of their patients cannot be too soon reduced by antiphlogistic treatment. But were these inferences just, should we see so many instances of people of all ranks daily falling victims to fever?

I believe it may be laid down as a general rule, that the sthenic diathesis is rarely a consequence of casual excess in a healthy constitution. But that the asthenic diathesis is very frequently a consequence of habitual excess, as well as of too penurious living.

To proceed further on this subject, would lead me too far into the field of theoretic argument, which it is not my intention to enter. I shall therefore leave it to those who have more leisure and inclination for it. In the mean time I shall confine myself to experimental facts; and, by endeavouring to state them clearly, assist the inexperienced to discriminate fever from any other disease, and to manage it more successfully than has been hitherto done.

But before I proceed I shall make some remarks on the yellow fever, that may be useful to young practitioners in hot climates.

IT is extremely remarkable that theorists should have entirely lost sight of these, their own doctrines, in the only *species* of fever, wherein they might, nay would, have been attended with success, if duly followed up, i.e. in managing *the yellow fever*, or *causus*, as some more properly term it.

*Herein* the antiphlogistic mode of treatment fully exercised, I have no doubt, would have saved the lives of many thousands.

But I shall deliver my own opinion of *yellow fever*, after having stated the opinions of various practitioners concerning it; and I shall endeavour to prove, that the disease commonly called *yellow fever*, is not of the order *Febres*, but of *Phlegmäsiæ;* or a violent inflammatory epidemic, peculiar to hot climates. In which opinion the author is supported by many authors and local practitioners, though, in compliance with custom, *some* of them call it, *yellow fever*.

Dr. Monchy says, "all real inflammatory diseases "are seldom known in the West Indies," which accounts for my not having met with it there.

Dr. Lind, part i. chap. 1. p. 35, on Diseases of Hot Climates, speaking of the diseases peculiar to South Carolina, says, "we find this disease "much more obstinate, acute, and violent, espe- "cially in July and August. The fever which "attacks strangers is very anomalous, not re- "mitting, nor intermitting soon; but partaking "much of the nature of those distempers which

" are so fatal to the newly-arrived Europeans, in " West Indian climates. The same may be said " of Georgia and East Florida, during these two " months; but in West Florida, the diseases of " strangers approach still nearer to those of our " *West Indian Islands.*

" At Pensacola, where the soil is sandy, and " quite barren, the English have suffered much. " Some have died of scurvy; but a far greater " part of fevers. The excessive heat of the " weather has *sometimes* produced in this place a " mortal sickness, *similar* to that which in the " West Indies, goes under the name of the " *yellow fever.*"

In the latter end of 1766, and in part of 1767-8, no such disease prevailed in Pensacola; when the author was there.

The Doctor again observes, in chap. ii. p. 58, speaking of the coast of Africa: " An inflamma- " tory fever is seldom observed during the sea- " son of sickness, in this part of the world."

Again, in chap. iv. in stating the diseases most destructive to Europeans, he says,

" In all those places fevers and fluxes are fatal " to Europeans; but that disease, denominated " the *yellow fever*, is more particularly destruc- " tive to them."

N. B. The manner in which this accurate observer and compiler expresses himself is very remarkable; " I am now of opinion," he says,

" that the remarkable dissolution of the blood, " together with the tendency to putrefaction in " the whole body, the black vomit, and the " other symptoms, happen towards the fatal ter- " mination of the inflammatory epidemic, com- " monly called *yellow fever*, and which *charac- " terizes the yellow fever*, are often accidental, " though fatal appearances in fevers of the West " Indies."

The symptoms which the Doctor has mentioned here are only consequences of the *disease* having destroyed the system; and is about to terminate fatally. The other symptoms are quoted from Dr. Bruce, at Barbadoes, physician, page 263, of his work.

The yellow fever did not occur to Mr. Reide, surgeon to the first battalion of the first regiment of foot, employed in the West Indies upwards of three years.

Dr. Hunter, physician to the army at Jamaica, during the American war, makes no mention of the yellow fever in his observations on the diseases of the army in Jamaica, which he would hardly have omitted to have noticed, had it occurred to him.

Dr. Winterbottom, in his directions for settlers in hot climates, after having resided at Sierra Leone a considerable time, says, page 55, " That " dreadful scourge of Europeans, the *yellow " fever*, appears to be almost confined to the

" West India Islands; and mostly affects persons
" just arrived from Europe, or from the northern
" parts of America."

It is, therefore, certain, that the disease, vulgarly called the *yellow fever*, is not a constant resident in the West Indies; (which sufficiently accounts for the author's not having made any mention of it in his observations,) though an endemial of hot climates; and but seldom epidemic; to which strangers coming from cold climates, especially with high health, are particularly liable, whether it be then epidemic or not; unless they avoid all excess; exposing themselves to the heat of the sun; or the sitting or sleeping in draughts of air, day or night; or to night dews, and land winds.

The athletic and healthy subjects lately arrived from northern climates, possessing dense blood and rigid muscular fibres, being the class particularly liable to be afflicted with *yellow fever*, and its being marked by all the features of sthenia, denote the nosological order to which it belongs; and fully refute the denomination of *fever*, vulgarly and erroneously applied to it.

As well, and with equal propriety, might we in this country denominate the diseases of the order of phlegmasiæ, with the appellation of fever, as class under that denomination the inflammatory epidemic of the West Indies, *styled yellow fever*, which participates, in its symptoms,

of all the diseases peculiar to phlegmasia: and although the violence of these symptoms, the numerous parts affected, render the disease extremely complex and rapid; yet the symptoms, and parts affected, concur in pointing out clearly that the disease belongs to the order of phlegmasia, of which I am fully satisfied, from the many descriptions of it with which I have been favoured by numerous practitioners.

I may also venture to affirm, that what has greatly added to the fatality of the disease is, it has never been specified by any appellation suitable to its character and nosological order.

Every person who has furnished a description of it, admits it to be more or less inflammatory at the commencement; and the inflammation, generally speaking, is found to be in a ratio to the length of time the sick have been in the hot climate; that is to say, the shorter the time they have been in it, the more violent and active the inflammation is, and *vice versa*.

Few individuals in England have been more in the way of receiving information, concerning this disease, than the author. I shall therefore try to assist the young inexperienced practitioner, who may happen to be so unfortunate as to have it to manage immediately upon his arrival, by putting him in possession of the manner in which it was treated successfully by Dr. White, with whom I corresponded while he was, in the West Indies.

On the 26th of Nov. 1796, he wrote to me as follows: "With respect to the epidemic, I have "long been of the same sentiment as yourself, "and have only styled it *fever*, in compliance "with common opinions. Instead of indefinite "terms, which are liable to misapplication, and "are, consequently, the abundant source of mal-"practice, as we have lately seen, and still see, "in the term *fever*—extended to many various "and opposite complaints,—I have even thought "it adviseable to denominate, where it can be "done, the different diseases from the symp-"toms. Without having a constant eye to this, "can rational practice be expected?" The doctor then describes his antiphlogistic mode of treatment, which consisted chiefly of bleeding; clysters; tepid bathing; citric acid, and keeping up a free perspiration. These means he repeated until the inflammatory diathesis was subdued: that is, until the pains were removed, and the bowels were in a lax state.

He therefore began with bleeding the moment the patient was taken ill, repeating it according to circumstances. In some cases, before relief was obtained, "xc ounces of blood were taken "away; and the clysters also were frequently re-"peated."

Amongst the tonics, which he used, he classed "inunction with oil," and cold sea-water bathing.

He says, " that at first he lost two patients " whom he had treated after the prevailing " mode, *with calomel*, which he execrates in " bitter terms, for causing loss of time, if no " worse mischief; which could never be re- " deemed, as twelve, fifteen, and often more " hours, were lost, before a stool could be ob- " tained by it."

Mr. Wardrobe, who lived about twenty years in Dominica, also furnished me with his sentiments concerning the yellow fever, of which the following is an extract:

" The yellow fever appears to be an epidemic of " the West Indies, strongly inflammatory, but not " infectious; attended with an extraordinary se- " cretion of bile; attacking principally the young " and robust, who have not been long from a cold " country, and those of a plethoric habit, with " equal violence at all times of the year. But it " is most prevalent during the hot and wet " months, from May to November.

" People beyond the age of forty are rarely " attacked with it; and those who are, gene- " rally recover.

" The natives, and African negroes, are also " liable to its attacks, after great fatigue in the " heat of the sun, hard drinking, or imprudent " exposure to cold air while in strong per- " spiration.

" It seems to be a similar disease, if not the " same, to that which is called, by Europeans, a " *seasoning*: for it is scarcely possible to distin- " guish any difference between them. And they " are only to be cured by the same mode of " practice, *early and copious evacuations fre-* " *quently repeated.*"

But not one word of calomel; which practice, when conversing with him upon the subject, he reprobated with asperity.

Dr. Gillespie, in his accurate observations while he superintended the hospital at Martinique, has paid particular attention to the *yellow fever*, or *causus*.

After a very minute description, or history of the disease, which he terms *causus*, because the ardour of the skin was by far the most constant attendant of it; and after reasoning strongly on the nature and causes of *causus*, he adds, " It is " true, however, that this symptom, an intensely " hot skin, sensible to the touch of every person; " as well as the yellowness which *often* occurs, " and lividity of the skin (observable more " rarely); the bilious discharges which often " take place from the body; the malignancy and " tendence to putrescency, are not invariable in " this disease.

" Infection, or apprehension more probably, " may be enumerated as a cause of the spread-

" ing of the disease on board of ships, although
" it did not appear to be remarkably infectious
" on shore.

" The more immediate or proximate cause of
" this disease, in its most violent degree, would
" appear to be the supervening of an acute, ma-
" lignant inflammation of the stomach, liver, in-
" testines, or of the contents of the head or
" breast, the consequences of the inflammatory
" diathesis—thus, in persons accustomed to the
" climate, &c. But very different from this was
" the disease in persons neither seasoned to the
" climate by a former residence in hot climates,
" nor by an abstemious regimen.

" In most fatal cases," he says, " the symptoms
" fully pointed out an inflammation in one or
" other of the viscera, and sometimes, of all the
" three cavities."

By way of induction, he adds, " If this rea-
" soning on the nature and cause of ardent fever
" be just, what opinion are we to form of the
" violent practices which have been recom-
" mended in this disease, and which, unfortu-
" nately for British soldiers and seamen, have
" been but too much followed? *These are the*
" *administrations of calomel, so much used during*
" *the present war.* If there be any steady,
" rational, though not infallible principle in me-
" dicine, it may justly be assumed as one, that

" purgative medicines are inadmissible in fever, " attended with inflammation of the viscera, " particularly of the stomach, &c." He afterwards goes on to prove the deleterious effects of the calomel practice, which he says, are caused by its action on the salival glands: " the fever of " salivation, in some cases, is accompanied by " phrenitis, angina, and general swelling of the " integuments of the head. Its advocates sup- " pose that it acts as an antiphlogistic in fever; " an opinion contradicted by every principle of " therapeutics. His reflections on the subject " have been suggested from experience, which " he concludes by adducing a remarkable in- " stance of its fatal effects, and recommending a " stop being put to such practice in the navy in " future."

In speaking of the method of cure, he says, " in the first stage, bleeding, which often is at- " tended with good effects in ardent fever of the " West Indies, and which appeared to be indi- " cated from the violent inflammatory symptoms, " was practised in the beginning of the epidemic " (between August 1795, and April 1796,) in " several very robust young men, but with very " bad success;" which he accounts for in the next paragraph. [But might not topical bleedings, by cupping, or leeches, have been of great service in such cases? Were the Doctor's bleed-

ings in all cases, repeated sufficiently to be attended with good effect?]

" When it is considered that the persons at-
" tacked by this fever had been twelve months
" in the country, and, consequently, were not
" exactly in the predicament of persons just ar-
" rived; that most of them were of a scorbutic
" habit of body, had long been operated on by
" the depressing passions," [*Apprehension* before mentioned.] " &c. &c. there can be no surprise
" that bleeding did not prove serviceable in this
" epidemic."—that is to say, among such patients.

For the same reason, instead of purging medicines, " he had recourse to clysters;" and these he had made use of with great caution. " The
" patient was bathed repeatedly, in the day, with
" fresh lime juice. When the head was much
" affected, opium given in small doses has a
" good effect, both in relieving the head and
" allaying the nausea, and vomiting sometimes.
" In some such cases blisters and bathing were
" serviceable. And, in the second stage, bark
" infusion was had recourse to, and was found
" serviceable; and also a little wine." [Fermented bark here was greatly wanted, and would have been highly beneficial.] " In other cases,
" besides these, the cold effusion of water and
" flannel waistcoats, were found serviceable. In
" some cases every thing acidulent, and saline,

" was vastly prejudicial: in these, mild farina-
" ceous drinks were alone administered. Sea-
" bathing was attended with the best effects in
" re-establishing the health; and also as a pre-
" ventive."

I have been under the necessity of confining myself here to brevity in my quotations; but to do Dr. Gillespie justice, I refer the reader to his book on Fevers in the West Indies.

I must, however, beg the reader's indulgence, while I lay before him the testimony of an excellent officer concerning the calomel practice, and who afterwards died of the *yellow fever*.

" You will scarcely believe the difficulty I find
" even in writing to you, or finding any thing to
" say. From all this" (antecedent part of the letter)
" you may guess how much I dislike the West
" Indies; and I draw cause for my dislike from
" the misfortunes of the ship I now command,
" which in a month, or six weeks, lost three
" lieutenants, nine midshipmen, and near three
" hundred seamen. They died of what is called
" the *yellow fever*. In short, if a man was sick,
" it could be nothing else; or could he have any
" other medicine than what was administered in
" that fever, which was *calomel*, nothing else;
" no preparation; but the moment the patient
" complained, whether it was pain in the head
" or the rump, it made no difference; and to
" this day they presist in killing ninety-nine out

" of the hundred by mercury ; having nothing
" to say in its favour, but, that when the saliva-
" tion has taken place, my patient has recovered.
" That is, they recover from the fever, and live
" miserable spectacles of weakness and debilty.
" Some few only, and these young men, have
" recovered their strength by bark and opium,
" &c."

Such was the opinion of the calomel practice in the *yellow fever*, drawn from accurate observation by a man who was possessed of abilities equal to any station ; adorned with manners that would have graced any situation ; and who, with an only brother, nearly about the same time, perished in the service of his king and country, under the treatment he had so deeply and prophetically deplored.

Without attempting to make any comment on the preceding quotations, or to enter upon any theoretic discussion of the subject, (as theory may be opposed to theory without end,) I shall, in a very brief manner, furnish the young and inexperienced practitioner with a few general directions, which his own judgment must apply, according as circumstances occur.

It is very well understood by almost every practitioner, in what manner the diseases, which really and truly come under the order of Phlegmasia, must be treated, in this or any country, viz. in the antiphlogistic manner. In this coun-

try, or in more northern climates, to subdue pleuritis alone, it is found necessary, sometimes, to bleed very often; and to use diligently every other part of antiphlogistic treatment before the inflammation can be overcome. And it may be observed, that when a sufficient quantity of blood is taken away, the patient is as perfectly relieved, as if he had never felt pain. But when it happens, as it sometimes does, that the pain returns unexpectedly, recourse must be had to bleeding. If then the practice must be so in a cold climate, how much more urgent must the letting blood again and again be, in a climate, where the whole system is at once ignited, if I may be allowed the use of the word, or in a fervent state of dreadful inflammation; and will become soon putrid, unless, without a moment's loss of time, recourse be had, again and again, to bleeding, until the patient is cured?

IF, therefore, soon after the arrival of ships in hot climates, cases of such complicated inflammation, as has been very improperly called *yellow fever*, should appear amongst the people, no reason founded in physiology can possibly be adduced, against putting the antiphlogistic treatment immediately into full force; and the sooner it is done, the sooner will the sick be relieved, and recovered. If such promptitude and perseverance in this practice be required in cold cli-

mates for simple pleuritis, as we learn from experience, I say, how much more necessary do they become in hot climates, when all the vital organs are at once seized with, and are in a state of, violent inflammation, which, unless speedily prevented by blood-letting, will, most assuredly, soon terminate in general gangrene and yellow suffusion? Certainly, an instant should not be lost after the patient is taken ill; and the repetitions of bleeding should correspond with the violence of the several cases,—the progress, and fatal termination of inflammation there being so rapid. —While one patient only requires few bleedings, or once only, within the first few hours of his illness, to cure him; another patient may require to be let blood often, and to have it frequently repeated within the said period.

It may be laid down as a fact, derived from experience, that more can be done for the benefit of the patient, in cases of such violent inflammation, within the first twelve hours, than can possibly be accomplished within the next forty-eight hours, or ever perhaps. In short, the loss of a very few hours, in such cases as I have described, may undoubtedly be the loss of thousands of patients; nay, has been, I fear, the loss of many thousands. The same parity of reasoning holds good in the management of fever as to exertion. Lost time, in treating it properly, is never to be redeemed,

though the mode of treatment must be reversed in curing it.

As to the quantity of blood to be taken away from any patient, it must depend so much upon unforeseen circumstances, that it is impossible to limit it; and must, therefore, be left to the discretion of the practitioner; who is to be governed chiefly by his patient's strength, and the violence of the symptoms, which, when perfectly relieved, will mark the point when to withhold the lancet.

After the first bleeding, and between the bleedings, every thing that will therewith coincide, to mitigate pain and inflammation, should be alternately administered. Clysters to empty the bowels—tepid baths, somewhat hotter than the atmosphere, to promote perspiration—such drink as is most agreeable to the palate of the sick, to keep the perspiration up—confinement in bed for the same purpose—cold applications to the head of artificial cold water, made by adding thereto ammonia and sal nitre—and applying cloths dipped therein, or in water and vinegar, to the head —and even the effusions of cold water after bleeding might succeed, in some cases, in promoting perspiration, and in mitigating the inflammation, using caution with exertion.

In many cases, when the strength has not been much reduced by the evacuations to vanquish the inflammation, the recovery of the sick is ex-

tremely rapid. But when the contrary happens, tonics become necessary; of which cinchona, especially in a fermented state, and cold sea-water bathing, will be found the most powerful. Flannel waistcoats also worn next the skin, will be very beneficial in preventing relapses; and wine may now be cautiously administered.

But when ships have been a considerable time in a hot country; when the tone and vigour of the system have been, by concurring causes, relaxed and assimilated to the climate, and perhaps is broken down by scurvy, or other diseases, a difference in the treatment of the inflammatory epidemic, if it should unfortunately make its appearance, must, in such cases, take place; especially, if the men have been previously afflicted with scurvy or syphilis.

Under these circumstances, instead of bleeding from large orifices, as before recommended, although it may be absolutely necessary to let blood, were it only to give the patients a fair chance, at least, for their lives (as it is impossible that any practice can be more unsuccessful than the calomel practice has been, according to the accounts we have of it, although so closely followed and recommended by its abettors: though on what principle it has been practised, remains yet to be explained by these advocates)—considering it, therefore, I say, not as a matter of choice but of necessity, to try the effects of bleeding,

by the mode of scarification and cupping, and by the application of leeches—topical bleedings will, I am of opinion, be extremely proper, and suffice.

I have great reason to think, that when the practice of letting blood in *causus* has failed, it has been chiefly owing to not bleeding from a large orifice, and to a sufficient quantity not having been taken away at once. But in erysipelatous inflammation topical bleeding must be resorted to. [In this country we find in peripnumonia notha; in many cases of erysipelas; as well as in many other cases, topical bleedings by leeches and cupping, of infinite service—wherein general bleedings are inadmissible. Why, then, may not topical bleedings be equally efficacious in hot climates?]

The antiphlogistic plan after the first bleeding, and between the succeeding bleedings, if needful, must be pursued in this scorbutic state of the system, with the most gentle means to obtain the end proposed. The use of acids, both citric and mineral, ought to be more particularly insisted on, both internally and externally—by the mouth or by clysters; by epithems, fomentations, or baths—combining with them, as occasion may require, opiates and other sedatives—amongst which henbane, as occasioning no constipation of the bowels; or sp. ætheris, vit. comp. vel sp. ætheris nit. ought to be preferred. During the practitioner's perseverance in this plan, in the first stage

of this causus nothus, as here described, his care should be particularly directed to promote and keep up a copious perspiration; a free discharge by the bowels and urinary passage; to alleviate local pains occasionally by blisters, and to allay the thirst by the acids, diluted and changed to the patient's craving. The use of the tepid bath, cold affusion, or of refrigerant epithems, must also be left to his discretion.

In the second stage, besides the liberal use of the acids, blisters, such as columbo, snakeroot, cascarilla, quassia, gentian, and camomile flowers; other restoratives, as wine, and barks in the form most agreeable to the patient, which will generally be in the fermented state, will be found necessary, or even animal food. Cold sea-water bathing, flannel waistcoats, and inunctions, will also contribute greatly, in many cases, towards a recovery, and guarding against relapses.

Before I quit this head I think it right to mention briefly, what appears from the impetuous nature of the *inflammatory* epidemic, peculiar to hot climates, in certain states of the constitution of the air, which, most commonly, is the enemy of strangers to those climates, when they first enter them; or soon after, especially young, robust subjects, possessing high health, dense or rich blood; strong, tense, muscular fibres; and dry thick skins—an epidemic seldom attacking the natives, whose general systems differ, in all

respects, widely from those I have just described. An epidemic, which might be properly styled, *The Inflammatory Epidemic of hot Climates*, peculiarly inimical and destructive to all healthy strangers, more particularly if they are intemperate. This title not only explains the nature of the disease in question, but also points out the prophylactic to be the proper mode of treatment.

Providentially, the prophylactic means are, strictly speaking, within every ones power, viz. temperance, cleanliness, moderate exercise, and a moderate internal use of sea-water.

Under temperance I include moderate eating, as well as moderate drinking; and carefully avoiding unnecessary exposure to the sun's rays, or insolation, between ten A. M. and two P. M. especially when there is no sea breeze; and to the night air and dews, whether awake or asleep.

Cleanliness not only implies clean clothes, as wearing apparel, but also bed clothes; the births, wherever men sleep, whether between the decks, or in the tiers, or in the cock-pit, or under the half deck, or under the forecastle, or elsewhere, care should be taken to keep these parts clean, and to air the hammocks as well as all the bedding, as frequently as possible. Washing the whole body in tepid sea water often, if practicable, on the outward bound passage to the hot

climates; to relax the pores of the skin and promote free perspiration, to the attainment of which, moderate exercise will contribute greatly; as well as to cheer and keep up the spirits. When duties will admit of it, the best and most amusing exercise is dancing, or skip rope.

If sea water, under the direction of the surgeon, or his assistants, is administered three or four times in a week, or the common bitter purging salt, as may seem proper, no other medicine whatever, speaking in a general way, will be found necessary, to bring about the alteration of the system, and preparing it for the approaching change of climate.

These directions, if strictly followed, will render blood letting and calomel (as preparatives or preventives) unnecessary.

## CHAP. II.

### PRACTICAL REMARKS.

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### SECTION I.

*Causes and Consequences of Fever not having been considered infectious.*

FROM theoretic opinions concerning fever I proceed to the statement of practical remarks. It will not, perhaps, be thought foreign to the purpose, to begin these remarks by shewing how it has happened, that fever has not been hitherto considered infectious.

1. This may have happened from practitioners having erroneously annexed to *infectious fever only*, the idea of malignancy; and that such a disease must always be as deleterious in its nature as the plague of Athens. And, according to this idea, that it is to destroy as suddenly whoever is infected. That, therefore, was fever infectious, it must, consequently, they imagine, be as fatal as natural small pox and measles are, unless managed after the manner of the author. But close at-

tention to known facts concerning fever, wherever it has prevailed, will convince them of their error. The disease called the *plague* is universally acknowledged to be the most highly infectious, tremendous, and fatal of all diseases: but by what appellation is that disease to be distinguished, which destroys, in a few weeks, upwards of one-fourth of a ship's company, as febrile infection has been often known to do.

A dreadful instance of which happened on board the Ponsborne East Indiaman, in 1765. In the space of a few weeks, after they left Mohila, above seventy of their people died. [See vol. iv. of Medical Observations and Enquiries, p. 156, 157.] Other instances might be adduced to show, that both fleets and garrisons have been unmanned by fever. Does fever, when so destructive, merit the appellation of being infectious, or is that title sufficiently strong for such a disease? I think not, especially when the infection can be unequivocally and positively traced from the sick, to those who have any intercourse with them.

2. It may have happened, because practitioners have not taken the trouble to enquire by what means the sick became ill; or from their not crediting the information of others, who have made it their study to trace the disease to its infectious source.

3. It may have happened from the indolence of

the practitioners resorting to scepticism rather than to inform themselves by diligent enquiry and attention to diseases; and think that, by wrapping themselves up in the mantle, they are, adorning themselves with a degree of superiority and consequence.

I would not, however, have it understood, that I mean to stigmatize, and much less condemn, with indiscrimination, the reader with the appellation of an obstinate sceptic, for not believing the *ipse dixit* of every one who thinks himself qualified to write and to dictate to others. And I still less condemn the reader, who only withholds belief until facts are made out to him by the observations of others, or by his own fair experiment. But those deservedly incur the appellation, who pay no regard to opinion, nor to writings founded on observations which adduce irrefragable proofs, that the authors have had opportunities to become intimately acquainted with the subject, and that they have been successful in the management of the disease in question.

In human life, many circumstances of very great importance are daily passed by without being adverted to. From our not knowing, we are passing them, and might inform ourselves to great advantage.

Thus it is with seamen, in particular, who are daily sailing, perhaps, past unknown shelves, sands

and rocks, without the least concern, *only* because they are unknown to them. But when these dangers are discovered and marked out, how vigilant and careful afterwards are seamen to steer clear and avoid them.

This reflection strictly applies to medical practitioners who are unacquainted that it is the nature of fever to be infectious. They neither guard against it themselves, nor prevent its communication to others. But after they are apprized of the secret danger, they naturally use every method to prevent it from becoming more virulent, and from spreading.

Other causes why fever has not been allowed to be infectious, lest the dread, perhaps, of impressing the relations and attendants of the sick with the idea of being infected should prevent them from giving the sick due attendance, and taking proper care of them; which to me appears an apprehension without any foundation to support it.—Is it more prudent or more charitable to suffer a person that is blindfolded to walk over a precipice, than it is to uncover his eyes that he may see his danger, and pass it in safety?

SECTION II.

## *Consequences of Fever not being considered infectious.*

But let us now see and examine some of the consequences that have arisen from fever not being allowed to be infectious.

Idiopathic fever—from whatever cause it originates, whether from habitual excess, or from too penurious living; whether from heat and moisture; whether from excessive fatigue, or from indolence and sloth; whether from exposure to the ardent rays of the sun, i. e. *insolation*, called by the French a *coup de soleil*, or from extreme cold; whether from marsh miasmata, or from contagion—I have always observed, becomes more or less infectious according to circumstances. This observation being founded on experience, becomes an object of so great importance as to claim particular regard and attention; and induced me to apply the denomination *febrile infection* to fever, to distinguish it from other diseases.

*Infection* or *contagion*, then, being the most dangerous phenomenon and peculiar property of fever, as it is the inseparable concomitant thereof, too much care and caution cannot be employed

to mitigate its virulence, and thereby confine it within the narrowest possible limits.

But this doctrine of the infectious property of fever, not being universally known, or not being generally credited, which leads to the same consequences, I shall inform the reader, from my own knowledge, of many latent and unsuspected, that have arisen from febrile infection.

First, These are a general neglect to use proper means to check it; to prevent it from spreading; and to treat it properly. A neglect to use proper means to guard the attendants on the sick from being infected; or from its becoming fatal to them, when they are seized. [See vol. iii.]

In the year 1770, I belonged to a ship employed on a station commonly thought very healthy; on board of which a man, ill of fever, died a few days after he had been admitted, out of compassion, against my positive advice to the contrary. Our ship [See vol. i. part ii. chap. iv.], though very healthy before, immediately became sickly, and continued so while I belonged to her. And I was afterwards informed by the surgeon who succeeded me, that the people continued to be sickly more than a year after I left her, while the ship remained in commission. When officers neither know the consequences of admitting sick on board, nor will pay regard to their surgeons who advise them against it, obstinacy is not an appellation suited to such conduct. Were such

such officers voluntarily to be the sufferers, knowing the fatal consequence that may follow, it would be some excuse for it. But as their obstinacy may involve a ship's company's health, as well as the service on which the ship happens to be employed, in imminent danger, I can see no possible extenuation for the error. If the officer is humane, and thinks the person an object of compassion, it would always be right, on such occasions, to relieve the object at his own expence; or to send him, if possible, to an hospital: but, upon no pretence whatever, to admit him on board of a ship, or into a society, lest he should be accessary to the death of many.

On the 26th of October, 1776, sixty supernumeraries were sent from the Rainbow on board the Juno, after the convalescents had been sent on shore to sick quarters at Halifax; and great pains had been taken to destroy the infection, by washing, burning good fires, and smoking the ship. Eight of those supernumeraries, on examining them, I found were very ill of ship fever: I therefore applied immediately to Captain Dalrymple, to represent it to the commanding officer of the port, and get his order to return them, which he granted, and next morning was put in force. But the surgeon of the Rainbow, though a gentleman of good understanding, not suspecting any infection, imagined their complaints

were only slight colds. However, my opinion of the infection being on board that ship was fully confirmed, by the people becoming sickly soon after.

When the Juno arrived at New York, the 1st of January, 1777, judging it my duty, I reported on the sick list, which was to be delivered to the commander in chief, that the fever on board of our ship, was infectious; and that it would be necessary to send the sick on shore to the hospital, that we might endeavour to destory the infection on board, by every means in our power.

The physician prepared to receive the sick, who were sent next day; but being in a convalescent state, they stood in need only of change of air, of restoratives, and of having their clothes well cleaned, to recover them to health. But when I went to the hospital two or three days after, to see our men, the physician said to me, he was surprised I could report there was an infectious fever on board the Juno, when nothing was the matter with the men I had sent on shore; and that, should Lord Howe be informed of the circumstance, he would certainly be highly displeased. And the surgeon of the Eagle, his lordship's ship, told me afterwards, that it was with difficulty he could prevent the physician from making the *false report* to his lordship.

The consequence of that gentleman's obstinacy

and inattention was, that four of our men, with whom he said nothing was the matter, died of relapse. More of our men ill of fever, sent afterwards, were permitted to run about the hospital delirious. What the further consequences of such infatuation might occasion in the hospital, I leave the reader to imagine.

On the 1st of March, 1778, when the Haerlem cutter came into Cape Cod Bay with the transports, sent under a flag of truce to bring General Burgoyne's troops, which surrendered at Saratoga, from Boston, I was sent on board to see the lieutenant, now an old flag officer in the service, that commanded the cutter, and was reported one of the sick on board the cutter, to Captain Dalrymple, the senior officer upon that service. I found the lieutenant, the surgeon, two midshipmen, the clerk, and three or four men and a boy, very ill of ship fever; and the surgeon, so far from suspecting the cause to be infection, was much surprised when I enquired where, or by what means, they had caught it? But, on further enquiry, I learned from the lieutenant, that he had brought from the prison ship at Rhode Island, a few prisoners, belonging to the Vineyard, to be set at their liberty, to induce the inhabitants to send off pilots to pilot our transports through the shoals. By which means I traced the infection back to the prison ship at

Rhode Island, on board of which I knew it was extremely virulent and fatal.

The Haerlem being immediately ordered up to Boston, the lieutenant, and the rest of the sick, were removed on board of a transport; and the surgeon of the Cerberus was ordered to attend them all, except the lieutenant, who requested I might continue to visit him. For several days, in vain, I endeavoured to persuade the surgeon of the Cerberus, that it was ship-fever of which those men were ill; until I asked him if he had not perceived petechiæ on them? to which he answered, "that he had not looked for any, but "that he would go and examine some of the pa-"tients." He soon returned, exclaiming, he observed petechiæ, and that it was the true *Febris Carcerarea.* He then thought it necessary to prescribe bark for them immediately, though it was done too sparingly to be effectual; and then attributed a slight indisposition of his own, and his assistant's illness, to the infection they had caught in attending the Haerlem's men.

The lieutenant, now a post captain, who was the agent for those transports, had frequently visited the lieutenant on board the Haerlem, and had taken his servant, a boy, with him. The boy died very soon after of the infection, before I was sent for to visit the lieutenant, who was

extremely bad under my care, without the cause ever having been suspected until I mentioned it.

In October, 1778, I visited, on board of a transport at Sandy Hook, the master and some of the people, whom I found very ill of ship fever; and, upon enquiry, I learned from the master, that neither he, nor the people of the transport, had been healthy since they had troops on board, a number of whom were sickly. But that he had never suspected the troops had left infection behind them, which was the real cause of his own and of his men's illness.

Being in London in the winter of 1778, a captain of the navy, and friend of mine, desired me to visit his servant, who had lately come from sea with him. Finding the young man very ill of ship-fever, I enquired of the nurse what the apothecary said of him. She told me that "he "thought it was only a cold he had caught, and "that he would be well in a few days." The medicine he was taking appeared to be the saline mixture, with some antimonial preparation, perhaps. I desired the nurse to tell the gentleman that I would meet him next morning; but unluckily he got before me, and left the following message with her: "That he could not possibly "wait for me: but had the pleasure to inform "me, his patient was much better, after having

" sweated all night, and he had no doubt would " soon be well."

But the fact was, I found him much worse; and suspecting, from the appearance of his countenance, that he had been more delirious in the night than common, I asked the nurse if her patient had not raved in the night, and for some nights before? " To be sure," she said, " he " had talked wildly for nights, but much more " so last night than he had done before." I desired his master to get him sent to an hospital immediately, which he did: and there the young man recovered with great difficulty, by an abscess forming on his hip; as he himself told me some months after, when I met him. He was become so emaciated, that I scarce knew him; and he could not recollect that I had visited him during his illness; so much had his intellects and memory been affected.

Certain it is, that ship-fever appears so insidiously at times, that men of great knowledge in the profession have mistaken it for very slight complaints; and have been thus led to suppose, when employed to examine sick, that many of the patients were only skulkers; when, in fact, numbers of them were so extremely ill at the time, that they have died soon after. Many such instances might be related, though I shall only mention one.

Near the end of the American war, two line of battle ships were cruizing together; and the men on board one of the two became so sickly, that it was found necessary to report the state of their health to the senior captain, commanding the other ship. The senior captain accordingly ordered the surgeon of his own ship to go on board, and examine into the state of the sickly ship's company's health. The report was, I have been well informed, "that very little ailed them." But however trifling, in that gentleman's opinion, their complaints were, a number of the patients died before the ship could get into port, though she was kept out but a very short time after the *formal* survey. Gentlemen sent on a service so serious and grave as to examine sick in any situation, whether on board ships, or on shore, ought always to conduct themselves so guardedly, and leniently towards the sick, as to frame their report humanely; as that their character will be in no hazard of suffering either professionally or morally. 'Tis far better that many skulkers should escape with impunity, than one deserving object of distress should be lost. Besides, skulkers cannot impose long upon a discerning surgeon, who keeps a watchful eye over them.

Certain I am, that to any fleet, a sickly ship is the most dangerous enemy they can meet, or have communication with.

Within my own knowledge, a medical gentle-

man was sent to inspect the state of health of a ship's company, several of whom had died of infection; and of whom several, to that gentleman's knowledge had been sent to an hospital, or hospital ship, ill of fever, as their sick tickets testified, *yet he reported the disease was only catarrh;* and not a word was said of the infection.

In the year 1783, fever was extremely prevalent throughout the kingdom; and had as many different titles given it, as there were technical names in the lexicon, according to its various appearances; which appearances depended on situations, circumstances, and treatment of the sick only; though I am perfectly satisfied it was febrile infection, spread by the seamen and soldiers, which were then paid off from the fleet and from the army!

In November, 1785, I was called in to attend two families, in Dibden, very ill of febrile infection, of which, one died in each family, without the cause being suspected until I made it known.

At Minstead, a village near Lindhurst, in the New Forest, about the end of April 1788, I visited a farmer, whom I found dangerously ill of febrile infection. The surgeon who attended him, so far from having any suspicion that the fever was infectious, smiled, when I mentioned it to him. However, the patient recovered; and upon diligent enquiry has since informed me,

" that one of the paupers of the parish, who had " been in Somerset, was sent home sick with his " family from thence. All of whom were almost " starved, naked, and sick when they arrived; " that many of the inhabitants went to the poor- " house to see them; that the parish officers, of " whom (he,) my patient was one, not being " able to get any person to attend them— " themselves were obliged to do it, and the " pauper died of the fever, with which all " the poor family were afflicted." My patient further said, " that he believed he had got his " sickness by attending the pauper's family." But though the infection spread through the parish, and carried off numbers, none of the farmer's numerous family were infected; which comes directly in proof of what I have said on this subject already, viz. ' That febrile infection ' not being communicated to every individual in ' a family, is no more a proof of fever not being ' infectious, than that small pox is not infectious, ' when accidentally introduced, and they do not ' attack every person of a family who has not ' yet had them.'

When people inhale for a long time febrile infection, it becomes absolutely both the remote and proximate cause. Yet the sick, thus infected, may not infect others that have not been exposed to the same remote and predisposing cause, as was the case on board the Rainbow, when no

person was afflicted with fever but those who were exposed to, and inhaled the marsh effluvia or febrile infection, for some time. [See vol. i. part iii.]

Many more instances I could relate: but these, I hope will be sufficient to set the community, as well as medical practitioners, on their guard, never to make light of fever, which is always, most certainly, more or less infectious, according to circumstances; which is capable of attaining the most alarming degree of virulence from neglect, and of becoming plague itself; *that is*, febrile infection in its most virulent phenomena.

These unsuspected instances of infection, and their consequences are not mentioned with an intention to censure the characters or memories of individuals, far less to enjoy a triumph on the occasion. I have done it, merely to set the community and young medical practitioners on their guard, as much as possible; that such fatal effects from inexperience, or obstinancy, or inattention, may hereafter be obviated. It will be admitted, I presume, that whatever respect is owing to the merit, and characters of individuals, the regard due to the community is still far greater; the consideration of which, I trust, will be considered as a sufficient reason for my having stated facts so important. No other motives would have induced me to undertake so laborious and unprofitable a task.

## SECTION III.

### *Necessity of distinguishing Fever.*

The positive necessity of distinguishing febrile infection from other diseases, the preceding practical observations too plainly evince. And as idiopathic fever, or febrile infection is verily what I have described it, " an universal disease, and " always more or less infectious, according to " circumstances," no medical subject can be more important to mankind. The author having made out this position, by his own observations, in three quarters of the world, every reader, who will take the pains to consult his works, may satisfy himself. [See vol. i. ii. and iv.]

I have great pleasure, therefore, in observing now, that *signs* of the public reception of this opinion are obvious, which, when I first ventured to utter and promulgate, was considered visionary; except by the few practical authorities who then supported it, Drs. Miller and Clark; and that many eminent practitioners and teachers of physic; Dr. Geo. Fordyce, and others I could name, have since acknowledged fever to be more or less contagious.

Some practitioners, however, disposed to cavil, will not admit that fever is so infectious as small-pox; a position scarcely worth debating or contending for. And, be that as it may, I verily

believe, that the destruction which small-pox has occasioned, notwithstanding at times it has been great, when compared to what febrile infection has committed throughout the earth, does not bear a greater proportion than as *a drop* to the bucket-full.

For the truth of this I appeal to the page of universal history. What places the devastation, which febrile infection has produced, more than small-pox, further beyond the power of exact calculation, is, that these very rarely occur oftener *than once* during life: whereas every patient is liable to relapse into fever, after every succeeding attack; and he may have fever again and again, until he is cut off, when, and wherever fever prevails.

Broad and important, however, as this fact has always been from the beginning of medical history, and will continue to the end of time, it has never been *sufficiently* attended to nor admitted.

The benefit which the community will derive from general attention to the position, "That "febrile infection is an universal disease, and al- "ways more or less infectious, according to cir- "cumstances,"' is, that every person will be on his guard against it. Means will be taken by every one to prevent it, in the first instance, from spreading. Professional men, knowing the fatal consequences it may occasion, will exert themselves to destroy it, or to render it milder, whenever it occurs.—Important benefit!

The great stumbling-blocks, *genera* and *species* of fever, raised by theorists in the way of young practitioners, and medical improvement, will be removed. In proof that they have been stumbling-blocks I appeal to candid practitioners. Let them declare with what uneasiness of mind, with what anxious solicitude they have approached fever patients, at their commencing practice—let them declare the long catalogue of fevers they were taught to expect to meet with in practice, and the peculiar method of treatment *necessarily to be provided* for each; of the genera and species of intermittents; remittents; jail; hospital; camp; ship; petechial; spotted; scarlet; putrid; malignant; and pestilential fevers. God defend us from such a catalogue! Let them declare, if their uneasness and solicitude did not proceed chiefly from apprehension lest they should not be able to discover the species of fever, without which they could not adapt the cure?—Let them say whether *typhus* (an erroneous title for fever, as it only implies one of its bad symptoms, which occurs *sometimes* only, and is not therefore considered one of the pathognomonic symptoms of febrile infection; and scarcely ever occurs when fever is well managed from its commencement), the most generally received appellation of fever until lately, has materially assisted them? It is no less indefinite than the other terms applied to it, which

have answered no purpose but to perplex and mislead.

These stumbling-blocks being removed, and the simple yet comprehensive title, *Febrile Infection*, being substituted in their stead, the most timid practitioner can at all times meet the disease with confidence—That if the infection is virulent, he can render it milder, and even destroy it gradually by proper means—That, however violent the symptoms are, he has no longer necessity to pore over ancient or modern writers, to find out to what genus or species of fever the case belongs —That the symptoms solely depend on the patient's constitution, and obvious circumstances, about him, the season of the year, &c. And therefore, in the treatment of the sick, That he has only the general principle pointed out in the sequel to adhere to; and to join occasionally such other medicines, with invigorating means, as he thinks best suited to the present symptoms of the case.

If the practitioner is careful to attend to the diagnostic symptoms about the sick; to the several situations; to the circumstances when, and in what manner they were taken ill; and to the several minute descriptions of fever stated by the author, as it appeared to him in different parts of the world, and also to the following description of febrile infection, which is a summary of these, I think it scarcely possible for him not

to distinguish it, particularly if the following circumstances be also taken into consideration.

WHEN one or more of a family, a school, a college, religious seminary, university, regiment, ship's company, or of any other society whatever, complain of febrile symptoms, [whether slight or severe, the precaution is equally necessary and proper,] it will be necessary to enquire, with the utmost diligence, whether any of the family or society have been lately ill? whether the patient has been in company with any sick? or in any part where sick have been? or has lain in the beds where ailing people have lain? or has worn their clothes, or bed-clothes? or has been in company with people who have visited or lain with sick, or worn their clothes? or has been examining the clothes of sick people? And should the answers be in the affirmative, there will be no room to doubt but the patient is infected, and suitable methods to render the infection as mild as possible, and to prevent it from spreading, cannot be too speedily adopted. But should the answers be positively in the negative, the constitution of the sick, his employments, his manner of living, whether temperate or intemperate, with every other circumstance about him, are to be diligently enquired into. The climate, the season, the weather, are also to be taken into consideration. All these being well weighed, the prac-

titioner is next to pay particular attention to the symptoms; and,

First, to the state of the countenance; because, to the experienced and discerning practitioner, it exhibits the most certain diagnostic and *invariable pathognomic* symptom of infection, and the degree of its virulence, which becomes almost hourly more and more obvious in the countenance; and the more obviously it appears diseased, the greater is the danger. [Dr. Lind, of Haslar, has made the same remarks on the countenance.] For, in it, there is a *je ne sais quoi*, expressing more disease than the patient generally complains of, or than words can express. To say it is greatly dejected, or depressed, is not sufficient. *'Tis inexpressibly diseased*, as every person well acquainted with febrile infection knows, and which nothing but experience will thoroughly teach; all the other diagnostic symptoms accompanying it, show more debility than so short illness would seem to justify.

It is true, many other symptoms often accompany fever from its commencement, but not so generally as those that are hereafter mentioned. The vehemence or mildness, generally mark the degree of virulence of the infection. So that, when sick, in any situation whatever, complain of being seized with rigors, or chilliness; or with alternate chills and heats; accompanied with headach, with a pain across the osfrontis, heavines, or

confusion of the head; with sickness at stomach, or with retching; with universal pains, *especially in their backs;* and with more or less debility; and if their countenances are at the same time obviously diseased, whatever other symptoms accompany these, I can, from experience, assure the reader, that a most virulent infection is present.

If, in the course of the fever, it is further observed, that they who attend, or have any communication with the sick, are seized with similar symptoms; and if the sick, after arriving at a convalescent state, are not only long in recovering perfectly, but from the slightest cause are found liable to relapse, they must be little acquainted with fever, or have very little discernment, who doubt of the disease being a most virulent infection.

But it may be said, that these symptoms, the state of the countenance excepted, are similar to those which introduce the eruptive fever of small-pox and measles. Yet, though they are not *exactly* similar, were this a generally received opinion, it would fully answer my present purpose; because, if they are known and acknowledged to be concomitants of infectious diseases, they would soon know whether it was febrile infection, small-pox, or measles, and would exert themselves to render the future infectious disease as mild as circumstances would admit—a matter

of great importance to the sick, as well as to society in general.

## SECTION IV.

### *The remote and proximate Causes of Fever.*

By remote causes of fever, I understand all the incidental circumstances which act upon the constitution, so as to effect, sooner or later, such a change or predisposition thereof, as to render it liable to be easily attacked by fever, or to be easily infected by febrile contagion, which with me are synonymous terms.

Authors have been very minute on this part of the subject; and when fever has been said to be epidemic, they have considered *atmospheric effluvia*, or infectious particles floating in the air, as the remote, and even the proximate causes of it. But to this opinion I cannot wholly subscribe; because I believe it is not only often ill-founded, but because a more obvious and philosophical reason may frequently be assigned for it. [See vol. ii. p. 407-8.]

Because it appears to me, that the inhabitants of any country or town, being exposed nearly, if not equally, to the same debilitating powers of uncommon heat; or cold; or drought; or wet; or sudden changes of weather, which, undoubt-

edly have great influence on the animal economy, as well as on the animal, vegetable, and aqueous parts of our diet. These circumstances, I think, are sufficient to predispose us to be infected by each other, whenever fever occurs in any family; without supposing atmospheric or aërial infectious miasmata, or marsh effluvia, to be the cause.

*Marsh effluvia* have likewise unjustly been considered as the remote cause of fevers, which, unless in the sense I have hereafter explained, I cannot admit; because, by marsh effluvia is generally meant noxious particles, exhaled from marshes, and when applied to the body, are supposed capable of producing the same effects on the constitution as *atmospheric effluvia.* But though there is something peculiarly noxious in unventilated air, as every person allows, and consequently in the air and vapour suspended within a certain distance of the horizontal plane of marshes, overhung by shrubs, reeds, sedges, and other aquatics under which both animal and vegetable matters die and putrify, I do not believe that this vapour is ever carried to any considerable distance in its noxious state; or that it ever is the cause of fever, except in such instances as happened while I was on board the Weasel, in Gambia river, and on board the Rainbow, at Sierra Leon, and St. Thomas's, where people were immersed in noxious stagnant air when walking in them. [See vol i. and ii.]

Yet it will be said, that people who live near to marshes and swamps, are sickly and afflicted with fevers or agues; and how is this to be otherwise accounted for? The reason, I conceive, is owing chiefly, if not entirely, to the coldness and moistness of the air suspended over such marshy or watry situations, and blown upon the inhabitants by certain winds, which act on the human body as a cold aërial vapour-bath, if I may be allowed the expression; and from its being then constantly inhaled, during respiration, into the lungs; which I think are sufficient to debilitate the system, and to induce fever, without admitting the assistance of miasmata, marsh effluvia, or infectious matter, being the cause. This opinion is strongly corroborated by the following facts:

1. Air suspended over marshy or swampy ground, whether aquatics cover it or not, is certainly both moister and colder than the air of the adjoining country; and is consequently more noxious under certain circumstances.

2. The effect of air colder and moister than we are accustomed to live in, applied to the human body for any time unexpectedly, and unprepared for it, is universally known to produce fever in dwellings contiguous thereto.

3. A damp room; a damp bed; or damp apparel, seldom fail to induce fever; yet no one ever supposed there was any miasmata, or noxi-

ous effluvia, in either of these, or that any thing but cold and moisture was the cause of the fever.

4. That people living near marshes or morasses, are therefore more subject to fever at one time of the year than another, is owing to the cold moist air being blown upon them by the prevailing winds, as before-mentioned: and the hotter the weather is, the more sensibly the marsh air is perceived, and is known to affect them, because then it is much colder than the circumambient air; and, independent of miasmata, causes fever and agues.

Respecting the cause of fever prevailing amongst those who live near marshy or swampy grounds, in hot climates, I entertain the same opinions; that is, though I admit that exhalations, extremely offensive, are raised in those grounds, by periodical heavy rains, after they have been long dried up by the sun, yet I do not imagine that the noisome exhalations are carried to the neighbouring inhabitants in a state sufficiently noxious to induce fever; but that this proceeds from the coldness and moisture of the air blown upon them in the same way, and producing the same effect as above mentioned.

The influence of the moon on the constitution is considered by some as a powerful, remote, and sometimes proximate cause of fever. I have therefore been at pains to satisfy the curious in their enquiries into this matter, by attending

throughout my meteorological observations for many years, to the moon's age, they will find full information on this sub ject. [See vol. i. and ii. of the author's works.] But, for my own part, I consider this doctrine nugatory. Because it never struck me, that under my own method of treatment it produced any influence on the patient; and therefore I really do not think it deserving of serious notice.

Marsh effluvia, [See vol. i. and ii.] when the body is immersed in it as I have mentioned, becomes both a remote and a proximate cause.

Cold and moisture are very frequently remote and proximate causes, in any climate.

Extraordinary heat and moisture are likewise, especially in hot climates, frequent causes of febrile infection.

But the most general, the most powerful, and the most destructive remote and proximate causes of this direful disease, are human effluvia in jails, hospitals, camps, and ships. Or, in a word, *infection.* [See vol. i. and ii.]

But, besides these great sources of febrile infection, there are many other remote and proximate causes, viz. Fear, when fever is prevalent, is observed to operate so very powerfully on those who are contiguous to the sick, as often to induce fever immediately; and to become both remote and proximate cause at once.

Intemperance in eating and drinking; excessive

fatigue of mind or body, and more especially of both; the immoderate use of venery; intense application of the mind to business; great indolence, or slothfulness; immoderate indulgence in sleeping, or in watching; neglect of dress, or improper apparel; exposing the body to unusual cold, gales of wind, heat, wet, or drought. Sudden changes of these; and violent passions, all prove, in a greater or less degree, according to circumstances, remote or proximate causes of fever.

A *coup de soleil* brings on fever immediately. Sudden or violent agitations of mind, whether by joy, or by grief, have frequently proved remote, or proximate causes of fever.

Any external injury done to, or operation, performed (especially in hospitals,) on the body, often prove remote, as well as proximate causes of fever, instead of symptomatic fever only.

In a predisposed constitution, the slightest incident, even the scratch of a pin, will induce fever.

Between remote and proximate causes of fever, it is impossible to draw the line; for what proves but a remote cause of fever in many cases, proves in many others a proximate cause; and what proves so at one time to a person, will not prove so at another, according to the state of the constitution.

But, whatever has a tendency to debilitate the

system, may become the remote or proximate cause of fever, according, I say, to the constitution of the patient. The predisposition, sometimes, is so gradually effected by divers causes as not to be perceived until it is far advanced; and at other times it is very obvious, almost, from its commencement.

## SECTION V.

### *Various Appearances of Fever.*

Of these the remote and proximate causes and sources, as they occur in different situations and seasons, having been stated fully in the preceding section, I shall proceed to relate them, beginning with catarrh, as the most frequent; the slow nervous, as the most rare; the remitting fever, as the most local; and, lastly, febrile infection, as constituting the most general disease that infests mankind.

Catarrh, strictly speaking, is only symptomatic, is always accompanied with topical affection of the nose, fauces, and bronchiæ, and sometimes extends to other contiguous parts. Catarrh and influenza are synonymous terms for the same disease only. Although the term influenza is generally used when the disease is epidemic, accompanied with pneumonia, as is well known to be often the case, and then it is supposed to be

contagious; which certainly may happen, but does not often.

Though catarrh, or influenza, is classed by Cullen in the order profluvia, I have thought it right to mention it here under the head *fever*, as it frequently occurs both to seamen and soldiers, and is commonly called catarrhous fever.

It is generally accompanied with sneezing, cough, thirst, lassitude, and loss of appetite; and sometimes the face and throat are visibly affected. And it deserves attention, lest it should degenerate into phthisis; which it is apt to do when it is neglected or ill-managed.

The cure consists in avoiding cold, in refraining from flesh meats, in a temperate use of sudorifics, and of demulcents, combining therewith occasional opiates, or hyosciamus, which I prefer. [See vol. i. and ii. of the author's Observations.] It was remarked, that they who were attacked at the commencement of the epedemic and towards its declince, had it in the most favourable manner.

## *Catarrhous Fever described.*

Many of our men, in 1774, were seized with catarrhous complaints, whilst they lay off Senegal, in very foggy weather, which probably was the cause of them. [See vol. i.]

Besides the common symptoms of catarrh, in some of these patients, the fever was attended

with swelling, and pain on one side of the face and throat, *similar to mumps*; but generally the whole face and throat were a little swelled. The swelling seemed to affect the glands; which were not hard. The uvula, tonsils, and sublingual glands were enlarged and redder than natural. The swelling was painful, and at night there was an exacerbation. About the third day the swelling was much increased, the whole head being affected. They spoke with pain, deglutition was difficult, and the fever, with thirst, was more considerable. The sixth day, the swelling, pain, and fever, were much abated; but their deglutition was yet painful. They complained of an offensive taste and smell in their mouths and throats, although I never perceived in them an abcess, or an ulcer.

Most of them recovered in eight days, a few sooner; and one was afterwards seized with cough and a very bad fever. [See vol. i. case 20.]

The crisis of this fever appeared to be a copious perspiration, especially about the throat, a salivation, accompanied with the offensive taste and smell already mentioned.

From most of those catarrhous patients I took a little blood, which was somewhat sizy, and next day ordered a purge of salts. The salts were repeated as occasion required, especially when the bad taste and smell were perceived. I,

after the first dose of salts, ordered saline mixture, with between fifteen or forty drops of antimonial wine every six hours; and sage tea or barley water to drink. With a decoction of sage, distilled vinegar, and honey, they gargled frequently, and externally embrocated with volatile liniment, and covered the parts with flannel; and ordered them a light diet.

The catarrh which prevailed in the autumn of 1776, while I was on board the Deal Castle, was epidemic throughout the kingdom. The general symptoms were coryza; head-ach; cough; universal pains and soreness, especially about the thorax and throat, with febricule and thirst.

By keeping the body moderately warm; by administering aperients; and with antimonials in tepid drink, the patients soon recovered.

During the months of May and June, 1782, the influenza or catarrh was higly epidemic throughout Europe, as I learned from report. Various were the opinions of physicians, concerning its origin or cause. Some ascribed it to infection. Others, of whom, I confess, I was one, imputed it to the extremely variable and cold wet spring. That it did not proceed from contagion amounts to a moral certainty, in my opinion, which was grounded on the following circumstances:

Hundreds, I might safely say thousands, of people in different ships, in different towns, and in different counties, who had no communication

with one another, were seized as suddenly, and so nigh to the same instant of time, as if they had been electrified by one touch of the same conductor. The case, according to report, for it is on that my opinion, I say, was grounded, being the same in different kingdoms, whether situated on the continent or on islands. I see no reason why it should be imputed to contagion—admitting it was contagious in some instances. The companies of many of his Majesty's ships were very well at bed time, and next morning there were not hands enough able to do the common duties of the ship, so sudden and general was the attack. No rank or station was exempted from it. Very few escaped its effects, more or less, any where. To reconcile so instantaneous and so general an affection to contagion in the first instance, exceeds both credibility and possibility; but that in an advanced state of the disease, it might have been contagious, is so probable, that I will not deny, nor endeavour to contradict the assertion.

There seems no other way, then, to account for such general, awful, and calamitous visitations of Divine Providence towards the human race for his wise and unerring purposes, but by ascribing them to changes in the atmospheric air, from an healthy to a morbid state; an operation adequate to His Omnipotency alone. Whether the philosopher attributes the sudden

morbid change to a diminution of oxygen or superabundance of azot, in the atmospheric aura, the wisdom and omnipotent power of the Operator is the same. "*Universal space is his laboratory, and all the elements are his agents; to the various combinations of which human understanding cannot attain.*"

The management of the influenza every where seemed to depend on the practitioner's idea of the cause; and the success of the treatment depended on the rectitude of his idea. Many considered the disease to be purely inflammatory, and therefore adopted and exercised the whole antiphlogistic plan, under which vast numbers of the sick either immediately died, or afterwards became consumptive and perished.

The method that I adopted in the few cases which fell under my care—for they did not exceed sixty on shore and on board—was to prescribe a linctus, composed of crude sal ammonia, fubacids, anodynes, and a very small proportion of antimony. The food I ordered to be of easy digestion, with a moderate quantity of diluted wine in some cases. But for the men I allowed beer; kept them out of bed; and the body moderately warm.

The medicine, in some cases, occasioned slight retching; and in every case it moderated the cough, kept the body soluble, and the skin moist. All of them recovered in a short time.

I took bark in substance myself as a preventive, and scarcely perceived a symptom of the disease. A person of my acquaintance told me, that he took tincture of bark every day, at the time it raged, and never felt a symptom of it.

On board the Romney, two or three patients were let blood without my knowledge; but not one patient afterwards.

Although influenza has been epidemic in this neighbourhood since I have been in this hospital, we have seldom had many patients seized with it. Our pensioners are afflicted here chiefly with pneumonic affection: but the boys are sometimes attacked with catarrh.

## SECTION VI.

### *Respecting the slow Nervous Fever.*

I shall insert an abridgement of Burton's case, which very seldom has occurred to me. Charles Burton, seaman, aged about twenty-eight, of an effeminate disposition, complained the 10th of May 1774 of scorbutic symptoms, for which he was sent to Port Royal hospital the 22d, and continued there until he sailed from Jamaica, where he had a slight attack of dysentery. A considerable time after he came on board he was feeble and com-

plained of cough, notwithstanding he took medicines, and was under proper regimen. He complained the 19th of July of having been purged for three days, although he did not mention it, for which I ordered him then three doses of ipecacuan, each five grains, and an anodyne at night.

Next day his purging was abated, but he complained of unusual weakness, of heat and thirst. P. M. he was very peevish, his pulse was quick, and his skin hot. He took two scruples of rhubarb, and the anodyne.

2d, His night had been indifferent; he frequently belched up mouthfuls of ill-tasted stuff; he was somewhat deaf, and returned indistinct answers; he craved; his cheeks were flushed; and his pulse was irregular and quicker than natural. I gave him ten grains of ipecacuan. and allowed him a little wine.

3d, He complained of ill taste, and clamminess in his mouth, occasioning anxiety; his tongue in the middle was of a pomegranate colour, surrounded with a black line, and the edge clean; he felt himself giddy; the diarrhœa returned, with tremors, inordinate craving, continual thirst, and great weakness. I ordered him the saline mixture made with the sal. c. c. wherein the salt predominated; with the addition of six drops of tincture of opium in each dose, and red port; a

nourishing diet with wine, and a slice of China orange, sprinkled with sugar, to suck occasionally.

4th, He was better, and complained less. He slept more than he knew, or would allow. I continued his medicines and diet.

5th, The diarrhœa continued, and a prickly heat, like eruption appeared about his neck and breast. He took ten grains of rhubarb, and two grains of ipecacuan. He sighed deeply when he spoke; and preferred lying on a chest rather than in his hammock.

I gave him ten grains of compound powder of contrayerva every eight hours, besides the medicines every four hours, as prescribed on the 3d, with his wine and diet. By accident I learned that he had been delirious on the nights of the 19th, 20th, and 21st of July, but not afterwards.

6th, He had a quiet night, sweated profusely; and complained only of weakness; though the bad taste of his mouth, thirst, purging, tremors, giddiness, inordinate cravings, deafness, and the flushing, with wildness of countenance continued. His urine was high coloured. I repeated his medicines, continued his wine, and frequently gave him, without his asking, a little sago, panada, or toast with wine, cinnamon, and sugar added to them.

7th, He was more peevish, and tired of every

thing he was fond of before. I ordered his medicines, wine and diet, to be continued.

8th, He was weak and faintish; his pulse was very unequal; his mouth was dry and clammy; his skin was hot, with a disagreeable moisture on it; though he complained of nothing except of his purging, and that his stools were small. He continued his medicines, and took an opiate at night; and a large blister was applied between his shoulders.

9th, He rested well, and denied that he had slept. At noon his pulse was very small; his skin was cold; and he had a clammy sweat over him. He muttered; spake inarticulately; did not ask for any thing; and frequently dozed, but would not acknowledge it. I repeated the contrayerva powder, with five grains of theriac. androm. every six hours; and gave him a large spoonful of the following julep every two hours. Four ounces of snake root tincture; a drachm and an half of vol. aromat. spirit.; half a pint of simple water, sweetened to the palate. I applied large blisters to the internal parts of his thighs, and continued his *wine*. P. M. he had one stool, and seemed better, but felt no pain from his blisters.

10th, He rested very well apparently in the night. His pulse was more regular, his skin was moist, and moderately warm; his purging was abated, and he complained of his blisters being

painful. I omitted the theriac. and julep, but continued the contrayerva as before; and repeated the following draught every hour: of Huxham's tincture of bark, and of snake root each one drachm, in an ounce of simple water with sugar. He also continued his wine and nourishing diet.

11th, He was easy, but said he did not sleep in the night. He was still feverish, and his tongue was dry, though he complained of weakness only, and was hungry. I ordered him the decoction of bark with wine, and his diet to be contiued. P. M. he had one stool in the day only; was in good spirits, and in every respect better.

12th, He passed a good night; complained much of the blisters in the day; and of great weakness. His tongue was moist, and he had very little fever. The decoction of barks, and wine diet were continued.

13th, He was a little feverish, and took the decoction of bark in the afternoon. P. M. he had no fever on him, and complained only of tremors from his weakness.

14th, he was much better, and took the decoction with the wine every hour regular, and his diet.

15th, 16th, 17th, 18th, 19th, He continued to recover. I prescribed as on the 11th.

20th, He took his decoction every two hours only.

On the 21st he took it four times; and afterwards morning and evening, until the 26th day of the fever, when he returned to his duty quite well.

## SECTION VII.

### *On Remitting Fever.*

The causes of this appearance of fever being too well known to be most *commonly* effluvia, that arises from stagnant water, wherein both animal and vegetable matter become putrid; and the more readily to exert their baneful influence, should there be combined with these dreadful agents, aquatics covering the stagnant water or marshy soil; and beaches, close to the sea, overhung with trees, so as, in both instances, to prevent the sun's rays from drying them, and the wind from perflating and purifying the air around them. [See vol. i. p. 50, 53, 126, 129, 114, and 117.] I shall not dwell on that subject; nor on the certainty of the remitting fever, in process of time, under certain circumstances, becoming infectious; but shall refer the reader to the author's observations in various parts of the

first volume of his works, (on board the Preston, Weazel, Rainbow, and in Hampshire), where he may find abundant information on the subject.

In the following descriptions and remarks on remitting fever, I have not attended to the chronology of the work, so much as to the connection of the subject to bring the whole of the remarks on remitting fever together in one view, before the reader.

Hence may be inferred, wherever it is generated or exists, on the coast of Africa; or under the line; or in Hampshire; or in any marshy country, or near to such a situation, throughout this country, or any other country, as in Walcheren, it must be excited by the same cause—marsh effluvia. So that no other differences will be found in cases of this fever, (allowing for the difference in constitutions of patients,) in all these situations, than a less or greater aggravation of the symptoms. And I have no doubt but that this aggravation or exacerbation of the disease will be the more certainly produced by the sick remaining within the reach of the baleful effluvia which occasioned the fever; as the sick must continue to inhale them at every succeeding inspiration; an idea which is contrary to a very eminent author's, who says, "That fever once "excited in the system, cannot possibly admit "of any accession, &c." A doctrine, to me not less repugnant than if he had said, that a fire,

when lighted up, can receive, or admit of, no additional forces or strength.

## SECTION VIII.

### *A Description of the Remitting Fever on board His Majesty's Sloop the Weasel, employed on the Coast of Africa in* 1769 *; and on board His Majesty's Ship Rainbow, on the same Coast; and at Jamaica,* 1772, 3, 4, *&c.*

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*The Fever described in its mildest Form, on board the Weasel.*

1st day, The patients complained of head-ach, sickness at their stomachs, thirst, great uneasiness, with severe pains, especially in their backs and loins. Their pulses were small and quick; and though some of their skins were hotter and drier than when in health, most of them said they were chilly and hot alternately.

Throughout the fever they complained less in the morning; but towards night there was an exacerbation.

2d, They were more lively, their complaints being relieved; but their pulses were soft and weaker than in their natural state; and they had no appetite.

3d, The symptoms became more violent, with giddiness, insatiable thirst; foul tongues, which trembled when they put them out; they had no sensation of taste; and their speech was weak and faultering. At night they had a moisture on their skins.

4th, They were much weaker; and towards night they were very hot and restless. Numbers had sweated profusely in the night, but were not refreshed, nor relieved.

5th, A few had been delirious in the night, and were much disturbed in their sleep with frightful dreams and notions. Their weakness increased. Hitherto they were not confined to bed in the day time.

6th, They were more restless last night, from anxiety and delirium. Their tongues were brownish, dry, and chapped.

7th, Towards night, they complained much more. The delirium, watching, universal uneasiness, and thirst, being all increased last night.

8th, They passed the night ill, from uneasiness and watching, and complained much more of their backs, of their loins, and of giddiness. P. M. their pulses were very irregular, and generally weaker than in health, the three preceding days; and their tongues were become blackish and chapped.

9th, The remission was more distinct in the

day than hitherto; but an exacerbation of the fever and symptoms returned at night.

After this day there was a perfect remission of the fever in the day time, though they became feverish towards night until the 17th; and, in one case the fever continued to return until the 21st.

The *crisis* (I speak with custom) of the fever, seemed to be a gentle purging, with an equable and moderate perspiration.

## SECTION IX.

### *Description of the Fever in its malignant Form, on board the Weasel.*

1st day, Besides those symptoms which they had in common with the other patients, in a more violent degree, despondency; great lassitude; prostration of strength and spirits; anxiety; giddiness; violent retchings; severe gripings and purgings, or costiveness; cough; violent pain and stricture over the eyes, across the forehead; pain in the side was complained of; the pulse was quick and hard; and the tongue dry and white.

2d, They who had been both vomited and purged, seemed to be rather better, but had no appetite.

3d, Some had a slight remission until the evening approached; their countenances in the mean time were much flushed.

4th, Great inquietude, anxiety, frightful dreams, and idle notions, prevented them from sleep. When a remission happened, it did not last above three hours. They seemed then a little cooler, but their thirst was not abated; there was burning heat in the palms of their hands, and soles of their feet, and their memories began to fail. The tongues of some were white and foul, though in general they were dry and chapped, and they complained of bad taste in their mouths. They who were costive at the beginning of their illness, continued so; but several were now seized with bilious vomitings and purgings. (Cleghorn's Colera Morbus.)

5th, Several were delirious in the night, and others exceedingly restless and desirous to get out of bed. Some of their tongues were black, and their teeth covered with sordes; and the cough was much more urgent.

6th, A few had slight remissions A. M.; though they all passed a very restless night. The pains of their backs and loins; their giddiness; with severe pain at the bottoms of the orbits, were exceedingly troublesome. The costiveness was more obstinate, and all the other complaints increased in violence.

7th, The delirium was more general. Some

of their countenances were quite yellow, and others looked wild. Dysuria (not from blisters) was complained of. Their tongues were rough and brown. A smacking of the lips were frequent for some days before; and the vomiting and loose fetid stools were more general. Their pulses were irregular.

8th, A few, after violent vomitings and purgings, which stained like an infusion of saffron, broke out in purple blotches, resembling the stinging of nettles, particularly about the face and neck, which soon disappeared again. While they remained out on the skin, they thought themselves better. Of one patient, the parotid gland began to suppurate. The tongues of some were black, and their teeth crusted over with black sordes; but of others the tongues were brownish, dry, and much chapped. The delirium, stupor, convulsive tremors, and catchings, twitchings of the tendons, hiccup, deep sighs, pain and oppression about the præcordia, swelling of the hypocondria, cold sweats, an involuntary discharge of the urine and fæces, and a muttering or inarticulate murmuring were frequent. Their pulses were quite irregular.

9th, The bad symptoms continued. One who had purple blotches, likewise had an hæmorrhage from the nose and mouth at times, which tinged his linen yellow, as did his urine, which was bloody at times.

10th, A few had very slight remissions.

11th, The dangerous symptoms prevailed, with cold clammy sweats and extreme weakness. In one patient, a large ecchymosis-like swelling appeared upon the right side of the neck and face, a little before his death, which, immediately after he died, became black.

12th, There were no favourable appearances. They continued to lie on their backs as they had done for some days, in a comatose state, unless they were roused.

13th, Their countenances became more generally yellow; and a purging, without gripes, came on. These patients were much relieved, never being afterwards so hot and restless towards night; and one had an equable and gentle perspiration broke out over him. An eruption appeared about some of their mouths. But the dangerous symptoms continued in other cases, with frequent syncope in one patient.

14th, Gripes, when at stool, now attended their purging; and, though they were very weak, their fever and other complaints were abated. The dangerous symptoms prevailed still amongst some, with subsultus tendinum; some dozing, with the eyes half, and the mouth wide, open; and a cadaverous smell about some. Their skins were very disagreeable to touch; and, from feeling the pulse, an uneasy sensation was impressed

on the fingers, which continued for some time after.

15th, The bad symptoms continued. The parotis was opened; and the fluxed patients, with the yellow countenances, were better; one of whom complained of the piles.

16th, Though extremely weak, they were all better except one man, who, besides a ghastly countenance, had all the other dangerous symptoms.

17th, The bad case was not better, but the other patients were recovering.

18th, The dangerous case, patient fell into a sound sleep, and an equable perspiration broke out over him; which proved a favourable crisis, and the other patients continued to recover.

## SECTION X.

### *Remarks on the Symptoms of the Fever in both its Forms.*

With respect to the following symptoms, it is to be understood that several of them, perhaps, often occurred in one patient.

The patients who were costive, when they first complained, and continued so, all died. The bilious vomitings and stools, which stained like an infusion of saffron, were mortal. A hæmorr-

hage at the nose and mouth, and bloody urine, all of which tinged yellow, were mortal. The purple blotches which rose above the skin like the stinging of nettles, were mortal. An intense coma was mortal. An ecchymosis-like swelling upon the face and neck immediately preceded the patient's death. One, who was taken ill at first with pain in the side, died. A brown rough tongue and mouth, with smacking of the lips, as if tasting something, was mortal: a wildness of the countenance was mortal: one person who had this symptom was very costive too, and never seemed to be in imminent danger, nor was ever confined to his bed, though he died on the eighth day. A despondency, and dread or apprehension of dying, were mortal. A general coldness with clammy sweats, and muttering or murmuring inarticulately, appeared *in articulo mortis.* A syncope or deliquium was mortal.

A cough proved fatal in two cases out of three; and the third was the remarkable case which was dangerous until the eighteenth day. An involuntary discharge of urine and fæces was mortal, except in two cases, one of which was the parotis case, that was very tedious. The other case was the fortunate crisis on the eighteenth day: That patient had, fortunately, taken a good deal of bark in the course of his fever.

A stricture, and pain either over the eyes, across the osfrontis, or at the bottoms of the orbits

were dangerous. Drinking greedily, and in large draughts, were dangerous symptoms. A hiccup was frequently an attendant of the mortal symptoms, and always portended danger. A dozing with the eyes half, and the mouth wide, open, were very dangerous. A deep sighing was a symptom of great danger. And in like manner, were the pain and oppression about the præcordia, and swelling of the hypochondria. Eruptions about the mouth were not favourable.

Upon feeling the pulse throughout the whole fever, a disagreeable sensation remained for some time after on the fingers, especially if the patient's skin, was moist; unless the perspiration was critical, and then, no such sensation was perceived.

Respecting the days which were most critical in both forms of the fever, I must observe, that a perfect remission was obtained in one case upon the 3d. A distinct remission of thirty hours was obtained on the morning of the 5th, in another case; but in this, the fever again returned with more violence, and continued twelve hours.

Four men died on the 8th, one of whom was dumb, and the parotis began to suppurate.

On the 9th, the favourable purging began amongst them who had the fever in its mildest form.

On the 10th, one died; and three on the 11th,

The yellow suffusion and purging, which proved favourable to many, appeared on the 13th; and in one case an equable perspiration broke out, which was succeeded the next day by a gentle diarrhœa, that proved salutary.

One died on the 14th, and the parotis in another patient was ready for opening on the 15th.

On the 16th day one died, and another was seized with the piles.

A favourable change happened with sound sleep, and a free perspiration, on the 18th.

On the 21st day, the tedious patient's case of the mild fever was relieved by perspiration.

Most of the ten men who died, had never been in a hot climate before. Two were engineers, two were draughtsmen, one was the captain's clerk, one was a blind man, and one a boy.

The most partial supporter of the doctrine of critical days will, I think, be puzzled to reconcile it and the preceding accurate statement.

Such were the melancholy attendants of that dreadful fever. Indeed, from my not having a sufficient quantity of bark, to administer it liberally as I would have done, this fever had, in a manner, its natural scope. Yet we see, in Dr. Cleghorn's very accurate account of the fever in Minorca, other malignant symptoms occurred. [See his Diseases in Minorca.]

Apoplexy, though only considered a symptom by him, is universally considered one of the most

violent and fatal diseases to which the human frame is naturally subject. Syncope occurred to my patient.

Cholera morbus—though the vomitings and purgings in the fever on board of the Weasel were violent at times, I did not think amounted to that disease.

Cardiaglia—the pain and oppression about the præcordia, or in the stomach, in the Weasel's fever, did not occasion a *swooning away*, according to Blancharde; but pyrosis occurred.

Vomiting of matter, like the grounds of coffee, I did not observe.

A palpitation of the heart was not complained of by any of my patients.

A pulsation of the abdominal viscera, I never observed.

The abcess in the hip never occurred to me in the Weasel.

In these few trivial circumstances only did the fever at Minorca, and that on the coast of Guinea differ, as I found upon examining that accurate writer's account of the fever after I returned to England—differences principally in our different ideas, I think.

I shall now, without further preface or remarks on the different appellations given to remittent fever, according to the different types of its periods, proceed to state the appearances of the remitting fever on board the Rainbow, in

the year 1772, 3, and 4. [See vol. i. of the Author's Works.]

Though I do not wish it to be understood that I condemn accurate and nice distinctions, yet, as I before observed, a practitioner must be long conversant with remitting fever, before he can become sufficiently acquainted with its various changes to be able to comprehend all the theoretic appellations used by writers. [See chap. i. sect. ii. Theoretic Distinctions.]

## SECTION XI.

### *Of Remitting Fever on board the Rainbow.*

[See vol. i. p. 357.]

The remitting fever generally began with chilliness; severe head-ach; sickness at the stomach; and *pains in all the bones*, as the sick expressed themselves, but especially in the loins.

But some, drooping several days before they thought themselves bad, were chilly and hot alternately; some were seized with rigors; the cold fit, in some cases, continuing twelve hours. Some, without any sensation of chilliness, were at once seized with burning heat, profuse sweat, and violent head-ach. Besides the general symptoms, some were seized with fixed pain in the

side, or breast, affecting respiration; with pains over the eyes; pains in the shoulders; with pain and oppression about the præcordia; or with wandering pains, and universal soreness and uneasiness. Some were seized with nausea, or bad taste in the mouth; with vomiting of bilious matter; with severe vomitings and purgings; hæmorrhage at the nose; watery eyes; head-ach; with universal illness; great anxiety and despondency; sudden giddiness and faintness only; and with constipated bowels. The skin of some patients, and the palms of the hands, were excessively hot and dry; and their thirst vehement.

The pulses varied according to the manner in which they were seized; in some cases they were slow and weak; in some they were small and quick; and in others they were quick and full, but not hard.

In these various ways did the fever commence. But if they were at first seized with chilliness or rigors, burning heat, great uneasiness and difficulty of breathing succeeded; and the head-ach and pain of the loins became more violent. Some of their countenances were greatly flushed; their eyes were much inflamed; the retching was more troublesome; and their thirst intense. Thus they continued, until they were relieved more or less by profuse perspiration. In whatever way they were first seized--except in the anomalous cases described in vol. i.—the paroxysm termi-

nated in more or less sweat, which varied much, as to duration and violence.

In the remission, they all complained of great lassitude and weakness; of pains, and soreness of their bones; of giddiness; and loss of appetite. Their pulses were more languid than in health; and though their skin was now much cooler, the thirst continued. As to the calmness or duration of the remission, it varied amongst them as much as the preceding paroxysm had done. Indeed, to such a degree did they both vary, that not in any two patients were they exactly similar.

Some, after having perspired a little, which scarcely alleviated their complaints, continued quite uneasy, until by the next paroxysm, terminating in profuse perspiration, they were relieved. So that they, in a manner, had two paroxysms before there was a remisson or double tertian.

The second paroxysm, which in some was preceded by rigors, was in every case more violent than the first. The head-ach and lumbago were particularly vehement; the latter, in some cases, extended quite round the abdomen, which was painful when touched, and very tense. Some patients were delirious. The pains of the breast and side were very acute in the latter, extending as low as the leg. Some had great oppression about the præcordia. Bilious vomitings and purgings, and idle notions, with fear of falling asleep, were very distressing; as were hæmorrhage at the nose, and

sensation of chilliness during the whole paroxysm. Their pulses were irregular, and their skin impressed a disagreeable sensation on the fingers. In a few cases, instead of one, there were two paroxysms, or a double one, as before. But every patient, in whose case a remission was evident, had two paroxysms within the first period, or forty-eight hours; a few cases exceeding that time by three or four hours. In two cases one paroxysm only occurred, which continued nearly the whole period. As to the paroxysms, the first was of longest duration in some, and the second in other cases; but neither exceeded twenty-four hours, except the two mentioned.

The preceding paroxysm left the sick very weak, anxious, and dejected; with burning heat in the palms of their hands, and soles of their feet; loss of taste, or with bitter taste in the mouth, and insatiable thirst. The remission continued longer, and was more distinct in some cases than in others. In one patient it continued nearly the whole period, which proved only a very deceitful calm, for he had two violent paroxysms the period following.

In the second period, a few patients had one long and two short paroxysms—some one long and one short—and others had but one paroxysm, which was of longer duration in some cases than in others. So much they continued to vary, and even in the same patient, the hour of com-

mencement was altered. In the paroxysms, which were still preceded by chillness, besides the former symptoms, there were now troublesome cough, during which the head seemed, they said, *to open and shut;* stricture and pain over the eyes and at the bottoms of the orbits; great difficulty of breathing from a sensation of weight and oppression about the præcordia, with faintness; frequent and deep sighs; swelling, and constipation of the abdomen. Some complained of dysuria; of the urine being very small in quantity and quite turbid, which indeed occurred in the former period in one case; of bilious vomiting and purging in the place of a paroxysm; of profuse hæmorrhage at the nose; and of dread of falling asleep. Anxiety and despondency were greater; delirium was more general; some of their tongues were brown and rough; and their countenances were sallow and shrunk, or fallen.

The paroxysms in a few cases ended with bilious stools and moderate perspiration; but generally they ended, as before, in profuse sweat. One or two patients had a very mild period. During the remissions, which again varied in duration, the sick were peevish; nothing pleased the taste; none of them would swallow any food; their giddiness and weakness were greater; and some were faintish on the least motion.

In the third, as well as in the former periods, some patients had only one, some two, some had

three, and some four paroxysms, which were preceded by griping. Many new and more alarming symptoms appeared. Those who, apparently, had not hitherto been so bad, were much weaker, and their spirits more depressed than other patients, whose paroxysms had been more violent. Coma; an immoderate discharge of urine; acute pains were complained of by some patients, who had none before; as were also straitness about the breast and side; much pain, with oppression about the scrobiculum cordis; great anxiety, depression, and despondency. The pains of such patients as had any before, were now more and more extended. Cough, with wheezing, and great difficulty of breathing, were more general. Partial, angry, prickly heat, like eruptions, appeared. The tongue, in some cases, was white and dry; in others husky, and the teeth covered with black sordes. Pain about the throat, which rendered deglutition difficult; and flushing of the countenance were greater; the pulses were more irregular, and all the other symptoms were aggravated. An obvious privation of the intellects, and of motion, except convulsion about the mouth, was observed. The extremities were cold. Cold clammy sweats; a tremulous thready pulse; and subsultus tendinum prevailed. The impression on the fingers from feeling the pulse was more disagreeable, and continued longer.

The remissions in the third period were very imperfect; and, besides the former complaints, which were all aggravated, the sick were extremely weak, and quite faint. But the remission preceding the fourth period was much more distinct, and of longer duration than any preceding one.

In the fourth period, a few had two mild paroxysms; and several patients had none; but they still had a constant febricula, with giddiness; lumbago; prostration of strength, and faintness. Cold sweats in a few cases appeared. The medicines puked some, and purged more of the patients. Eruptions broke out about their mouths.

Even in the fifth period, one or two patients had slight paroxysms.

But all the patients recovered, except the two which are styled anomalous cases; and they are excepted, because they were treated differently from the other fever patients. [See vol. i. p. 400 and 408.]

## SECTION XII.

### *Observations on the Remitting Fever described in the preceding Section.*

The preceding is an accurate relation of the remitting fever, as it occurred on board the Rain-

bow, on the coast of Africa; under the equator, at St. Thomas's; and in the West Indies, in 1772, 1773, and 1774. [See vol. i.]

The odd days, 3, 5, 7, and so on, were remarkable for more paroxysms, for these continuing longer, and for their violence.

The remission on the 3d and 4th days was very deceitful; and for an exacerbation on the 5th. Imminent danger attended obstinate costiveness throughout the fever. Despondency, or despair, or fear of dying, was exceedingly dangerous. The case proved extremely bad, when the patient was seized with sudden giddiness and faintness.

The following symptoms occurred in the two anomalous cases. A remission happened on the 6th, and was followed by an exacerbation, that proved fatal, on the 7th. Sickness at stomach, which continued until the 11th day, was mortal. Spitting a little blood, and a few drops falling from the nose, proved mortal. Nor was the event more favourable where natural evacuation never occurred without being forced by medicines. Urine highly coloured, in small quantity, and depositing a lateritious sediment proved fatal. The case was equally dangerous when the urine was pale, depositing no sediment, and containing filaments, or small clear air bubbles. [See vol. i.]

Of all the prognostics, which I have formed in remitting fevers, the most fatal is—*When the*

*patient thinks himself too well to be in bed, but does not feel himself clever, or in a proper state; and when he is very anxious, depressed, and uneasy, yet scarcely makes any complaint, though it is evident he is not recovering.*

[See also cases of remitting fever at St. Thomas's, vol. i. p. 282.; and an anomalous case described, vol. i. p. 414.]

It merits the reader's particular notice, that all the cases of fever which occurred to the author before he went on board the Rainbow, excepting those that happened on board the Æolus, were of the remitting and intermitting type; that the dreadful fever of Greenwich, in the island of Jamaica, occasioned by marsh effluvia, was also of the same type; that from his management of Clancey's, Gillespie's, C. P., and Mr. R. B.'s cases, on board the Weasel, [See vol. i.] nothing but his want of cinchona did prevent his administering it much more liberally than he did; and that the preceding descriptions of remitting fever, as the author verily thinks, and also the treatment of it on board the Rainbow, will apply to remitting fever in every part of the world—even that of Walcheren, or any other place.—And it is self-evident it should be so, the causes of the fever in all of them being the same—*marsh effluvia*—so that no other difference, except in the constitutions of the patients, is likely to occur. But the more dangerous the symptoms are in every case,

the more careful the practitioners ought to be to administer the cinchona in the earliest remissions, combined with purgatives, if they are thought needful, especially in sickly seasons.

## SECTION XIII.

### *On the Management of Remitting Fever.*

This part of the subject, therefore, requires the closest attention and promptitude. Because, in every situation where remitting fever is indiginous, when ships and soldiers are employed, *morbi principijs obstare*, will be found of the highest importance to the public service, to the sick, and to the medical officers themselves. For, supposing the fever was not to become infectious, yet as all the seamen and troops may be exposed to the noxious effluvia, they, from being in the same situation, will be all equally liable to be attacked with the fever; consequently, the sooner attention is given to those who are occasionally attacked, the more speedily they will recover; the fewer patients will be ill at any time; and the medical officers will, on such service, have the less trouble, run less risk, and have the more credit in managing their patients.

The manner of the practitioner's proceeding in the cure will depend on the patient's constitution,

and the circumstances connected with their situation. If, fortunately, they complain on their being at first seized, before any symptoms of inflammation appears, an emetic is to be administered; and unless it procures a copious evacuation, by stool as well as by vomiting, I would recommend a purge to be given in an hour after the vomiting. The primæ viæ being thoroughly emptied—if there be yet any intermediate time before he goes to bed, administer every one or two hours, in any vehicle, from one to two drachms of the cinchona in powder. At bed time the vehicle for the cinchona may be a sudorific draught. At the same time, if head ach is complained of, a blister should be applied between the shoulders, and to the neck; and, if practicable, the patients should use the pediluvium.

On the day following, six patients out of nine will probably be recovered: but, to guard against a relapse, it will be right to give them three or four doses of cinchona that day; and for some days following two or three doses, avoiding in the mean time, as much as possible, the noxious effluvia. By this method of precaution, if sickness is not wholly prevented, the number of sick will be much fewer than they would otherwise be, and they will be much sooner well.

I shall now proceed to the general method of curing the fever, on the supposition that it is

formed before the sick complain; and in doing this, I shall adhere to that which was successful on board the Weasel and Rainbow, in situations and cases both arduous and numerous; and compare the event with that of the unsuccessful cases —which were managed differently.

Letting more or less blood at the commencement of remitting fevers, I knew was a practice not only followed, but insisted on, as absolutely necessary, by many eminent physicians. Whilst others, of equal eminence, by their inculcating the utmost degree of caution, and enjoining the strictest frugality in taking away blood, seemed, tacitly, to condemn the practice; but they practised, I have no doubt, in different situations.

When the sick complain in the first or second paroxysms, and these are extremely violent, the pulse strong and quick, or strong and much oppressed, or quick and hard; when the eyes are much inflamed; the skin extremely hot; when there are fixed acute pains about the thorax, or any other part; and when the patient is athletic, and lately arrived from a cold climate—especially when most of these symptoms and circumstances concur in one case—it must certainly be necessary to take away blood. But such a case of remitting fever will seldom be met with upon the coast of Africa; because the people are some time in a warm climate before they can reach the coast; the pores of the skin will be relaxed, and the ten-

sion or rigidity of the fibres, how great soever it might have been before, will now be removed, and will obviate such inflammatory symptoms, should they be attacked by fever. At least I found this to be the case in several voyages. But, though there may be an *apparent urgency* for bleeding, it will rarely be found to answer any good purpose. Indeed, this will afford little surprise, if it be considered, that the *vis vitæ* is depressed in a much greater degree than the muscular fibres of such patients, as are seized with fever soon after their arrival in hot climates, are relaxed; particularly on the coast of Africa. There the atmosphere, especially in the sickly parts, notwithstanding the sun shines, is always hazy and moist; with heavy dews falling in the night, which amazingly depress the spirits even of those who are well, as I have frequently noticed in my journal. [See vol. i.]

Before I went on that coast, I learned from observation and experience in the West Indies; and at Pensacola, that letting blood in remitting fever was hardly of any service; which, I own, had greater weight with me than any theory whatever. I am so fully convinced of this opinion, that the benefit which practitioners ascribe to opening the venæ saphenæ, has been more, if not wholly, owing to the pediluvium made use of upon the occasion, than to the bleeding.

For those reasons, I was very cautious in the

use of the lancet. I never let blood [See vol. i.] except in the St. Jago fever, when we were just arrived in a hot climate, in two cases of the Sierra Leon fever, and in an anomalous case, for which I thought I had sufficient ground, as we were then in latitude 40° 30″ N. But the patients, instead of being relieved, became faintish from the loss of a very few ounces of blood; except one of the Sierra Leon fever patients, who was subject to maniacal complaints. I ordered twelve ounces to be taken from that man; and upon weighing the blood, I found it to be full sixteen ounces. He bore the loss well, however, and with great advantage.

Hence it appears, that we are to receive with the greatest diffidence, the most specious theory in favour of blood letting in remitting fevers in hot climates.

Any precaution that might have been taken to mitigate the first paroxysm in the cold stage, was defeated by the patient's having seldom complained until the paroxysm was ended.

The first step taken, however, towards the cure, was to give an emetic. But though nature indicates the necessity of this evacuation, either by retching or nausea, some practitioners wholly condemn it. But, as their objections appear to be only the offspring of a favourite theory, they do not merit serious attention. The quantity of bile brought up; and the advantages of promot-

ing evacuations by stool, urine, and perspiration, will render it necessary, in the opinion of those who are guided by experience and cool reflection instead of theory.

If it so happened, that I did not see the patient during the first paroxysm, I always gave the vomit before the second commenced. Otherwise I ordered it either in the cold, or in the hot stage. But I always delayed giving it until the paroxysm was ended, if the sweat had commenced before he applied; prescribing, in such cases, only tepid subacid diluting drink to keep up the sweat and the urinary discharge, as well as to allay the patient's thirst, and after the paroxysm ended the vomit was given. When there were no such regular stages during the paroxysm, as too generally occurred, I gave the vomit when he applied, [See vol. i. p. 76.] which was wrought off with warm water, barley water, or very thin gruel. By which means a copious stool or two were obtained, or a free perspiration was promoted. And the paroxysm terminated more speedily, when it was given in either of the two first stages than ever happened when the sick did not complain until the sweat had broken out. In such cases, I say, drink only was administered until the remission commenced, and then the vomit was given.

If the vomit was given in the evening, I prescribed a saline draught with more or less of an-

timonial wine at bed time, according to the age of the patient and other circumstances, with sage tea or barley water, to which acid, or potassæ nitras, were occasionally added: and a purge the next morning.

But when the vomit was administered in the morning, whether it procured one or two stools, I generally ordered the purge to be given in two hours after its operation. The purge was an ounce of the magnes. vitriol. dissolved in half a pint of thin gruel or barley water, divided into four parts, and one of them given every half hour. The stomach being apparently loaded with bile, and the intestines with bilious *saburra*, I thought they never could be too soon emptied of their noxious contents, which this method always effected in a mild and quick way. Sometimes I found it necessary to repeat both those evacuations, particularly the purge, in the course of the fever.

Of all the authors who have written on the treatment of remitting fever, which I have met with, though they differ in opinion with respect to bleeding and vomiting, not one condemns purging; the advantages arising therefrom being too obvious to admit of any theoretical dispute, or hesitation. Indeed it is astonishing to see the prodigious quantity of uncommonly fetid, if not putrid, *colluvies*, which is discharged by the purge, and sometimes without it, to the great

relief of the patients. Some patients have no stools, unless laxatives are administered; and what might be the consequences, if the putrid saburra remained in the intestines throughout the fever?

Though purging is absolutely necessary, I apprehend that the most dangerous consequences would ensue from *drastic* purges; I therefore made use of no other than either the magnes. vitriol. or natron. vitriol. generally alone; to which may be occasionally added any other medicine. Tamarind beverage proved not only an agreeable drink, but likewise a laxative; by which two very material advantages were frequently obtained. It no doubt would be most proper to administer the purge in a remission; but I found this, generally so short and imperfect, and often so uncertain, that I very seldom waited for it, but gave the purge soon after the operation of the emetic was over, or early next morning, and the saline draught, with antimonial wine, at bed time.

Notwithstanding the indifference with which saline draughts are mentioned by some authors, I found them a most useful vehicle for the antimonial wine or tart. emet. as well as serviceable in assisting to allay thirst. They were made after the usual manner, and well diluted. The antimonials were occasionally added in such proportions as I judged proper. But in some cases I

preferred the liquor ammon. acit. to which antimonials were occasionally joined. I gave a large spoonful of one or other of these every hour, or every two hours; and I am certain that this medicine frequently shortened the paroxysm, by promoting both the urinary and cutaneous discharges. During the remission it was given more seldom. Sometimes I gave camphor, though it scarcely ever agreed with the patient in any form; and at other times, the pulv. contrayerv. comp. but I found them of little service. When the head-ach was violent, the tinct. opij. given after Dr. Lind's method, was serviceable for a time, especially if the pediluvium was joined to its assistance; though blisters were much more efficacious in relieving the sick.

However, without cinchona there was no cure. The only two patients who died took no cinchona. I always administered it in substance, to the quantity of one drachm, one and an half, or two drachms, which dose I never exceeded; and never ordered it seldomer nor oftener than once an hour, until I thought the patient out of danger. Sometimes I gave the tincture along with the powder; but the dose was not diminished. When I first began giving it, the stomach was often so weak as not to be able to retain it in water alone. In such cases I added either tinct. cinchon. comp. ʒij.; or a spoonful or two of wine; or tinct. opij. gut. x. to every one, or every two doses, until

the stomach acquired sufficient strength to retain it in water only, which, commonly, was after six or seven doses.

Though this manner of giving the cinchona was far from being elegant, I have the satisfaction to say, that it never failed me once, in all the cases of remitting fever which occurred on board the Rainbow. I mixed an ounce of the powder in twelve ounces of simple water, and ordered that quantity to be given in eight hours. When I wanted to give a drachm and a half every hour, an ounce and a half was mixed in a pint of water, which was ordered to be taken in eight hours; and when I ordered two drachms of it every hour, two ounces were mixed up in twenty ounces of water, and given in eight doses; to each of which sometimes were added a few drops of sulphuric acid; and the patient washed his mouth with a little of his drink, and swallowed it after every dose. Whatever be the vehicle in which cinchona is given on board ships, or elsewhere, it is absolutely necessary to mix it up before it be delivered into the charge of the attendants on the sick; because to give it in papers, in single doses, would not only employ one person constantly to dispense them, if there were many patients; but the attendants, supposing they were very careful, would be liable, in consequence of the motion of the ship, to lose the papers or a part of every dose in mixing it up. But these inconveniences

are obviated, by mixing a quantity, and putting it into a bottle, which can be safely disposed of several ways. This precaution, in the public service, will be found worth attending to, for obvious reasons, in the army as well as the navy.

As to the time when to begin to administer cinchona, I thought proper to vary it in different patients; but I never began before the end of the first period, or third day. (In very urgent cases, however, I recommend to young practitioners to begin to administer it as soon as the bowels are thoroughly cleansed.) After I did begin, I continued to give it regularly every hour, night and day; unless the violence of the paroxysms obliged me to omit a few hours; until I was sure there was no danger of the fever returning. For I judged it more expedient to employ the time in administering the sure means of procuring them quiet and refreshing sleep, soon, than to allow them to waste it in restless slumbers. On board the Weasel, a remission was introduced by sound sleep, in two cases of the fever, which never occurred on board the Rainbow. As the sick recovered, the number of doses was then gradually lessened to once every two, three, four, or six hours. After the sick arrived at a convalescent state, I gave them either the decoction of the cinchona with sulphuric acid; or wine infusion of it, twice or thrice a day, until they were perfectly

recovered; which, in general, was in an astonishing short time, considering how very ill many of them had been. Some relapsed, but soon recovered.

During the cure, I sometimes added the magnes. sulphas. with the bark, when the patient was costive, though it very seldom failed to procure one or more copious stools at first. When cinchona either purged or vomited, which seldom happened, I added the tinct. opij to it, or wine or spirit diluted, were given after it.

Diet had no share in the cure; for, except in some very mild cases, I never could get the sick to take any kind of food, unless their drink and medicine be reckoned such, until the fever was subdued. I am therefore much surprised at some practitioners of eminence, who prescribe breakfast, dinner, and supper, for their patients, during fever, with as much confidence as they do medicine; and as if the sick could really be persuaded, or prevailed upon to take regular meals. When my patients arrived at a state of convalescence, and began to take food, I was contented to indulge them every now and then with a small quantity, as I found them inclined, and able to take any, until they were tolerably well recovered; instead of expecting them, or patients in any acute disease, to eat regular meals.

The diet for the sick on board his Majesty's ships, and in the army, as well as for the well people, is far superior to what is allowed in

any other service. The former is entirely under the direction of the surgeon, and consists chiefly of sago, rice gruel, water gruel, and panada, to which wine and spices are occasionally added; and of portable broth with barley, besides what the captain and officers in most ships send them from their tables. Fish are also allowed them, when they can be caught with seines, or hooks and lines; every ship being supplied with one or two seines, and a proportion of hooks and lines, according to the number of the men, and the service the ship is employed on. Of whatever is caught the sick always get the first share. After the captain and officers are served, the remainder is equally divided among the ship's company. More comforts and accommodations are now provided for them. [See vol. iii.]

Before I finish this head, I cannot help making mention of a circumstance which I observed with much pleasure amongst the sick, when the fever prevailed on board the Rainbow; and though it may seem trivial, it seldom happens in a ship, or perhaps among patients on shore. A visible satisfaction appeared in their countenances, when I began to give them the bark; and even they, with whom it disagreed, took it with cheerfulness; which was certainly owing to their own observation of its salutary effects, in the many cases in which they had seen it administered on board to their fellow sufferers.

[Vide also Cases of Remitting Fever at St. Jago, 1772, vol. iii. s. 377.]

## SECTION XIV.

### *Cases of the Remitting Fever.*

The following cases are stated in the order they occurred, and as they were treated in different parts, as examples for the conduct of inexperienced practitioners only.

#### CASE I.

Captain Pasely, about 32 years of age, a very healthy athletic man, of a ruddy complexion, though temperate, after having been much fatigued in getting the ship off, in the heat of the sun, about a fortnight before, and having also been walking on shore, which is only a wet marsh, ankle deep, for pleasure and curiosity, having never been in a hot climate till then, complained, on the 14th August P. M. 1769, of sickness at stomach, inclination to puke, head-ach, thirst, and that he was much out of order. His pulse was very little quicker than natural, though his skin was hot and dry; and his tongue was of its natural colour. I prescribed an emetic, which

operated very well; and at night gave him a saline draught, with thirty drops of antimonial wine; and barley water, with nitre, to drink.

2d, A. M. he found himself rather better; but about three, P. M. he became very hot, thirsty, and uneasy. A dose of salts and manna was ordered for him in the morning; and as soon as it was worked off, the saline mixture was repeated every hour, and tamarind beverage allowed him for common drink.

3d, He spent a very bad night. His skin was very hot and dry, his countenance much flushed, the blood-vessels of the tunica conjunctiva of the eyes were quite turgid; his tongue was dry and foul, and his pulse quick and full. But he complained only of being hot, that he was much out of order, and that nothing which he took had any taste. The saline mixture was well diluted, and repeated every two hours, with nitre in it, and tamarind beverage allowed for drink. He had one stool in the day.

4th, He was not so restless in the night, but made water several times with scalding, and perspired freely most part of the night. A. M. the heat was abated, and he seemed more lively; but his tongue continued foul; and though he was yet very thirsty, no drink pleased him. P. M. he puked some phlegm several times, he became hot, and exceedingly restless, until he was re-relieved by profuse perspiration. A violent

paroxysm soon followed, with pain and heat in his right foot, giddiness, anxiety, and great inquietude. His pulse was strong, but not quick; his skin was exceedingly hot, bedewed with clammy moisture, which impressed a very disagreeable sensation on the fingers after feeling the pulse; the tongue was white, dry, and chapped in the middle, with a red margin, and trembled much when put out. At ten, P. M. his pulse was extremely quick, his skin was dry, his urine very high coloured, with a cloud at the top; he was afraid to sleep because of frightful dreams and notions, which made him start out of short slumbers; he was apprehensive of dying, and wandered a little. He continued his mixture, with nitre. At three P. M. eight grains of camphor were prescribed every three hours, and his drink was frequently changed. He had two copious stools.

5th, He passed a restless night from inquietude, and at four A. M. his retching returned; after which he had a copious loose stool, and perspired freely. The fever and all the symptoms gradually decreased, and a perfect remission began at noon; but his urine was still high coloured, with the cloud, that now subsided nearer to the bottom of the glass. He continued his medicines, as prescribed the preceding day, until noon, when a drachm of Peruvian bark. in powder, was ordered every hour; but after nine

P. M. he only took it every two hours through the night. It agreed very well with him, though only given in water, and procured him several copious stools.

6th, He continued cool and easy after a tolerable night's rest, got up, and was shaved and shifted. He complained then of giddiness, great weakness of his loins, and had no appetite. At six P. M. the pain and heat returned in his foot and leg, with head-ach and general heat; and at seven, the fever, and all the former symptoms, with increased violence, returned. He took his bark regularly every two hours, until the paroxysm commenced, when his stomach would no longer retain it. Chicken broth was allowed him, and one dish of coffee, which he was desirous of, on the intermediate hours. The camphor, the saline mixture, and his drink, were repeated as on the 4th. This was the only case wherein the stomach retained camphor.

7th, He had an exceedingly bad night. A. M. his pulse was softer; but the symptoms continued, though he was in a state of perspiration. He raved, felt his head quite light, and his tongue was black. At noon he fell into a very sound sleep, which continued till seven P. M. with a moderate perspiration on him. He found himself quite cool and easy when he awoke, and never had another paroxysm. His medecines were continued until he fell asleep, and as soon as he

awoke, a drachm of the bark was ordered every hour, which was repeated regularly throughout the night.

8th, The bark was continued afterwards, until he was perfectly recovered. He took ten ounces in all. Without my knowledge he arranged his private affairs, and gave the charge of the ship to the lieutenant.

Until the 10th day after his being taken ill, his head was remarkably affected from the least drop of wine, either with his bark or diet, which was very light. A considerable time after he got well, he complained of great weakness in his eyes, and of the pain in his foot and leg.

In every similar case I recommend administering the bark much earlier than I did in this case. In this it was owing to my inexperience of the inexpressible benefits of seizing the first remission for that purpose.

CASE II.

M. R. (first day of the patient's illness); aged about 27 years, of a very healthy, though of a thin habit and delicate constitution, after being exposed to insolations, and walking on shore in the marshes, on the 25th August 1769, at noon, in feeling a boy's pulse who had just expired of fever, received an instantaneous shock, as if he

had been strongly electrified; which was immediately followed by such prostration of spirits and strength, that he could with much difficulty get upon deck, or, for some time be kept from fainting. From the commencement of the fever on board, he had taken, every forenoon, a drachm of pulv. cort. with a little of the tincture of bark, in water, which he now took as usual; but though he repeated his draught, P. M. his spirits continued greatly depressed; he was quite palid towards night; his memory failed him very much; he was continually apprehensive of being surprised; was plagued with silly notions; and was giddy at times; very little fatigued him, and he had no appetite. His pulse was rather languid, and his skin hot and dry.

2d, His sleep was much interrupted with frightful dreams; wandering pains; and weakness of his loins. A. M. he had no appetite; his skin was dry; and he had no particular complaint, though he found himself much indisposed. However, he still attended his duty, took his bark as on the 1st, and a glass of wine in the day as usual. At night he became very hot and restless, and all his symptoms were aggravated.

3d, He had been troubled with great inquietude and uneasiness in the night. A. M. he found himself worse in every respect. He took some tart. emet. which brought much bile off his stomach; and, in two hours after, a dose of salts

and manna, that operated very well. P. M. his fever, now accompanied with thirst, continued; and at bedtime he took a cordial anodyne draught, composed of saline mixture, spirit of cinnamon, with antimonial wine, gut. xx. et tinct. theb. gut. x.; and drank freely of weak ascidulated tea through the night.

4th, He had no sleep in the night, though he perspired freely, and was easy. A. M. his pulse was pretty regular, his skin cool, a sediment appeared in his urine, which was high coloured, and he was in better spirits. He took an ounce and a half of the cortex in six hours, and never had any return of his fever, notwithstanding he daily continued attending the sick. He did not leave off taking cinchona for a considerable time. This is a very dangerous case, and is related in a very correct manner. [See vol. i. p. 79 to 85.]

## *Respecting the Cause of the Fever in the River Gambia.*

The time and manner in which the preceding case occurred, plainly show, that remitting fevers are contagious. I am not, however, of opinion, as I formerly was, that Dav. Clency, who came from the Hound sloop, on board the Weasel, and complained the day after of a simple tertian, with distinct intermissions, as appears from his case,

infected the ship's company; notwithstanding the serjeant was the very next day seized with a tertian fever, and all the protei-form appearances, (if I may be allowed the expression) in which that fever appears: and though Dr. Lind, in conversing with him, thought, he said, that Clency had brought infection on board. Yet one might be led to imagine, from the similarity of the two cases, that the serjeant was infected by him. But at that rate he must have caught it in the first paroxysm of Clency's fever; for Clency only had one paroxysm before he wes seized, which alone renders it improbable. Besides, the remitting fever did not make its appearance before the serjeant and Clency were quite well. I must likewise add, that these two cases differed apparently from the tertian remittent in mildness.

What confirmed me more strongly in that opinion was, that both of his Majesty's sloops, the Hound and Merlin, which were then at different places on the coast, the one at Senegal, and the other at Sierra Leon, had the same remitting fever as we had on board of the Weasel; and buried each of them the same number of men, if I am rightly informed, without having contracted it by contagion. The rainy weather, and our own indiscretion in going a shooting, in my opinion, with the previous insolation we were exposed to, were sufficient to occasion the fever. [See the abstract thereof, vol. i. p. 50, 52, 54.]

Whether my opinion on this head be just, or otherwise, it is by no means advanced with a design to inculcate less care, or caution on board of healthy ships, or elsewhere, to avoid all possible means, more intercourse with sickly men than is absolutely necessary; and much less to encourage officers to admit sickly men in any climate, either from a ship, or the shore, among well men. [See page 57 of this Synopsis.]

The reason why I did not mention the cinchona bark amongst the remedies which I made use of in the general method of treatment of the fever on board the Weasel, was that *I had it not* to prescribe in sufficient quantity to render it effectual, I therefore thought it best not to say any thing of it, because if it is not administered liberally no benefit is to be expected from it.

I thought it therefore a duty incumbent on me to acquaint the commissioners for sick and hurt, as soon as we arrived in England, that I was perfectly convinced most of the men who died of the fever, had been lost from my having too small a quantity of Peruvian bark; and that I had brought home several very bad cases from the same cause, notwithstanding I had carried out with me more than three times the quantity which was sent on board for a sloop, from Apothecaries' Hall, for foreign service.

In malignant cases of the fever, the stomach

would seldom retain a single dose without tinct. thebaic. being joined with it.

However, I have since experienced, that with the addition of wine only, the stomach has been enabled to retain it when the remission was very imperfect. [See part v. vol. i.]

I am of opinion, that a reproach has frequently been cast on the bark, and other valuable medicines, by practitioners administering them in doses, and frequency, inadequate to the disease in question; or not equal to their future effects.

If gentlemen, instead of such indefinite positive assertions, *such and such remedies failed* in certain diseases, would candidly relate the particular cases in which they were administered, and mention in what quantities they were exhibited; how frequently they were repeated; with an accurate account of the patient's manner of living, &c. more to promote the real knowledge of medicine would be effected, than by all the dogmatical assertions that could be advanced; and such candid writers would be more highly regarded by every professional man of eminence and discernment.

CASE III.

John Everet, marine, aged about thirty, on February the 3d, 1772, when sentinel over the

water on the booms, the night after the Rainbow's anchoring in Praya Bay, at the island of St. Jago, was attacked with chilliness, succeeded by heat and rigors alternately, which continued eight hours. He then became very hot and thirsty, with vehement head-ach, and severe pains in his bones, particularly his loins, which continued three hours. A profuse sweat then broke out on him, by which he was relieved.

About noon, within the first twenty-four hours of his illness, a paroxysm returned without any chilliness. P. M. in this exacerbation all the symptoms were more violent, and the pulse was full and quick. Near ten ounces of blood were let, which occasioned faintness; and an emetic being administered in four hours after, it brought much bile, gave him several copious stools, and promoted a free perspiration. But the paroxysm was not ended before midnight.

2d, He was tolerably cool in the remission, but complained of great prostration of strength, universal pain, and loss of appetitite. I prescribed elixir of vitriol twice in the day, and a saline draught with antimonial wine, and subacid drink at bed time.

3d, At midnight a paroxysm returned, which remitted at six A. M. Another paroxysm returned at noon, which continued about four hours; and though neither of them was so violent as the preceding, he complained during the

remission of much greater weakness and giddiness; and the pulse was small and quick. I repeated his antimonial draught every four hours.

4th, A. M. he had a short paroxysm preceded by rigors; he was very feverish, thirsty, and, with his former complaints, had a pain in his right side all day. He continued his saline, antimonial medicine as before.

5th, He awoke at four A. M. in a profuse sweat, quite languid, and dejected. I ordered him a drachm of bark every hour. At ten A. M. a paroxysm returned with more violence than ever; and the pain of his side extended down to his knee. During the paroxysm he took his antimonial medicine as before.

6th, The fever continued all day with burning heat in the palms of the hands and soles of the feet. I ordered him the tart. emet. the fourth of a grain, every two hours, which purged him several times.

7th, At midnight a short exacerbation came on, which continued all this day. But I prescribed the bark again, with a little of the elixir of vitriol, and he took an ounce and a half, which sat easy on his stomach.

8th he complained of weakness only; and took the same quantity of bark as he did yesterday.

9th, 10th, 11th, 12th, 13th, 14th, and 15th. He continued recovering, and took half an ounce of bark daily.

On the 16th day he returned to duty; and took the decoction of bark twice a day for some time after. I thought this patient was much debilitated by the bleeding.

CASE IV.

M. S., aged about thirty, who had never been in a hot climate before, after drooping some days, and having been much afraid of sickness from lying ashore on Sierra Leon beach with the watering party, was seized, on the 2d of March, at noon, latitude observed 5° N. 40′, with chilliness and retching that continued some hours, succeeded by great heat, severe head-ach, pain in the loins, lassitude, despondency, a flushing of the countenance, and thirst. His pulse was very quick, though rather softer than natural. It being late when he complained, I ordered the antimonial wine draught every two hours, and acidulated drink.

1st day, The fever remitted a little in the night, but now he complained of great prostration of strength, giddiness, and dejection. I ordered him an emetic which operated very well both by vomit and stool. At 10 P. M. a paroxysm came on with increased violence; the head-ach with pain over the eyes, which were much inflamed, and with pain at the bottoms of the orbits were

very severe; and the lumbago reached quite *round* the abdomen he said. I repeated the antimonial medicine, as before, and also his drink.

2d, He had a very restless night from purging; universal uneasiness and pains, especially in the head and loins; with insatiable thirst, and a dry hot skin, besides his other complaints. At six P. M. he fell asleep, which did not relieve him, having been much disturbed with frightful dreams. I repeated his medicine, and the pediluvium.

3d, He had an exceeding bad night, from great despondency, wild notions, and delirium. I ordered him a drachm of the bark every hour, which he puked frequently; and, therefore, I ordered the bark with the saline mixture, in a state of effervescence. At ten P. M. he complained of no pain, though the fever contiued; his bowels were open.

4th, The skin was hot and dry, after having been much troubled with inquietude and thirst through the night. A. M. he had no pain; sighed heavily from great oppression about the scrobiculus cordis, and the pulse was very irregular. At eight A. M. an exacerbation returned with less violence, which continued until ten P. M. In its height, I ordered the antimonial medicine every two hours, and the pediluvium; and at other times the cinchona, and a small glass of wine after every dose, which kept it on his stomach very

well. The urine he made during the paroxysm contained neither cloud nor sediment.

5th, He passed an uneasy night. A prickly heat-like eruption appeared on his face, breast, and shoulders; but, A. M. he was much better. I ordered the bark and wine as before, which he puked only twice. At eight P. M. a slight paroxysm came on; and an angry eruption broke out about his mouth. He still continued the bark and wine.

6th, He rested well in the night, and complained only of great weakness and depression of spirits. I prescribed the bark with wine every hour, as before. He had no return of his fever, and continued to take the bark until the 27th of the month, when he returned to his duty.

CASE V.

John Willis, marine, aged about twenty-eight, a strong man, subject to *maniacal* affection, who never had been in a hot climate before, on the evening of the 6th of March, latitude at noon 4° 16″ N. was seized with rigors, and universal pains; but did not complain until next morning, when his head ached violently; his eyes were greatly inflamed; and his pulse was much oppressed. I ordered twelve ounces of blood to be taken from the arm; but, on weighing it, I

found sixteen ounces had been taken away. An emetic, in four hours after was administered, which puked him well, the antimonial draught, with plenty of acidulated drink, and the pediluvium at bed time. The blood was sizy, the serum red and little in quantity, and the crassamentum was rather loose.

2d day, The head-ach and pains still continued. I prescribed a dose of salts; and after the operation the antimonial medicine, with the pediluvium and drink. P. M. the head-ach remitted; but he complained of pain in his breast, and of thirst; and the pulse was rather quick and softer than natural.

3d, He had a restless night from an exacerbation of fever. A. M. the head-ach was very troublesome, with cough; soreness of the throat; and pain of the breast. I applied a large blister between the shoulders, and continued his medicines as before.

4th, Though the fever was moderate he rested indifferently in the night; and complained still of head-ach; of universal pains, and of thirst. The antimonial medicine was repeated every four hours.

5th, There was no alteration for the better, and he was very costive. Of a mixture of Peruvian bark, and bitter purging salts, each six drachms; of lime juice two drachms; gruel half a pint; he took one fourth part every hour. His

medicine purged him only once; he was very cool at night.

6th, He was much better, and took his bark after the same manner as he did yesterday.

7th, The bark was prescribed with acid of sulphur; and he continued taking it, only diminishing the number of doses daily, until the 17th of the month, when he returned to duty the twelfth day after he was taken ill.

Three other marines, of the watering party at Sierra Leon, were seized in the same manner with fever, and recovered by the same means, the worst of them, in twenty-five days. [See vol. i. p. 390.]

CASE VI.

Peter Williams, seaman, a very strong mulatto creole, aged about thirty-four, on the 27th of April, latitude at M. 0° 41″ S.; at ten A. M. was attacked with severe rigors, which continued two hours; and were followed by violent head-ach; sickness at stomach; universal pains, especially in his loins; and ardent fever, with vehement thirst, which terminated in profuse sweat. The paroxysm was succeeded by great anxiety. It being late in the evening before he complained, I ordered the antimonial mixture, and subacid drink.

1st, About twelve last night there was a slight

remission. A. M. I ordered an emetic: in two hours after its operation, the purging salts, and at night the antimonial medicine, to be repeated every four hours, with subacid drink.

2d, At eleven P. M. an exacerbation came on with great violence; and delirium. It remitted a little at four A. M.; and returned again at ten A. M. with chilliness. The paroxysm continued severe until eight P. M.; during which, besides his former complaints, he had great pain and stricture about his eyes, which were much inflamed; with costiveness. During the imperfect remissions there was great prostration of strength and spirits, with giddiness. He complained of universal pains; uneasiness; and insatiable thirst. I repeated the antimonial medicine every two hours in the paroxysms; with the drink and pediluvium occasionally.

3d, He passed last night better. I ordered purging salts to be repeated, with thin gruel, which procured several copious stools; and the antimonial medicine at bed time. At six P. M. a violent exacerbation commenced, with bilious vomiting and purging; dysuria; and great inquietude.

4th, He was very much disturbed with dilirium; inquietude; and vomiting and purging all night, he said. At seven A. M. I observed a slight remission, during which his pulse was full and very soft; the tongue was remarkably smooth;

he was greatly dejected; quite languid; complained of a bitter taste in the mouth; and of burning heat in the palms of his hands and soles of the feet. I prescribed the antimonial medicine in an effervescent state, with tinct. thebaic.; applied a large blister between his shoulders; and repeated the pediluvium. At six P. M. a paroxysm returned; during which he raved greatly; and was comatose. I ordered pulv. contrayerv. c. camphor. ana gr. vi. every four hours; with the other medicines.

5th, At ten P. M. a slight remission appeared, which continued two hours. A violent paroxysm then commenced, with great oppression about the scrobiculus cordis. He was highly delirious and outrageous, with extreme watching. The tongue was black; and other complaints were more severe; the coma excepted. About seven A. M. a very imperfect remission. I continued the medicines prescribed yesterday during the paroxysm; and applied blisters to the ankles. At seven A. M. I ordered a drachm and a half of Peruvian bark every hour, with a little wine. At ten P. M. he found himself easy and cool, having taken twenty-two drachms of the bark, which agreed with him.

6th, Between midnight and two A. M. a very slight paroxysm was observed; at other times he was quiet; easy; and took the bark. P. M. he was very easy all day. He took a drachm of the

bark every hour, with elix. vitr.; and I allowed him his wine.

7th, He had a good night's rest, and was recovering. I prescribed the bark with elix. vitr. every two hours; and his wine.

8th, He continued to recover; and took half an ounce of bark. Afterwards he took the decoction of bark with elix. vitr. and returned to his duty the 7th of May. The change of the weather affected him frequently afterwards.

CASE VII.

Henry Annas, seaman, a strong man, aged about thirty-seven, on the evening of the 29th of April, lat. observed 1° 45″ S. was suddenly affected with giddiness and faintness, followed by violent head-ach; acute universal pains, especially of the loins; heat, and great thirst. When he complained on the 1st of May, the symptoms were become more severe; he was sick at the stomach; and his pulse was strong and quick. I ordered an emetic; the antimonial draught every four hours after; subacid drink and the pediluvium occasionally. P. M. there was an imperfect remission.

2d day, At one A. M. a paroxysm commenced with rigours, which continued five hours. P. M. He complained then of great prostration of strength

and universal soreness; his thirst was insatiable; and his pulse soft, besides the general symptoms which have already been described in the remissions. I ordered the dose of purging salts, and after its operation, the medicines to be repeated as last night, with diluting drink. At nine P. M. an exacerbation again commenced.

3d, The paroxysm, accompanied with great inquietude, continued until one A. M.; when rigors which lasted three hours, again ensued; which were succeeded by a most violent paroxysm, that continued until four P. M. The former symptoms were now greatly increased. He complained also of dysuria; of great pain and stricture over the eyes; and of oppression about the scrobiculus cordis. The tongue was brown and dry; the mouth parched; and he wandered with slight delirium. The remission was attended with great prostration of spirits and strength, and he was very giddy. I continued the antimonial medicine, in the liquor ammoniæ acitatis, with diluting drink; and repeated the pediluvium every two hours in the paroxysm: his body was open.

4th, He passed a tolerable night; but early A. M. another paroxysm began, and continued until four P. M. but not so violent as the preceding one. His medicines were repeated as before.

5th, He was easy in the night, and A. M. con-

tinued so. At two P. M. he was suddenly taken speechless; and when I was called to see him, I was told he was *just dying*. I found him lying on his back; his eyes not quite closed; his countenance very ghastly, covered with cold clammy sweat, which also covered the breast. The extremities were cold, and his hands folded over the scrobiculus cordis; the pulse was thready, tremulous, and at times vermicular; the hypochondria were tumid; he was quite senseless and motionless; with convulsive twitches about the mouth. He continued in this lifeless or *apoplectic* state about an hour, notwithstanding he was well rubbed as he lay with flannel cloths sprinkled with volatiles. As soon as he could swallow, some spiritus ammoniæ c. was administered internally, in a little drink. After the tibiæ internæ were well embrocated with warm vinegar, large blisters were applied to them. This *apparent apoplexy*, syncope, torpor, or whatever else it may be denominated, was succeeded by mere frenzy —during which his countenance was exceedingly flushed; and his eyes greatly inflamed; the muscles of the neck were quite rigid; the abdomen was tense; the skin felt burning hot; the pulse was very irregular, with subsultus tendinum; and the tongue was quite black and dry. *I covered his back* with a blister; administered pulv. contrayerv. c. camphor. ana gr. viii. twice; and the repeated antimonial medicine every hour,

with subacid drink, before nine P. M. when perspiration came on. Two drachms of the cortex, with wine and a few drops of thebaiac tincture every hour, were then administered, which the stomach retained.

6th, The bark was given regularly all night, though there was no remission until midnight. He continued taking the bark in the same manner until four P. M. The remission, though short, was moderate and distinct; [At nine P. M. of the 6th, he began and continued, without intermission, until four P. M. of the 6th, to take two drachms of bark every hour; during which time he took four ounces and a half, which agreed with him.] and was followed by a slight paroxysm which then commenced. He now took a drachm of the bark every hour.

7th, At midnight he became quite cool, and continued the bark and wine.

8th, He was recovering, though very weak, and took his bark regularly every hour.

9th, The bark still prescribed every hour, with a few drops of sulphuric acid, and his wine allowed him. By the 15th, when he wished to return to his duty, he had taken a pound of Peruvian bark in powder; and for some time after, I gave him, twice a day, an infusion of it in wine. He was afterwards very slightly affected with change of weather.

CASE VIII.

M. R., aged about thirty-two, of a thin habit, by exposing himself carelessly to the sun's rays; and by fatigue, on the 16th of June, P. M. at Port Royal, Jamaica, a stoppage of perspiration ensued, and he was affected with universal, severe, wandering pains; with great lassitude; anxiety; and burning heat in the palms of his hands and soles of his feet. His pulse was full and quick; and the urine, which he voided with heat, was high coloured, and scant. He used the pediluvium; and took the antimonial medicine, with acidulated drink. In the evening, all his complaints and thirst were greatly aggravated.

17th. He rested ill from inquietude: he had short partial sweats, with intolerable heat in the palms of his hands and soles of his feet; his thirst was insatiable; the pulse was strong and quick, and the temporal arteries throbbed vehemently. A. M. he was a little relieved. Severe head-ach, was complained of, and the urine was darkish coloured, quite turbid, and little in quantity. He took a purging draught of salts and manna, which purged him well, though he vomited a little. P.M. a remission appeared. He repeated the pediluvium; and antimonial medicines; and drink.

18th, He rested better; his complaints were al more moderate, except the dysuria, and the

urine being little in quantity, of a very dark colour, thickish, and full of bloody fibres. He found himself very giddy when he got out of bed. I repeated the antimonial medicine A. M. and added spirit of nitre d. to his drink. At ten A. M. an exacerbation of the fever and symptoms commenced, with the head-ach pain across the forehead. P. M. he went to sick quarters.

In the evening he repeated the pediluvium; the antimonial medicine, with tamarind beverage and the dulcified spirit of nitre. His urine now was neither so dark coloured, nor so thick.

19th, He rested very ill, though there was a remission of the fever and symptoms at midnight. The purge, with the addition of some cryst. tart. was repeated, which operated very well. P. M. he found himself better; and the dysuria abated. The medicines were repeated at night, as before.

20th, The fever remitted after a tolerable night's rest; he voided his urine easier, in larger quantity, and clearer; yet the head-ach harassed him. He took a drachm of the bark every hour, with water only, which agreed with him. The head-ach remitted at two P. M. and though he had taken an ounce of bark, the medicines and drink were prescribed at bed time as before.

21st, He had no return of his fever; but the pain in voiding his urine did not leave him for a considerable time; and he continued to take the

bark eight days, though after the fourth he diminished the quantity daily.

Many more cases of the remitting fever are inserted in vol. i. of the author's works.

After much longer experience, I am fully warranted in recommending the administration of Peruvian bark as soon as the primæ viæ are emptied, supposing this to be done in a few hours, and that there is a remission, or as soon as a remission appears; a practice that will not interdict uniting and administering purgatives along with the bark, when they are thought necessary.

## SECTION IX.

### *Remarks on the preceding Cases.*

Respecting the selection of the cases I have made, it may be remarked, that the patients were all young; and that most of them had never been in a hot climate before. Yet two of them only were let blood, and these were for the particular reasons mentioned. When the first was let blood, we had but just arrived on the coast, having only touched at Senegal road, and got to St. Jago; and the other was let blood because he was subject to maniacal affection. So that letting blood was not, except for some very urgent reason, considered, nor admitted, as a necessary part of the cure of remitting fever.

It is to be remarked further, that not any two of the cases were very similar, though all of them were accompanied with manifest danger, which caused me to insert so many of them. The most insidious case of the eight was the second, and I have no doubt but this case would have deceived any inexperienced practitioner whatever; and it would have fatally deceived the author, *who was the sufferer*, had he not providentially seen on board the Preston at Jamaica, the year before, how very insidious the Greenwich marsh fever was. The 8th case which I have related, occurred at Jamaica, and was the author's own case also. The manner of his beginning, so early in the fever, and the quantity and frequency of his taking, the bark, astonished the surgeon of Port Royal Hospital, and his assistant, both men of professional abilities, and of long practice there. But they were still more astonished to see how soon I recovered my strength by this management, which was entirely new to them, and was adopted by them afterwards.

## SECTION X.

### *Remarks on the preceding Sections, and on the Means of preventing Remitting Fever.*

Upon comparing the preceding history of the remitting fever, as it occurred to the author in

various parts of the world, with the remitting fever as described by other authors *in other regions,* no one person, unless he be inclined to cavil, will say, that there is any specific difference between them. As one colour is the same, view it every where, so is remitting fever, one and the same in every part of the world, arising in the rainy seasons from the same causes, marsh effluvia, insolation, night dews, or damp low situations, and cold winds blown from them in the night, operating on the human system every where in the same debilitating manner. Whoever therefore are exposed to these causes are most likely to become the greatest sufferers, and most liable to be infected.

I have therefore no hesitation in saying, that whoever manages the remitting fever after the same manner as the author has done, and has recommended, he will be equally successful with him in his practice. And the young practitioner is never to forget, that the more perilous the situation is in which he practises, the more prompt and persevering he ought to be in his practice; and the more he is so, the more successful he will be, and the greater pleasure he, consequently, will derive from it. He ought also to be mindful that, together with cinchona, any aperient whatever, *when needful,* may be joined: and that in the early part of the fever, during the hot fit, he may avail himself of the aid of cold affusion or effusion. In the formula he may se-

lect what manner and quantity to administer the cinchona in, and what other medicines to join with it.

In addition to the wine, tincture of cinchona, or to the administering of cinchona powder in wine for a preventive from remitting fever, which I adopted on the coast of Africa successfully, [See vol. i. of the Author's Works, Voyages 2d and 3d, on board the Rainbow] I would recommend, besides that mode, all the other common-place means which I formerly used, and that others have advised for the same purpose, a liberal use of the decoction of cinchona in a fermented or fermenting state, in the quantity of a pint or quart a day, according to circumstances; and also to use bark bread; as will be more particularly mentioned hereafter, with the author's manner of preparing it several ways. The whole body to be covered, especially in the rainy season, and in hot climates, with flannel in the mean time; *i. e.* with a flannel shirt, flannel drawers, flannel stockings, and flannel night cap; the whole expence of which preventive mode, if *only* one half the number is prevented from infection, that might otherwise suffer, as hitherto has been the case, both in the navy and army when on foreign service, especially on expeditions, will not amount to a third part of the expences which the empire has incurred on such occasions, not to mention the lives of so

many valuable men that will be thereby preserved.

Both seamen and soldiers, on expeditions, in the wet or sickly seasons of the climate, accustomed to chew tobacco or to smoak, instead of it, should be furnished with extract of bark, cascarilla, gentian, chamomile, or root of ginger, to chew or smoak. Indeed, if every person was to chew some such bitter, as one of these, or its extract, it would be serviceable to him as a preventive. But on the means of prevention from febrile infection, I shall have occasion to say more in the sequel.

But, readers may say, what of all that the author has stated respecting remittent fever, wide and extensive in limits though his practice and observations have been? What ratio, or proportion, does the number of the author's patients bear to the many thousands employed on a large expedition, such as that to Walcheren or elsewhere? Or what are the difficulties or obstacles which occur, to prevent or cure the deleterious effects of marsh effluvia amongst a few men, in the most unhealthy parts of the coast of Africa, Jamaica, or elsewhere, to those which occur to a mighty army or fleet employed on expeditions? To these I will at present only answer briefly—that no situation more deleterious than the coast of Africa was known, nor more dreaded before the

author went to it, and demonstrated by his practice and experiments, that remitting fever may not only be cured, but even be prevented there; since which time little, if any, apprehension from that service has been entertained. And, singular as I may be thought for saying so, I have no more doubt, (if the same means and mode of treatment and prevention, *adequate to the numbers employed any where*, are put in full practice, which were practised by the author, and are now recommended by him), that many at least of the number of soldiers or seamen, which have hitherto died of the remitting fever on any expedition, will be preserved, than I have reason to doubt that units are requisite to form part of any sought for number; or that *an imperial political saving* (which will out balance any expence, or any little-minded reasoning on the subject) will be obtained by adopting these means.

# PART II.

## ON FEBRILE INFECTION,

OR,

*Fever as a Disease sui Generis universally the same.*

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## CHAP. I.

*The Fever described as it appeared to the Author in different Parts of the World, generally the Offspring of human Effluvia in confined Situations, whether on shore, or on board of Ships, comprehending all the indefinite Titles of Malignant, Petechial, Typhus, Jail, Hospital, Camp, and Ship Fever, applied thereto.—General Remarks, Inductions, and Prognostics.—On Medicines employed to cure Fever.*

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### SECTION I.

*Fever described as it appeared to the Author on board the Æolus at Newfoundland, in* 1770.

HAVING stated in the first four sections of this synopsis the different heads introductory to what follows on the subject of fever, I shall, without further preface, begin with the description of fever on board the Æolus.

Neither sickness nor any remarkable incident occurred until the end of September, when Nicholas Flowers, a fisherman, aged about thirty, was received on board, though very ill, contrary to my advice. The best account of his case I could learn was, that his illness had proceeded from great fatigue, irregular living, and poor diet. After he had been lying about for several nights in his clothes, upon chests, he complained to me on the 27th of September, of extreme difficulty of breathing, violent palpitation of the heart, excessive weakness, great depression of spirits, and insatiable thirst, while his tongue was nearly of its natural appearance. But his countenance was morbid, and his pulse quick and irregular, yet hard. How long he had been ill I could not learn. He was twice, within six hours, let blood; and thirty drops of antimonial wine were prescribed every four hours in barley water, which, with a little nitre, was his common drink. P. M. he vomited to-day.

28th, He thought himself much relieved, but his thirst continued; he was troubled with inquietude, and his pulse was become small and soft. The blood taken from him was sizy, yet the crassamentum was very loose. The antimonial wine was continued, and a large blister applied to his breast.

29th, He breathed much freer and easier; but he was much weaker, and more depressed; cordials were therefore prescribed.

30th, He was extremely weak. P. M. he was covered with cold sweat, became quite restless, and his pulse more languid. He continued his cordials, and, being costive, an enema was injected.

Oct. 1, The cold sweat continued; his extremities became cold; the pulse tremulous, accompanied with subsultus tendinum, before he died. The cordials were continued. This was one of the cases of febrile infection that are generally fatal; especially when the patient does not complain as soon as he is taken ill.

When this man came on board, there were only two men on the sick list—and they complained of cough only, to which one of them was subject, and the other had been ailing about three weeks; but they were both in a convalescent state—and when he died, no alteration in the sick list had yet taken place. The day after his death, however, the patient who had been long subject to cough and pain of his breast at times, induced at first from living in a shallop, where he had been almost stifled with confined air, and smell of bulge water, after being in a convalescent state, complained, the 2d of October, of symptoms similar to Flowers's.

The season of the year (being the end of September) when Flowers was admitted, was undoubtedly favourable to cause pulmonic affection, and accounts for the twenty cases of fever which fol-

lowed, while I belonged to the ship, being all accompanied with catarrhous symptoms; and though it did not strike me then, I am fully satisfied that the disease was febrile infection. Upon no other principle can the debility which followed the very gentle evacuations made use of in the treatment of his case be accounted for. The morbid countenance and debility of the patient would have marked the disease very distinctly to me any where, even at that time: but I had not yet acquired the experimental confidence sufficient to apply tonic treatment to febrile infection any where, and much less when it was accompanied with pneumonic affection. Notwithstanding, seven years before, I had successfully managed at the same island, (Newfoundland,) Harper's case of fever. [See vol. i. p. 33 and 20.]

Extreme debility and morbid countenance, were the most prevailing characteristic symptoms of the fever on board the Æolus, and the catarrhous affection was merely incidental.

## SECTION II.

### *Fever described as it appeared amongst the Brunswick Troops, at Quebec, in* 1776.

When we arrived in the Juno at Quebec, I was informed that the Brunswick troops on shore had a very mortal fever among them; of which I re-

ceived the following account from the surgeon-general to the garrison :—[See vol. ii. p. 17.]

" That the sick were generally bad three days " when brought to the hospital, in a state of de- " lirium ; with black chapt tongues, their teeth " covered with sordes, and their bodies with " petechiæ, accompanied with purging ; and that " they generally died within forty-eight hours " after their admission. He observed no remis- " sion of the fever, though their pulses never in- " dicated violent fever, nor even danger. But " all who were so ill at their admission as not to " be able to put out their tongues to show them " when desired, invariably died. That as soon " as they were admitted, he ordered them to be " well washed in warm water and vinegar, and " the bark to be given to them freely, with port " wine. That he did not approve of blisters in " fevers accompanied with petechiæ; but that " he perhaps might have applied them, had the " patients been brought to the hospital when " first taken ill."

This practice, except not applying blisters, I approved.

## SECTION III.

### *Remarks connected with the Subject.*

Before I begin to describe febrile infection on board the Juno, it will be proper to notice the

symptoms of fever which prevailed for some time amongst the people before infection was brought on board. By doing this the characteristic symptoms of febrile infection will be more strongly marked.

MANY of the patients who had, in the preceding months, been classed as fever cases, were so slightly affected, and so easily cured by timely aid, that they might have been considered perhaps as cases of catarrh. But the general symptoms were mild intermitting complaints. The pulse was very different in different patients: they were thirsty; loathed food; had nausea; head-ach; cough; sore throat; hoarseness; acute pains of the sides; pain of the back; *and in all their bones;* [These are the words of the sick.] or universal pains; straitness about the breast; pains and constipation of the bowels; deafness accompanying a sore throat, though this seldom occurred; and giddiness, especially in the month of May.

I let blood in some cases only. Gentle evacuations by vomit and stool; and promoting a moderate perspiration with antimonial wine or tartar emetic, in small doses, together with opiates occasionally; or bolusses of spermaceti and nitre; or the oily mixture occasionally; with diluting drink; and volatile liniment applied to the throat, recovered the patients in a few days.

Although these were the most general symptoms, yet many had the fever in a severer man-

ner, as appears from the violence and duration of the symptoms collected from *all the cases* daily stated. But neither the pleuretic case, nor two other patient's illnesses, which proceeded from putting a corpse into a coffin, were considered more than slight, from care. Nor is it to be understood that all the symptoms mentioned in any one day, occurred in one patient's case.

1. They were seized with chilliness and rigors, succeeded by heats; thirst; and universal pains and uneasiness; with pains in the side and back; difficulty of breathing; straitness about the throat; great hoarseness; cough; head-ach; giddiness; and nausea; the pulse quick and full.

2. Some had very restless nights; without any remission of head-ach. A pain that went round in the direction of the diaphragm, accompanied with dry, urgent cough; some had pain of the breast that affected respiration. The countenance was flushed; and the eyes watered. Remissions; paroxysms; with costiveness, profuse sweats, and thirst continued. The pulse of some patients was full and quick.

3. The paroxysms continued above twelve hours, with symptoms as severe as on the first. Pains in the knees; pains about the shoulders: frequent cough, and little expectoration. Slight cough, and pain were complained of only by some.

4. Though the sick were cool, they were ha-

rassed by dry, urgent cough, with pain at the scrobiculus cordis. The remission continued six hours, and the next paroxysm eight. Stiffness about the eyes; weakness; pain of the breast; and head-ach from cough. They began to expectorate.

5. They sweated profusely last night; were teazed with cough; weakness; and much pain about the breast; with either no expectoration, or a difficult one in some cases. No appetite, and the tongue white. Of the slight fever, the pulse of one patient who was subject to epilepsy, became quick and full, with giddiness and head-ach.

6. In the epileptic case there was a degree of stupor. P. M. an accession of fever; the skin was hot and dry, the tongue parched; thirst; large quantities of urine, and languor; though some were recovering.

7. In the epileptic case, the paroxysm went off in the night, by a large quantity of urine, and a copious stool. P. M. a paroxysm came on—an accession of fever happened after the patient had been in a recovering state for four days—weakness—recovering slowly.

8. A difficult respiration, with cough—pain of the back and weakness—some recovering—the paroxysm of the epileptic case ended as the preceding. P. M. a paroxysm came on.

9. Cough and hoarseness continued—the epileptic patient uncertain when the paroxysm left him, and complained of his back.

10. A free expectoration, and recovering—the epileptic man passed an indifferent night; his head ached and was giddy, and his mouth and tongue were foul.

11. The epileptic patient had shooting pains in his head at times, but was recovering. One recovered with Peruvian bark.

12. It was discovered that the epileptic patient was very lousy, though recovering. Hoarseness continued—weakness.

13. It was a considerable time before he recovered his spirits.

14. One patient continued weak, and was sent to the hospital; but this man's breast was hurt by a fall not long before.

It was not a general rule with me to let blood of these patients; that operation depended solely on circumstances. A vomit was most commonly given first. But if the patient was bled, the vomit was given a few hours after, and from xxv. to xl. drops of antimonial wine, with refrigerating and diluting drink at night. Next morning an ounce of the bitter purging salts was given, and the antimonial wine repeated in the evening. After these moderate evacuations (which were seldom repeated) I prescribed cort. peruv. ʒi. or ʒiss. every hour, until the patient was out of danger. Then it was given less frequent; with elix. vitr. occasionally. After I began to

give the bark, I did not omit it for any exacerbation of the symptoms.

The reader will excuse this short digression, as it is intended for his own benefit.

## SECTION IV.

### *Description of Ship Fever, as it appeared on board the Juno, in the Years* 1776, 7, *and* 8, *in America.*

In the following description of Ship Fever, the symptoms are diurnally arranged as they appeared. But it is not to be understood, because some are daily repeated, that they are confined all along to patients in whose cases they first appeared. On the contrary, it is to be understood that such symptoms occurred on particular *days of the fever* in some other cases. Hence it will occur to the reader, that the same symptoms do not always appear on the same days of different patients' illness: but that symptoms which happen in one case on the first day of the patient's illness, may not happen in other cases until the second, third, or fourth days of other patients; or even later days of their illness. Which repetition accounts for the same symptoms being daily repeated for some time; and constitutes an apparent variety of the fever; though in fact it is none; and shews only a va-

riety of constitutions. It is also to be understood that some were seized with more, and others with fewer of the symptoms; and that they were combined very differently with respect to the order in which, for method's sake they are here arranged. To avoid repetitions, the most urgent symptoms are generally mentioned only. But when the fever is on its decline, about the 31st and following days, when few patients are ill, the most remarkable appearances are daily repeated.

Though the symptoms which I have termed diagnostic, generally introduce the fever, at its first appearance, it was often attended with many other symptoms, a circumstance highly necessary, I think, that young practitioners should be apprised of, that they may be made acquainted with all the various appearances which the fever puts on, from its commencement to its termination, in a number of patients living as nearly as possible in the same manner. It is for this reason I have taken the trouble to describe it so minutely. The more that symptoms, occurring in the same disease, among persons living under similar regimen, are observed to diversify, the more the reader must be convinced that the symptoms depend on the constitution of the patients, more than on other circumstances.

## *The diurnal Appearance of the Ship Fever.*

The diagnostic [The author preferred this expression in his first edition of this book in 1783, and still thinks it the most apposite for his purpose; as being less liable to criticism in the sense he has applied it than pathognomonic would have been.] symptoms, by which ship fever is introduced, and may be known distinctly, are rigours, or chilliness, or alternate chills and heats; nausea; or sickness at stomach; head-ach; universal pains; or, as the sick express themselves, pains all over them; or pains in all their bones, but especially in the loins or back; with a morbid appearance in the countenance; and more or less debility.

But some patients informed me, that before the shivering and other symptoms were perceived, they had been ailing; or had not been well, as they said, for several days, a week or a fortnight, three weeks, and even for a month: some drooped before the fever commenced. The duration and violence of the rigours, chilliness, or alternate chills and heats which introduced the fever, varied greatly; and the following symptoms, which either accompanied or succeeded them, varied in different patients exceedingly, both as to violence and duration.

Besides the symptoms mentioned, other patients at first complained of general debility; uni-

versal soreness; or, in their own words, of weakness in all their limbs, and soreness all over; of great depression; apprehension; despondency; lassitude; faintness; extreme coldness; syncope; and epilepsy; of bitter taste in the mouth; of oppression about the præcordia; nausea; retching; porraceous or bilious vomiting; of slight cholera morbus; belly-ach; dysenteric symptoms; diarrhœa with suppression of urine; or extreme costiveness; that the head either was much confused; or disturbed with pain in the temples, or in the back part, or in the forehead, with giddiness, or deafness; of hœmorrage at the nose; tooth-ach; sore throat; and relaxed uvula; of sensation of swelling about the præcordia, and of the abdomen after chilliness; of pains at the præcordia, previous to vomiting; of uneasiness in the thorax; very acute pains of either side, resembling pleurisy, which suspend the patient's attention to, or his sensation of, slighter symptoms, that they again complain of as soon as the violent pain is relieved; with urgent cough, and difficult respiration; of pain of the side, shooting down into the groin or thigh; of pain in both ilia that descended to the feet; of pain reaching from the crown of the head to the sole of the foot of one side; of pain of the hams and pain of the right shoulder. In some cases the fever commenced with great heat, and much perspiration, without any previous shivering or coldnesss hav-

ing been perceived by the sick. In the cases of some patients furuncles appeared. I suspect these had been forming before the fever commenced.

Various degrees of heat and thirst succeeded the rigours and chilliness in different persons. In some, the heat was burning, and the thirst insatiable; and in others both were moderate, though greater than in health. The pulse also varied greatly. Such variations were observed throughout the fever, and will seldom be repeated.

In all these different ways the fever was ushered in on board the Juno.

First day, Of those who were seized in the forenoon, and complained immediately, numbers had remissions, and were much relieved within the first twenty-four hours by a vomit, which was instantly given; and by sudorifics; diluting drinks; and pediluvia—by which free perspiration was promoted in the night. Some patients were recovered by these means; but few had remissions without such assistance.

2. Many however passed the night ill from inquietude, and from having had no remission. Some had a remission, which, as well as the exacerbations and paroxysms throughout the course of the disease, were very irregular with respect to the time of their appearance and duration. Many had remissions of partiular symptoms only, while other symptoms continued as violent as ever. The remissions, whether more or less dis-

tinct, were generally effected by perspiration, and in some cases by stool, but very seldom by vomiting, and this patient came from the hospital the day before, and relapsed. Profuse evacuations, however, either by sweat or stool, were so far from procuring remissions, that they generally seemed to increase the symptoms, and protract the paroxysm. Some were yet chilly; others had alternate chills and heats, and some had sensation of cold in the back only. The most general and the most urgent symptoms complained of were head-ach; lumbago; and universal pain. The head was now affected in a more violent degree with heaviness, lightness, and with giddiness from looking at any object; with burning heat and profuse sweats about the forehead; with pain of the left eye, or of both eyes, though neither were inflamed; with pain over the eyes, especially in stooping down; with shooting pains in the eyes, and preternatural motion of them; with inflammation of the eyes; and with an eruption on the face; which in other cases was turgid, and the eyes watery. The head appeared swelled; with pain in both ears; pain in, and a discharge from the left ear, with deafness; and pain of the one side of the neck and shoulder. Soreness of the throat, hoarseness, and difficulty of swallowing were greatly increased by either teazing, or violent cough; as, in like manner, were the giddiness; the pains in the thorax; in

the abdomen; and extremities. The right side was most frequently affected. The stomach and bowels were as much disturbed with pain, nausea, wretching, vomiting, costiveness, or purging as before. Cramps or spasms of the limbs, and pains in the heels, were complained of. There was now universal uneasiness, as well as soreness. Prostration of strength and spirits with faintness, were complained of in some cases, while others thought themselves neither well nor ill.

A number were troubled with great anxiety, much uneasiness *and pain at the heart as they said*, pointing to the præcordia. Bitter taste of the mouth; porraceous vomiting and purging; hæmorrhage from the left nostril; expectoration of fœtid excreta; hæmoptoe; delirium; and petechiæ; were frequent.

The countenance appeared greatly flushed, and the eyes inflamed, as if the patient had drank; or it was pale or sallow, and extremely morbid; it also appeared wild, when the patient thought himself well. There were furuncles on the neck and an angry eruption on the pained side of the thorax; the tongue was chapt across, foul, or blackish; the pulse was preternaturally full and soft; there was a yellowish, viscid, gelatinous, discharge from blistered parts.

In the afternoon there were many slight and short remissions, but more exacerbations. The former remissions were followed by violent parox-

ysms, preceded in several cases with, and in others without shivering. Relapses happened from, or were hastened by, irregularity. Interrupted profuse sweats occurred ; and the perspiration, thirst, heat, and pulse, varied much.

3. A few were sent to the hospital, some recovered, others were now arrived at a convalescent state, and there were many remissions. But numbers of patients, instead of being relieved, were greatly debilitated and depressed by sweating profusely in the night. Perspiration kept up twenty-four hours procured no remission in some cases ; and in others profuse moisture was diffused all over them ; and on feeling the pulse, a disagreeable sensation was impressed on the fingers. This sensation, though not equally perceptible, was observed in all cases, especially during perspiration ; or when the skin was covered with cold, clammy, and uncomfortable sweats. Many passed the night very ill, either having no remission of the symptoms, or from profuse exacerbations, or irregular paroxysms, or from perspiration and inquietude.—The rigours held some patients four hours, and were followed by violent paroxysms.

A sensation of great cold, while the skin was burning hot, and a sensation of chilliness at times were complained of. But the most distressing symptoms during the paroxysms, besides those already mentioned, which were aggravated by more or

less cough, rendering perspiration difficult, and pain of the crown of the head; strictures about the thorax; shooting, wandering, or flying pains; pain in the scrobiculus cordis, shooting through to the back, or darting from the right to the left breast; pains across the ossa innominata; or of the right buttock, or knees, and wrists. Loss of speech in the night; with distorted face; great inquietude; delirium; and death in one case. The thorax and abdomen were still complained of; a bloody discharge issued from the left ear; hæmorrhage from the nose; hæmoptoe; and various expectorations of viscid, ropy stuff in some cases, occurred; and in others very fœtid pus was expectorated. The stools were still porraceous; or bilious; or watery; or white, with high-coloured urine. There was a copious discharge of urine, and sometimes it was involuntary. Some had large eruptions on different parts of the body; petechiæ and raving were observed.

Great debility; giddiness; heaviness; or lightness of the head; with great despondency and faintness; and a bitter taste in the mouth, were very distressing during indistinct remissions. The limbs were *tired and sore*, as if the sick had come off a long journey; and some felt torpor of the back and limbs, expressed by patients *as being asleep*. Inability to shut the hands, was complained of; and also internal soreness, or *soreness in the inside*. The conntenance was still

flushed; or sometimes was pale; sallow; wild; or greatly dejected. The palate and tongue were sore, and the latter was also red and foul in the middle.

4. A few patients recovered; others arrived at convalescency. A few had remissions all day; and some had cold sweats. Profuse perspiration as heretofore, in many cases, procured no remission. Remissions, exacerbations, and paroxysms, were as irregular, and generally more violent than before. The paroxysms accompanied with raving, were followed by sweating at midnight, and by exacerbations in the morning. A remission of pain with uneasiness, heat, and thirst was observed. The head-ach was relieved by stools.

The most urgent symptoms were frequent shivering, alternate heats and chills, vomiting. The paroxysms, which were preceded by cough, and pain in the breast, introduced by shivering; and the exacerbations by langour, with heat in the head, were distressing. In violent paroxysms, the eyes were unusually prominent. The cough in many cases was dry and urgent, and increased the belly-ach.

The pain in parts which had been formerly hurt, particularly about the clavicles, was most violent: Palpitation at the heart occurred. This patient was subject to it. The head; eyes; ears; countenance; throat; thorax; and abdomen were still affected as at first; and in some cases

without any remission. The cough was sometimes attended with difficult respiration and tremours. The pains were as various, and numerous as before. Tinnitus aurium was observed. The various discharges; evacuations; and expectoration of brown thick stuff continued; and also diarrhœa with faintness. Worms were voided by stool. Some had cold sweats in the night; interrupted respiration, and sensation of *creeping*, and others of *wasting* of the flesh. The hæmorrhage from the nose increased the giddiness. An abscess, which began to form on the neck, before the fever commenced, suppurated kindly, and after being laid open discharged good matter freely. The urine of some smelled very strong, and such patients were not refreshed, nor relieved by sleep. A green matter was discharged from blistered parts. Raving was common; and many had petechiæ.

Besides the symptoms which prevailed during the remissions on former days; terror; momentary partial sweats; depression; breathing through the nose; loss of taste; universal debility and soreness were now complained of; and head-ach and cough were increased by getting out of bed, or sitting up.

There was no alteration in the countenance for the better; and in some cases the tongue was very foul, and much enlarged.

5. Some recovered; numbers began to re-

cover. Remissions in some cases; and in many no remissions appeared. Violent exacerbations and paroxysms were most frequent. Remissions were still introduced by perspiration or stools. Many passed the night ill from rigours; head-ach; various pains; urgent cough; sweating; from inquietude and wandering.

Shivering for two hours, or chilliness, or alternate heats and chills introduced the paroxysms, attended with all the variety and severity of pain; cough; and laborious respiration hitherto mentioned; and likewise with retching; belly-ach. Constipations in some; and in others diarrhœa. Besides inflammation of the throat; and pain of the neck; there was pain of the right side of the head, eyes and neck, shooting through to the left temple on turning the head round. Violent pains of the left ear and side of the head. Dimness of sight at times; nervous pains, to which the patient was subject, and tremours were complained of. Some were chilly at times; others were so all day. Disagreeable respiration; loss of speech; muttering and singing inarticulately, a ghastly countenance; and death in one case. Some lay contracted on one side. The evacuations were little altered. Colliquative sweats; reeking moisture; or partial profuse sweats continued. Blood mixed with pus; or pure pus were expectorated. Hæmorrhage at the nose, bilious vomitings, poraceous and watery stools

continued. In some cases the stools were mixed with blood and matter. The angry eruptions about the mouth extended up to the nose. An eruption resembling itch spread over the body. Petechiæ were very numerous. The gelatinous discharge from blisters continued.

All the distressing symptoms before taken notice of, with anxiety and restlessness, during the imperfect remissions, prevailed.

The countenance and tongue varied in appearance as before, and the teeth began to be covered with sordes.

6. The sick passed a restless unquiet night. There was continual chilliness; vomiting, or purging, or sneezing, previous to the paroxysms, which harassed different patients. The paroxysms were brought on by wet. Some patients still complained of pains and other affections of the head; eyes; ears; throat; abdomen; loins; and extremities. A very urgent cough, occasioned sickness at the stomach. The head and abdomen were more disturbed than ever, but many thought themselves better at times. Some complained of belly-ach, accompanied with swelling and tension of the abdomen; of pain all down the spine; of pain of the ankles after profuse sweating; of sensation; of *hollowness* or sensation of uneasiness in the breast; with a sighing kind of respiration; and of tremours; of spasms; delirium; petechiæ; and perfect mania.

The eruptions; perspiration; vomiting; stools; expectoration; and the appearances of the countenance, and of the tongue, were as various as ever. But the countenance was now become sooty in some cases; and the lips were very foul; the tongue was rough, slimy, and black on each side. In a case of fever, accompanied with vomica, the breath was very offensive, and the thirst was great, though the skin was quite cool.

The same disagreeable symptoms prevailed during the remission as before. Some were arriving at, and some advancing in, a state of recovery; and a few recovered.

7. The sick passed a bad night from heat, thirst, sweating, head-ach; from all the variety of pains, dyspnœa, and cough, as before mentioned. In some cases the head; eyes; throat; stomach; and intestines continued to be affected as at the beginning of the fever. Heat about the head; pain down the whole spine; and pain about the os pubis were complained of. The part of the side, in which there was excruciating pain, was tumified and tense. Shivering was still frequent. A worm was voided by the nose. Relapses with head-ach. The alæ of the nose were distended. Some patients drank often and greedily; they looked frequently at their fingers; and were agitated with starting tremours; with continual wandering; or raving; or effusion of tears; with

mania, and involuntary discharge of the fæces; which terminated in death. Expectoration, though not general, had the same appearances as usual. There were numerous eruptions of various kinds. Some were like the stinging of nettles; but the itch-like eruption was the most general, and the most troublesome. Petechiæ were observed. The tongue had various appearances, and trembled on putting it out of the mouth, and the countenance was much diseased.

The remissions were attended with the same train of symptoms as before. Some recovered, and numbers were in a convalescent state.

8. The sick rested ill from shivering; headach; whimsical dreams; raving; starting; motion of the hands; oppression and soreness at the præcordia; and a short, laborious respiration, while the patient thought himself well. Rigours for four hours introduced paroxysms; during which most of the violent symptoms, already mentioned, still harassed the patients. In some cases, there was no remission for twenty-four hours. Neither the head, the thorax, nor abdomen of some patients were relieved. Universal pain; uneasiness; anxiety; and inquietude were frequent. One became scorbutic. The blistered parts; the nose and tongue of some patients were very sore. The face was squalid; the nose contracted; and continual raving was not uncommon. Some were even maniacal. Others lay on their backs

with ghastly countenances. The respiration was very laborious, with rattling in the throat. Petechiæ were still observed. Costiveness was very obstinate; and white frothy stools with much flatus, were voided by the assistance of clysters. In some cases expectoration was free and laudable. In many others the reverse was observed. Previous to the cough which brought on hæmoptoe, there was sense of great weight about the præcordia; and after hæmoptoe, sensation of great heat in the same parts succeeded. Hæmorrhois and prolapsus ani were troublesome to a few patients.

The countenances; eruptions; tongue; thirst; and the state of the skin and pulse varied as usual; as also did remissions, and the number of those who recovered.

9. The patients were very restless in the night; were troubled with dysuria; and their sleep was not refreshing. Shivering or alternate chills and heats, very frequently introduced the paroxysms. But in some cases they were preceded by stiffness of the neck; or an obtuse pain of the head, with nausea, and pain in the stomach. Bilious vomitings were more violent than ever. Some were deaf; others were afflicted with giddiness. Headach; pains about the thorax, abdomen, loins, and the extremities, harassed others. Universal pains, especially, about the joints, with urgent cough, costiveness, and diarrhœa were still fre-

quent. Some complained of prolapsus ani, and much heat about the anus, and others of dysentery, with great debility, especially of the loins. The voice became rough; the eyes were very much affected, and in some cases were constantly shut, unless when the patient was roused. A few were turbulent and unruly. Loss of speech in some cases was observed; and the pulse was hardly perceptible; and turning up and rolling of the eyes were noticed. Two died. Some complained of numbness, or want of feeling. Hectic heats were distressing, while very offensive pus mixed with blood, and in some instances an exceeding viscid brown stuff was expectorated. The eruption about the mouth and nose suppurated, and began to dry; and desquamation of the itch-like eruption took place. The countenance continued very much diseased, as well as the tongue, which in some cases was very black, much enlarged, stiff, and very painful. In other patients it was much swelled and chapt, and the teeth were covered with sordes. Many petechiæ were still observed.

Some now recovered, and many were in a convalescent state.

10. Shivering; inquietude; universal uneasiness; and delirium; were still frequent. The head; thorax; abdomen; loins; extremities, and particularly the joints, were still much and variously afflicted with pains; and these were still

exasperated by cough. Great hoarseness, with pain and difficulty in speaking, arose from an enlarged black tongue, and parched sore mouth and throat. Some lay on their back, with the mouth open. Tremours and startings were distressing; and petechiæ of different shapes and sizes, with various other eruptions were still observable. In one case, they spread at the base and became livid. The sallow and morbid countenance still continued; the tongue and teeth were very foul and black; and expectoration was more general, of which the worst species was very yellow and very fetid.

Besides the train of symptoms already mentioned in remissions; a sensation as if cold water had been poured on the loins, or down the anterior parts of the thighs was complained of. The convalescents gathered strength very slowly; but some recovered.

11. Many passed the night very ill, from violent paroxysms and exacerbations, during which the body was afflicted as usual. Rheumatic pains were very common. Some were delirious, with a pulse hardly perceptible; and some died. Relapses introduced by chilliness were frequent; and colliquative sweats, with sickness at stomach and retching, were very distressing. The blood was in a dissolved state. A few drops of blood from the right nostril, in one case, was thought to relieve the head greatly. Involuntary effusion of

tears, and expectoration continued. Costiveness was very troublesome. There was little alteration on the countenance, or in the throat; or about the tongue; or of the crust about the teeth. The pellicle or coat began to cast off from the tongue. The eruptions continued.

Some convalescents were costive—others had diarrhœa. Most of them complained of uneasiness; heaviness of the head; giddiness; deafness; languor; and debility. Some recovered.

12. Inquietude, cough, and pains continued to distress many in the night; as did also alternate chilliness, and profuse sweats. Profuse expectoration, very much debilitated the sick. Chilliness; or alternate chills and heats; vomiting and delirium, still introduced paroxysms. Exacerbations were very violent, and relapses frequent. Pains in every part, as well as the usual complaints about the head and throat. Bitter taste in the mouth; sickness at stomach; with uneasy sensation; retching; diarrhœa; costiveness; suppression of urine, and despondency were frequent. Some were yet troubled with partial, and momentary sweats. The various eruptions; the appearances of the countenance; tongue; teeth; throat; and expectoration were not altered for the better. Hard lumps were voided by the aid of clysters; and in some cases white specks were observed on the florid blistered parts. Petechiæ still appeared.

Those who had short and uncertain remissions; and the convalescents still complained of the symptoms already mentioned. Of the convalescents it was remarked, that they often denied their having had any sleep, though they appeared to sleep well. Some recovered.

13. Chilliness at times; relapses, with nausea; and bitter taste in the mouth; paroxysms; exacerbations with the various pains, and concomitant symptoms already mentioned, with aching of their bones; universal debility and soreness, especially of the joints, were yet frequent. Costiveness; diarrhœa; giddiness; pain of the right ear; and depression were prevalent. Some were become extremely thin; and numbers were harassed with the itching eruption. Petechiæ still appeared.

Remissions were accompanied with the usual symptoms. The tongue was red and very sore, when the pellicle cast off. Many of the convalescents were feeble and peevish. Great difference was still perceptible in the pulse, the thirst, and state of the skin among the patients. Some recovered.

14. Many of the patients had restless nights from paroxysms of head-ach, and severe exacerbations of various pains, and of cough. Rheumatic pains; hoarseness; sore throat; and cough were most frequent and violent in the cold winter months. Relapses; chilliness; bitter taste in

the mouth; sickness at stomach; giddiness; heaviness; great debility; languor and depression were distressing. There was a discharge from, and also pain in the right ear. A free expectoration in some cases only. Whenever the pellicle cast off from the tongue, another began to form immediately. Costiveness in some cases; and diarrhœa in others continued. Petechiæ and other eruptions still appeared. Some patients had a more florid appearance, without the itching formerly mentioned.

The convalescents complained of chilliness. Some were still insensible and delirious, and some recovered.

15. Many passed an indifferent night from languor and head-ach. Numbers not relieved, but were very faint after perspiring in the night. Relapse with shivering; chilliness; sickness at stomach; violent paroxysms or exacerbations; with delirium; and three drops of blood from the nose. In the afternoon tremours of the hand; petechiæ; pains in the toes, but especially the left; universal soreness and debility, sore throat and depression harassed the patients. The eyes were inflamed in some cases, and in others sore and painful; the discharge from the ear was less, but still troublesome. Costiveness and hæmorrhois were observed.

The tongue was foul in the morning after sleep; and those who had remissions, as well as the con-

valescents, were fatigued with the usual symptoms. Some recovered.

16. Debility and faintness after profuse sweats; sensation of coldness while the skin was very hot; irregular paroxysms and exacerbations; alternate chills and heats; relapses; nausea; head-ach; giddiness; universal pains, especially about the præcordia, and about the loins, knees, and ankles were complained of; incessant cough; great anxiety; and ghastly countenance; were frequent symptoms. Some spoke very indistinctly; groaned, and the tongue was black; yet they thought themselves better. Petechiæ; diarrhœa; costiveness; ear-ach; and the itching eruption remained. The tongue was much diseased, and the teeth were foul.

Some recovered; and others continued to recover very slowly.

17. Some passed the night ill from urgent cough; from various pains; and from heat and inquietude; while despondency and groundless apprehensions disturbed others. The remission of the cough; pain of the toes; relapses with chilliness, or slight rigours were succeeded by head-ach; ear-ach; pain about the breast; and uneasiness of the stomach; or by giddiness; debility; depression; tremours of the hands; numbness of the lower extremities; and costiveness. A laudable expectoration in some cases. Thick urine was voided with pain; in some cases the

disagreeable sensation was still impressed on the fingers in feeling the pulse. Eruptions continued, there was an angry furuncle on the right cheek, and the tongue was streaked black. The countenance; thirst; pulse; and state of the skin differed greatly amongst the patients.

18. The sick passed a restless night from retching; belly-ach; partial sweats and various pains, as already mentioned. Pains of the sides; knees; and toes were mostly complained of; and also a dry teazing cough. Relapses occurred with diarrhœa; head-ach; and various pains. Costiveness continued; and diarrhœa commenced in some cases. The ear-ach, and a watry discharge from the ear, was troublesome. Some had a disagreeable reeking clammy perspiration. A black blister appeared on the tongue when the patient awoke in the morning, and was a common symptom of disease. The sick were generally feeble; groaned at times; and were dejected. The tongue and the countenance were yet diseased. The former appearing of a pomegranate colour, and the latter sallow and dejected; but the eruption began to dry, and fall off.

19. Relapses accompanied with shivering or chilliness; with sickness at stomach; head-ach; sore throat; pain of the neck; pain and swelling of the left anckle; which with universal pains, were all increased by urgent cough. Languor; dejection; and costiveness were harassing. The

countenance was yet morbid, and there was something singular about the eyes of one patient, as if he had been afraid when he was spoken to. The eruption (not the itch-like one) became livid, and the appearance of the tongue still varied; and as one black pellicle fell off it, another formed very slowly. Some recovered.

20. Some passed part of the night ill from vomiting and purging. Relapses; bad taste of the mouth; sickness at stomach; head-ach; sore throat; cough; giddiness; and various pains, particularly of the lower extremities; belly-ach; costiveness; debility; and wandering were very troublesome. And petechiæ were still observed. The eyes were sunk in the orbits; and the tongue was sore, chapt and foul. The itch-like eruption was thickest on the extremities; there were furuncles on the shoulders.

Exacerbations towards night; and the convalescents recovered slowly.

21. Head-ach at times; ear-ach; the universal pains; belly-ach; diarrhœa; cough; dejection of spirits; and inordinate craving were the most frequent symptoms. A remission followed stools and perspiration. (A singular case only.) The ear continued to discharge; the livid eruption was troublesome; the countenance was yet diseased; and the tongue was foul, sore, and had an uncommon appearance. The convalescents were very languid, and recovered slowly.

22. Sickness at stomach; head-ach; giddiness; belly-ach; diarrhœa; scaldiug and high coloured urine; cough; dyspnœa; debility; universal pains; especially of the upper extremities were the symptoms complained of most. There was an unnatural motion of the head and hands; and the tongue was still sore.

23. Some passed a bad night from belly-ach, and diarrhœa. Rheumatic pains; ear-ach; cough; the itch-like eruption; debility; languor; and thirst were troublesome. The tongue was dry, but expectoration was now free and copious.

24. The head-ached, and was confused; the eyes watered; the cough was urgent; costiveness and inordinate craving prevailed. Despondency and depression were distressing; the countenance was much diseased, though the patient complained little; the mouth and tongue were foul; the thirst, pulse, and state of the skin, still continued to vary. One became scorbutic. The convalescents recovered slowly.

25. Retching to vomit; head-ach; ear-ach; wandering pains; debility; tension of the abdomen, and costiveness still prevailed. Urgent cough also harassed the sick. One became scorbutic. The tongue was still dry and foul.

26. Some of the sick passed an indifferent night. Retching; cough with pain; and soreness about the breast; ear-ach; with prostration of strength

and spirits, but especially weakness of the loins, were the most urgent symptoms.

27. Head-ach; costiveness; pain and soreness of the abdomen; sickness and languor from sitting up in the hammacoe; cough; debility; and despondency were yet distressing to the patients. The eyes were glassy, and the tongue was covered at times, with a slimy mucus.

28. A very bad night from inquietude was complained of. Some were yet languid and depressed; with wildness of countenance. Many of the convalescents denied that they slept; and the furuncles were not quite healed.

29. Head-ach; belly-ach; diarrhœa; languor; and the itch-like eruptions, especially about the thighs, were very troublesome. The tongue had the pomegranate-like appearance.

30. Some passed the night ill from pain and sickness at stomach; others from ear-ach; head-ach; deafness; or from costiveness. Though the patient thought himself pretty well, the countenance was yet diseased. The right side of the scrotum of one of the convalescents appeared excoriated.

31. Relapse; head-ach at times; ear-ach; pain of the side; belly-ach; diarrhœa; and craving were observed. The skin was yet sallow; but the lips were beginning to recover their natural appearance.

32. Wandering and delirium in the night;

chilliness; head-ach; pain of the side; diarrhœa; and depression continued. The tongue was foul.

33. Severe head-ach in the morning; a bad taste in the mouth; and an expectoration of something disagreeable were complained of. Universal pains and soreness, but especially of the side and breast; and costiveness prevailed. The countenance was yet wild.

34. A paroxysm in the night; ear-ach; costiveness; and diarrhœa were still observed.

35. Bad taste of the mouth; belly-ach; costiveness; diarrhœa; dysenteric symptoms ever since they were last mentioned, and debility were frequent.

36. Head-ach; cough; costiveness; and brown tongue; were now the most obvious symptoms.

37. Pains of the hips and cough were urgent in the night; but the expectoration was easy and copious. Universal soreness and languor were distressing. One was very lousy, and several had been so.

38. Cough and slight wandering in the night.

39. Head-ach in the night prevented rest; wandering; with cough; expectoration; and diarrhœa harassed others. The countenance was wild. One patient, when interrogated, started up suddenly, and exclaimed in a loud tone of voice, that he was well. This patient's legs and feet had been cold, he said, twenty-four hours.

40. The night passed ill from raving and inquietude. One patient was greatly emaciated, and lousy. One convalescent was costive.

43. The costiveness continued, and the itching eruption on the thighs.

45. Sent the costive patient to sick quarters for change of air and milk diet. The patient with eruptions was recovering, and sent to sick quarters the 48th day of his illness; but during the 48 days he had frequently relapsed. One patient did not recover until the 56th day of his illness.

N. B. This description is collected from 512 patients treated under different methods of managing the fever—with antimonials, camphor, and bark, [See the Mode of Management described in vol. ii. p. 352.] during the time I was on board the Juno; and many other patients, on shore, in hospitals, and elsewhere.

## SECTION V.

### *Other brief Descriptions of Fever in various Situations.*

Having stated in the preceding sections the appearances of febrile infection, or fever, in various parts of America, I shall, before I relate a general history of the disease, notice the impor-

tant remarks on that disease in many parts of Europe, and again in Newfoundland, which altogether, I trust, will impress the young professional reader's mind with a full picture of a disease as universal as is human society; in the treatment of which, he ought for ever to bear in his mind—*Hujus morbi principijs obstare debemus!*

I shall begin by stating the symptoms of fever on board the Edgar, which I had not observed on board the Juno.

The Edgar was a third rate, with a complement of 600 men besides supernumeraries, and was employed in the channel, and at Gibraltar three years. During this period 869 fever patients were under my care, on board, besides many that I visited on shore and superintended the management of.

On the first day of their illness, some patients complained of heaviness, and of slight lethargic disposition, of hardness with swelling and pain of the right groin; of symptoms of cynanche tonsillaris, accompanied with fœtid smell to the patient, and to others. An eruption like measles appeared.

3d day, An angry eruption appeared about the mouth. The patient was asked to shew his tongue, was unable to put it out, but with great difficulty, from debility and tremour, took hold of it with one hand to pull it out of his mouth

downwards, to show it. This happened in a relapse case.

4th, Hiccough in some cases, which terminated favourably. In one case it ended fatally, with convulsive catching. A difficult expectoration of bloody, and extremely viscid phlegm.

6th, Profuse hæmorrhage from the nose.

7th, The last of the symptoms mentioned on the 3d, occurred. Costiveness was complained of; and an icteric appearance in the eyes was observed.

8th, Perpetual dryness of the mouth, and icteric appearance of the whole body and eyes.

9th, Pulling out the tongue as on the 3d. Swallowing what was coughed up into the mouth. Rattling in the throat was noticed.

10th, Pulling the tongue out of the mouth.

13th, Putting the fingers of the left hand into the mouth to provoke retching; pulling the tongue; and picking the teeth with the fingers without seeing any person.

14th, The yellowness of the eyes was variable, or mutable. The cuticula separated and peeled off. Paralysis, and an uncommonly large and healthy like stool observed.

16th, Rigidity of the extremities.

19th, Vomiting watery stuff only, while other things were in the stomach.

26th, Expectorating extremely vicid and bloody phlegm.

It was remarkable that, virulent as the infection frequently was, no petechiæ ever appeared on board the Edgar among the patients. Could this be owing to any other cause than administering early and liberally the Peruvian bark throughout the fever?

During the six months that I was on board the Romney in 1782, a fourth rate, of which the complement was 367 men, employed on the coast of France—75 men complained of fever. But their symptoms differed from the fever patients on board the Juno and Edgar so little that I forbear to repeat them: and therefore shall only mention the few symptoms that were not observed on board those ships.

Heat in the eyes was much complained of.

The pulse at times was slower, as well as weaker than in health.

In some cases the pulse was not discernably altered, from its natural state.

The appetite of some patients was immoderate; while in others the craving only was inordinate. [See vol. ii. p. 422.]

In the short time I belonged to the Blenheim, a second rate, with a complement of 767 men, we had 157 fever patients, [See vol. ii. p. 432, and Pathological Table iv.] owing to the circumstances there set forth. But amongst so many

infected patients I did not observe one symptom of fever that I have not related before, and forbear, therefore, to repeat them.

In the part of Hampshire where I practised five years, and part of three other years—the endemial was remitting fever; but a number of cases of febrile infection also occurred there—in all 232 patients; and in some cases they were blended so much as to baffle discrimination. But as no new, nor unusual symptoms of fever appeared amongst the patients, I decline stating them. [See vol. ii. p. 476.]

In the three summer voyages to Newfoundland on board the Salisbury, a flag ship, of 50 guns, whose complement of men, &c. was the same as the Romney's—159 fever patients complained, and were cured, on board and at the hospital, under my own care—amongst whom no unusual symptom occurred, nor did any alteration of treatment become necessary.

## SECTION VI.

### *The Fever in Greenwich Hospital for twenty Years.*

Though fever is by no means endemial here, yet the hospital is but seldom without a fever

patient of one type or other; and, considering the immense establishment, amounting to more than 2860, besides officers, their families, and domestics, at least 150; considering how widely *they* are dispersed to catch febrile infection, which very often happens; and that they fly to this asylum when afflicted, the number of fever patients that occurred within the fifteen years composing the observations in vol. iv. of the Author's Works, namely, 733 fever patients, will not surprise the reader; and the reason of fewer fever patients complaining for some few years past, than did within any former similar period, is owing to the number of the pensioners being sent to assist in the dock yards; and to fit ships out; though from some of these ships we have received some extremely virulent cases of febrile infection, sometimes infecting the nurses.

But in this hospital fever cases occur that are seldom met with on board of ships, or in an army. Our seminary of 200 boys has often presented very bad and obstinate cases of febrile infection.

Amongst our females in the hospital and the 150 nurses, though but few cases of fever have happened; yet these have been of a very dangerous aspect. Indeed I consider myself, from long experience, warranted in observing, that though women are less liable to be infected, or seized with fever than men are, which may be greatly owing to their

being far less exposed to the remote and predisposing causes of fever; and to their general systems thereby being less debilitated: yet, when infected, they do not suffer less than men do. However, no symptoms, that have not been already noticed, occurred amongst the pensioners ill of fever, nor amongst the other fever patients here, which are not included with them, to require any particular description—although I thought it proper to insert these remarks before I proceed to the general description of Fever. See vol. iii. and iv.

## SECTION VII.

### *The general Description of Febrile Infection.*

To every intelligent reader it will readily occur how difficult the task must of necessity be to describe febrile infection, comprehending the vast extended scope which I have assigned it.—A task embarrassed with many great difficulties, and accompanied with such endless variety and combination of circumstances, as no two cases will ever be found perfectly similar, at least not more similar than any two men are. [Which difference in the appearances of fever, instead of directing practitioners to their true cause, namely, the difference of constitutions, has unfortunately misled them, and induced them to attribute these ap-

pearances to specific differences of fever, and thereby laid the foundation for the most vague and destructive practice.] And though this variety should have prevented the attempt to divide fever into genera and species, as a fruitless labour, it has, on the contrary, promoted it. An attempt equally absurd with the philosophers, who should undertake to divide mankind into as many genera and species as there are different complexions, statures, sizes, forms, features, and other distinguishing marks among men. But, great as those varieties are, still the whole human race is considered only one genus, man. In like manner febrile infection, though trivially differing in every two patients, and even in the same patient at different times, throughout the whole earth it is still but one genus of disease; and, I am thoroughly satisfied, ever has been, the same idiopathic disease. A description, therefore, which would apply to every case, would be as impossible to form, as it would be for a painter to describe all the lineaments, complexions, statures, forms, proportions, and other distinguishing marks of the human race, in the picture of one person. But as the picture might clearly represent the form and human likeness, though not an accurate picture of any one person, in like manner, with real diffidence, I shall describe the general and prominent features of febrile infection so correctly from

nature, that the practitioner will know it from any other disease, though the description may not strictly apply to one case.

The first appearance of febrile infection, as I have already observed, is extremely various; for, besides complaining in the manner stated under diagnostic symptoms before mentioned, patients will sometimes droop for weeks before they complain; and after its commencing, perhaps, will crawl on for several weeks, or even longer, (as in *slow nervous fever*), before it terminates favourably; and though they never were apparently very ill, it leaves them, unless they are well managed, liable to frequent relapses, or a prey to scurvy or consumption, at last.

This febrile nervous state or affection is particularly marked by the extremely agitated state of the whole system. The tongue is so tremulous, that it is with much difficulty they can show it; and the hands are so feeble and paralytic, that they are unable to extend them; which renders the examination of a frequent weak pulse, perhaps, accompanied with subsultus tendinum, sooner or later, very difficult.

Or it is observed by strong and frequent tremors; by greater degrees of general or partial paralysis; or by extreme debility; total indifference about every thing; confusion of the head; and gradual privation of the intellects and senses; preternatu-

ral penetration and quickness; or by wandering, and loss of memory and perception; and by extreme anxiety, apprehension, and despondency, stupor, or coma.

The tongue, which at first was of its natural appearance, gradually becomes whitish, foul, and acquiring a blackish slime on its middle; or of a shining red, that changes to the pomegranate appearance. A bitter taste is complained of; and, though the patients are thirsty at times, no drink pleases.

The state of the pulse is variable, being easily affected either by drink, medicines, motion, or surprise, which any thing, almost, occasions.

The natural evacuations are either much diminished or profuse. When profuse, they only increase the general debility, and hasten the fatal catastrophe. Sometimes they seem insensible to cold or heat, and at other times the reverse. They often complain of great heat, when the skin is temperate; and of cold, when the body is really hot. They frequently mention that the palms of their hands, and the soles of their feet, are hot; and their countenances at times are flushed. the little heat sometimes perceptible on the skin, impresses the common disagreeable sensation *calor mordens* on the fingers in feeling the pulse. Various eruptions appear about the mouth and nose, and on the skin; and the cuticle—even the cutis at times, especially of the hands and feet

—peels off. The urine often changes its appearance, but deposits little or no sediment. Sometimes it runs from them, as well as the fæces, insensibly. When the case is about to end fatally, the symptoms gradually grow worse until the fatal period.

2. On the contrary, some are seized with symptoms so violent, as to resemble diseases proceeding from inflammatory diathesis—especially pleuritis, which, however, do not admit of letting blood, and abate as the remission approaches, and again increase with the paroxysm. Remissions, though irregular, are yet evident in the beginning of febrile infection even under this appearance.

But notwithstanding this seeming violence of the symptoms, unless the sick have received former hurts about the thorax; or have been subject to cough, from pulmonic or pleuritic affection; if they are properly managed without letting blood, or being debilitated by antiphlogistic treatment, little danger is to be apprehended, provided the sick complain at the commencement of their illness. If they have been managed otherwise, and if the infection is virulent, the case soon becomes fatal, or terminates speedily in phthisis pulmonalis, which is equally fatal.—I have never met with a case of febrile infection wherein there was not *some* alteration within twenty-four hours.—

Those spurious symptoms of inflammation fre-

quently appear with so much violence, that systematic writers sometimes have very unwarily considered fever to be, *causus* or burning fever, i. e. fever arising from sthenia or an inflammatory diathesis. That symptomatic fever accompanies inflammatory diathesis is certain; but then it is *always*, I believe, accompanied with topical affection, as in peripneumonia, pleuritis, &c. which is a state quite different from febrile infection. And though fever does frequently commence with *apparent* violence, yet, to the experienced and attentive practitioner, symptoms of debility will be so obvious as not to leave him long in doubt what the disease is.

[An instance lately happened in this neighbourhood, which, by the indiscretion of idle people, has been magnified to an *alarm*: while the medical department concerned, merited commendation for their great attention and skill in managing the sick.]

4. It also is often ushered in with a train of catarrhous, and anginous symptoms; or with the symptoms of cynanche.

5. Besides commencing under those opposite extremes, it assumes all the different intermediate degrees of attack; with depression of spirits; with fear and despondency; with listlessness; lassitude; languor; extreme coldness; faintness; syncope, and epilepsy; according to the constitution of the patient.

Or it commences with bitter taste in the mouth; with oppression, pain and fullness about the præcordia—especially before porraceous or bilious vomiting and purging, considered by an eminent writer, *cholera morbus.*

It also commences with dysentary; and diarrhœa; with dry belly-ach and suppression of urine; with the head much confused, or affected with pain in different parts; with giddiness or deafness; with hæmorrhage at the nose; tooth-ach; with relaxation of the uvula and various degrees of sore, or ulcerated throat; with sensation of swelling about the præcordia, and of the abdomen.

Sometimes, after chilliness, it commences with anxiety and uneasiness, or oppression about the thorax; with pain of the sides shooting down into the groin or thigh; with pains in both ilia which descended to the feet; with pain from the crown of the head to the sole of the foot of one side; with pain of the right shoulder, and of the hams; with great heat and perspiration, without any previous shivering or coldness having been observed; with great variation of the heat of the skin, of thirst, and of the pulse.

In some cases more; and in others, fewer of those symptoms appear at the commencement of the fever, or so soon after it, that they may properly be ranked amongst the introductory symptoms, or first symptoms of attack.

6. Symptoms of putridity [Speaking in compliance with custom] or of dissolution sometimes appear from the beginning, which show that the general system has been in a very morbid state for some time before. Generally speaking, however, those symptoms do not appear until the advanced state of febrile infection. Whenever they do appear, the fætor about the sick renders it fully as disagreeable as it becomes dangerous to visit such patients. Sometimes they are very sensible of this themselves; and at other times they appear to be otherwise, from their indiscretion in breathing full in the practitioner's face.

7. I have seen an eruption resembling measles, with very offensive breath at the beginning of fever: I have known it commence with bubo; and I have likewise known patients to be affected with lethargic symptoms at its commencement, which I consider to be symptoms of dissolution.

8. But the most deceitful and fatal appearance is that which sometimes occurs in hot climates; when the energy of life, without one symptom occurring to alarm either patient or the generality of practitioners, rapidly hastens from health to extinction. Yellowness, improperly called yellow fever by some late authors, is not peculiar to it: for, in the diseased countenance, instead of the icteric, may be discerned the very squalid, lowering, blank, and inanimate appearance, which is often observed to precede death. Such patients

I have thought, are either incapable, or afraid, to explain their own feelings: but no words of the physician can convey to the reader an adequate idea of their countenance. Experience only can acquire the knowledge of it.

9. But generally it commences with the diagnostic symptoms, after which the different types and other appearances, as the fever advances, occur according to circumstances. The countenance daily becomes more diseased; and universal debility is complained of, and rapidly increases; but the stomach and head seem to be more particularly affected. The bowels seldom retain their natural state, but are either violently pained; costive; or extremely relaxed; or affected with dysentery. Whether the sick complain or not, from their frequent sighing and inquietude, they appear to be extremely anxious and uncomfortable: their morbid intellectual powers seem to be wholly employed in brooding over their hopeless situation, which they nevertheless, sometimes, studiously endeavour to conceal. At other times they reveal their anxiety, and complain of great fulness, oppression, and pain, about the præcordia; or in different parts of the abdomen, especially on being pressed, though ever so gently. Distension and borborygmi are likewise observed in the abdomen.

Their pains, which often resemble rheumatism or gout, are more violent during the paroxysms

and exacerbations; and these again are often preceded by local pains.

The countenances of some are often observed to vary. Sometimes they are dry and flushed; or they appear sallow, tawny, icteric, squalid; or are covered with more or less of watery, or clammy, or hot, or cold greasy sweat; or they assume the hippocratic appearance. The alæ of the nostrils are sometimes much distended during expiration, and collapsed every inspiration: convulsive twitches are then observed about the mouth.

The tongue, from being at first very little discoloured, sometimes rapidly, but oftener gradually puts on a more diseased appearance; becoming whitish, or foul, or furred, or dry and shining, or brown, or husky, or black, and more or less chapt: or it appears very little affected round the edge, or partially diseased as if streaked; or seems to have been boiled, or macerated in boiling water; or shrivelled, or enlarged, which are dreadful symptoms.

The teeth become dry, and, like the lips, are covered with sordes, which, though cleansed off with difficulty, is soon replaced: the throat too is frequently much affected; sometimes with ulcers.

Every degree of delirium, from an unusual absence and wandering to perfect mania, of various duration, may be observed sooner or later; and also *risus sardonicus*, though rarely.

The skin in like manner, is variously affected; and eruptions of very different aspects, besides petechiæ, vibices, and blotches, appear. Various degrees of heat; or dryness; or of perspiration, partial or universal; and very different perspirations, as well as on the face, are observed.

When medicines have a proper effect, the case terminates favourably, though often very slowly, without the symptoms attaining their acme, or worst state, and without any obvious crisis—speaking in compliance with custom.

Otherwise they continue, with frequent deceitful cessations, to increase until the fatal period, which happens indifferently from the 2d to the 38th day of their illness. But if proper medicines are prescribed liberally and early in the disease, it terminates favourably in a much shorter time; and very seldom attains a violent acme.

In the preceding description, I have been, for the benefit of young practitioners, more studious to mark the different appearances of the commencement, than to dwell on the progressive periods of febrile infection; because it is of most importance to assist them at the commencement of a disease, to form their judgment of it, and to form their plan of treatment: which ought to be immediately put in force, and persevered in without interruption, until the energy of life is sufficiently restored to subdue or resist the fever

and its debilitating effects; or until febrile infection and its effects in the system are neutralised (if I may be allowed the expression) with the medicines and their coadjutants. Because one hour lost at the commencement of fever, is often not to be redeemed. Besides, in the advanced periods, many of the introductory or commencing appearances are effaced; and a greater similarity among cases takes place; but when the practitioner sees the disease in its far advanced state, it is frequently too late for medicines to relieve them. Nor can any doubt then remain on his mind what the disease is.

## SECTION VIII.

*Symptoms that occurred in the Cases that terminated fatally under my own Observation, for thirty Years, in various Regions of three Quarters of the World.* [See vol. iii. p. 129.]

Costiveness; borborygmi; palpitation of the heart; and colliquative sweats.

Violent affection of the throat; hoarseness; and livid blotches.

Colliquative diarrhœa, succeeded by delirium, subsultus tendinum, and black tongue, the 10th day of the fever; and stupor the 12th, terminated in phthisis pulmonalis, and that in death.

Singultus increased; and violent retching (induced by blood letting for dry belly-ach as was thought) succeeded by bloody stools and vomiting black matter, were fatal the 8th day.

Inability to express their complaints, in any other way than that "*they do not feel clever*," though they are still going about, and appear to inexperienced practitioners to have little ailing them; when the countenance on accurate examination appears extremely diseased with fear, anxiety, inquietude, and despondency; accompanied in the mean time with icteric appearance, or sallowness—terminated fatally in several cases on board of the Preston, and on board the Weasel.

An intermittent changing—with general tremors, convulsions, loss of speech, and cold extremities—to a remittent type, with a languid irregular pulse the third day. The tongue, from being foul, becoming brown the 4th. A comatose disposition continuing the 5th, 6th, and 7th. Relapsing the 10th, after being relieved the 8th and 9th. Convulsions returning the 11th, and the coma still continuing, were fatal the 25th.

Obstinate costiveness; the matter vomited and stools, staining like an infusion of saffron; hæmorrhage from mouth and nose; bloody urine; purple blotches, rising like the stinging of nettles; large swelling of one side of the neck and face, of an ecchymosis or livid appearance; the tongue

brown and rough with smacking as if tasting something; wildness of the countenance; great apprehension of dying; despondency; universal coldness, and clammy sweats; muttering, or murmuring inarticulately; and syncope, were mortal on board the Weasel.

Extreme dyspnœa; pulse rather hard, full, quick, and irregular; palpitation of the heart; depression, with great sense of debility; insatiable thirst when the tongue had nearly its natural appearance; great inquietude the 2d; the pulse sinking after losing a few ounces of blood; the thirst continuing with increased depression and debility the 3d and 4th, were fatal the 5th day.

Debility, faintness, oppression at and often laying the hand on the præcordia; with cough on the 4th; great anxiety, comatose disposition, and a small irregular pulse the 5th—after two small bleedings; coma continuing, and lying always on the back with the eyes half shut, on the 6th; changing posture at times without finding any alleviation of the symptoms; and two copious green fœtid stools the 7th; coma increasing with raving, and frequent slight alterations the 8th; a moist, hot exhalation arising from the patient, though the skin felt dry and hot the 9th; succeeded by catchings, subsultus tendinum, and convulsive-like respiration, were fatal the 13th day.

Great pain about the eyes the 3d; great appre-

hension, despair; countenance flushed, and though thirsty, not pleased with any drink, the 5th; profuse perspiration yielding no relief, or perspiration about the head and face only; turbid urine; lying chiefly on the back; slight cough and costiveness, the 6th; the tongue becoming dusky and chapt; cough more urgent, frightful notions and inquietude increasing the 7th; porraceous vomiting the 8th; frequent retching the 9th; expectorating a little thick matter a few times the 10th; delirium, countenance becoming bloated; coma and diarrhœa increasing, with other symptoms of dissolution, the 11th; urine changing its appearance often, and the thorax pulled violently upwards at every inspiration, the 18th, were fatal the 22d day.

Anxiety, fear, and the skin disagreeable to the touch, the 1st day; costiveness; a sensation of lightness and giddiness of the head; irregular pulse; nicety about trifles; wandering; urine high coloured, with whitish fibres; anxiety and despondency increasing the 2d; urine pale and crude; countenance flushed and rather wild; giddiness increased, and copious fœtid stools the 3d; pain in the right leg at times; despondency yet increasing, though the patient complains little of any particular symptom; the urine varying often in appearance; the countenance appearing to common spectators so healthy that they thought little ailed the patient, the 4th; the pulse softer

and slower than natural; lying on the back, and rising suddenly on one elbow when spoken to, and the urine more variable, the 5th; a very unquiet night, and a prickly heat like eruption about the neck and breast, preceded death.

Obstinately refusing his medicines until the 5th day, nor taking them regularly before the 7th; raving the 8th; giddiness the 9th; costiveness and no complaint, though he bit his nails, the 10th; evident symptoms of indigestion the 11th; convulsive rigors after taking James's powder, and roaring as if in pain, though he complained of none, and even denied his being in pain, the 11th; and spitting a little blood the 13th, were fatal the 14th.

Laborious and unnatural respiration, with noise; despair, great debility, and confused intellects, were fatal the 7th day.

Ceasing to complain, without being obviously relieved; rattling or stridor in the throat the 4th; muttering or singing inarticulately the 5th, immediately preceded death.

Being seized with sense of giddiness, extreme debility, and faintness; distorted countenance, delirium; and discharge from the ear stopping suddenly, ended fatally the 2d day.

Wandering early in his illness; tremors; watery stools; insatiable thirst; wildness of the countenance, which became sooty or squalid; partial momentary sweats yielding no relief; the pulse

moderate; acute pain at the præcordia, aggravated by incessant cough, which, with difficulty, brought up a little phlegm; remission the 6th, followed by sense of cold and exacerbation the 7th, and constipated bowels, were fatal the 8th day.

Apprehension, extreme despondency, and snorting respiration, were fatal.

Pain of the left side with cough; great inquietude; and insatiable thirst the 5th, ended fatally the 6th.

Violent and unremitting pain in the back part of the head for five days, *the patient said;* hoarseness coming on the 4th day; tension and swelling of the abdomen, with gripes the 6th; effusion of tears the 7th; and dyspnœa the 8th, were fatal the 11th.

Tinnitus aurium with soreness and deafness of the left ear, the 4th; unnatural respiration the 6th; acute pain of the right side; alæ of the nose distended, during inspiration particularly; and white frothy stools after clysters, the 7th, ended fatally.

Slight head-ach, gripes, thirst and debility, the 1st; followed by pains in the extremities, and exacerbation of the belly-ach, with costiveness, were fatal the 2d night.

Great difficulty to put the tongue out, from the 5th; pulling it out of the mouth with the hand, when asked to shew it, the 9th; extreme dys-

pnœa, the trachea arteria and thorax at the same time pulled violently upwards during respiration; or the trachea projected or swelled; loss of speech at times; violent agitation of the abdomen the 11th; putting the fingers in the throat, and pulling the tongue, and provoking retching, when he saw no person, were fatal.

Extreme debility and despair the 2d ended fatal ly the 6th.

Rambling the 3d day; laborious respiration and a few drops of blood the 4th, were fatal the 5th.

Profuse hæmorrhage from the left nostril the 6th, and in a less degree the 7th; unnatural respiration and swallowing the expectorated matter, the 9th; dyspnœa and oppression at the præcordia; pulling the tongue out downwards, when desired to show it the 10th; convulsion of the lower lip, and alteration of the voice, the 11th; the eyes generally shut, the 12th, becoming speechless at times, the 13th; changes from bad to worse, *vice versa;* universal paralysis, and an uncommonly large healthy-like stool, the 14th; imperfect remissions, the 15th; rigidity of the limbs, and sweat chiefly on the forehead, the 16th; a profuse sweat for a short time; motion of the mouth as if tasting something, and the pulse becoming more regular and firm than it had been for some time, were fatal, the 19th.

Cough, anxiety, and despondency from the beginning; the macerated or boiled appearance of the tongue, and a deceitful remission for two days; an exacerbation and countenance flushed, the 7th; incessant dryness of the mouth becoming more troublesome, the 8th; weakness only complained of, though obviously very much diseased, and a short profuse sweat, the 13th, followed by two short remissions, the 14th and 15th, and by an exacerbation, the 16th; pain about the left ilium, and colliquative diarrhœa, which brought on tremors, the 17th; skin cool, moderate pulse, extreme debility, wandering, hiccough, pain of the left ilium, and the tongue enlarged, the 18th; retching watery stuff, the 19th; and spitting extremely viscid, bloody phlegm, were fatal the 21st. I predicted this patient's death on first seeing him.

Relapse the 4th day, (from his first illness, after returning by his own particular desire to duty,) with depression of strength and spirits; with despair, and a countenance greatly diseased and bloated; diarrhœa; and excessive giddiness, the 3d day of the relapse; imperfect remission, cough, convulsive catchings, and hiccough, the 4th; inordinate cravings for food; great desire to get on shore; icteric appearance of the tunicæ albugineæ; the eyes lifeless, thinking himself better, and a deceitful appearance of the pulse, when debility was rapidly increasing, and the

discharge from the blister was a dark sanies, the 6th, ended fatally the 7th. I predicted his death when he complained of his relapse.

Depression, languor, and great debility; an expectoration of some dark coloured pus, the 12th; and profuse perspiration on the 16th, preceded death the 17th.

Extremely diseased countenance; the eyes lifeless, with blackness round them; total prostration of strength and spirits, with despair, and a fluttering pulse, from the beginning, were fatal, the 5th.

Relapse (from having fallen out of his hammacoe into the scuppers, where he was found wet and almost dead with cold) the 12th of his illness; inability to put out the tongue, which was dry and enlarged; sensation of great internal heat, with thirst, loss of speech, and convulsive twitches of the face, the 13th; pain in the feet and hemorrhage from the nose, the 14th and 15th, with colliquative diarrhœa; a very squalid diseased countenance, and covered with clammy sweats, the 16th; and involuntary effusion of tears, especially at the external canthi, were fatal.

Languor and debility from the beginning; relapse the 20th of his illness, after being in a convalescent state some time; debility increasing, loss of appetite; sight failing upon being moved to an erect posture; little or no complaint, except weakness, the 23d; dyspnœa, from eating

immoderately, the 25th; relapse, the 27th; imagining himself better, when he was not, the 30th; countenance flushed, 32d; motion of the mouth as if tasting something, and a small contracted froth spit up, the 33d; tremors, cough, and pain of the right breast, 34th; mouth incessantly dry; cheeks livid, and muttering deliriously, 36th; a greasy sweat on the countenance, the 37th, were fatal.

Dysenteric symptoms, with extreme debility, and a very diseased countenance, were fatal. This patient took no medicine.

Great debility, and the bowels much disordered, were fatal—in a child Read's case.

Extreme debility, languor, anxiety and despair; incessant dryness of the mouth, nothing pleasing the palate; oppression, or pain about the præcordia, and refusing medicines, were fatal.

Frequent sighs, pain resembling pleuritis, obstinate constipation of the bowels; the pulse little affected; paralytic affection of the left arm, with violent pain of the hand and livid spots on the back of it, threatening mortification, and swelling of the feet and ancles, terminated fatally.

A live worm voided by the mouth, and intense coma, in the child Smith's case, were fatal.

Ulcerated sore throat, giddiness and despair, with great debility, were fatal.

Colliquative diarrhœa, in the girl Leven's case, was fatal.

Dark-coloured matter vomited, when first seized; catchings or convulsive twitches of one extremity, and sometimes of the thumb, at other times, universal twitches, and intense coma, were fatal.

Violent universal pains, inquietude, and anxiety, at first; succeeded by too great confidence of her own situation, with unusual quickness, penetration and inquisitiveness, ended fatally the 7th day of the fever.

Extreme anxiety, and the stomach and bowels much disordered; loss of appetite exceedingly regretted, and the eyes somewhat inflamed; succeeded by indiscreet indifference about life, giving it up for lost, and taking no medicines, were fatal the 8th day.

Extremely diseased countenance, the eyes generally more than half shut; total prostration of strength and spirits, with perfect indifference about life or any thing; dozing or comatose at one time; and violent delirium at another; pulse weak, quick and variable, were fatal the 5th day.

## SECTION IX.

### *Appearances wherein Remitting Fever and Febrile Infection seem to differ.*

The symptoms which mark the most obvious difference between the fever arising from marsh

effluvia, as described in the preceding chapter, and febrile infection that I have observed, are,

1. Febrile infection being much more contagious than remittent fever.

2. The long continuance of febrile infection in any situation, unless it is cured early.

3. Duration of ship fever in individual cases.

4. More frequent relapses which individuals are apt to suffer during their illness before they recover of febrile infection.

5. More frequent relapses many individuals suffer after having, to appearance, recovered perfectly of febrile infection; and,

6. The great variety of eruptions which accompany ship fever, and particularly petechiæ.

7. The abdominal viscera being generally affected far less than in remittent fever.

Is the 1st depending on any other cause more than its being a deeper shade of the same colour? or a more virulent degree of the same disease?

May not the 2d depend in some measure on the frequent importation of fresh infection while the fever is on board? Can the great diversity of symptoms accompanying febrile infection be accounted for in any other *rational* way, than by referring their cause to the state of the system antecedent to and during the influence of infection? or does it proceed from the nature and man-

ner of the subtle poison, *febrile infection,* operating on the human system? or,

Does it depend on the patient's continuing, while in a feeble state, to live under the influence of the infected air? an idea contrary to Dr. Geo. Fordyce's. And,

Do the 3d and 4th proceed from the same cause?

Do the various eruptions, even petechiæ, which frequently appear together with other eruptions, and seem to be a more general concomitant of febrile infection when treated with antimonials, or other debilitating medicines, also depend on the constitutions of the sick, and treatment?

Does the last remark proceed from any specific difference of infection?

Whether in those queries are comprehended the real sources or causes which occasion the discriminations between remitting fever and febrile infection, is perhaps of little moment; it is sufficient that they indicate a virulent infection, and the consequent necessity there is for the utmost exertions of human skill to subdue, or at least to render the infection as mild as the nature of things will admit; and it is a consolation that, notwithstanding any apparent difference between them, they are alike to be cured by the same means, viz. Peruvian bark.

But most commonly febrile infection commences very differently from the manner which ushers

in remitting fever; and I therefore deferred inserting till now, that in several instances I have been sensible of being infected, at the instant *I was infected*, or inhaled infection.

Their complaints, as they express themselves, are gradual diminution of either the corporeal or mental functions, and sometimes of both; i. e. the memory becomes more impaired; they cannot give attention to any business; their sleep is interrupted by inquietude; both the appetite and strength diminish; while at the same time the countenance may be observed to change to a morbid appearance; the patient may be observed to become indifferent about himself or his affairs, or to any circumstance around him; and a want of energy to exert himself, in any respect, may be remarked.

Sometimes, however, the period between infection and the symptoms of the fever, more obvious than those now related, appearing, and discovering the diagnostic symptoms, is very short. But unless we know for a certainty beforehand, that the patient has been exposed to infection, all the incipient symptoms above enumerated may be imputed to some other cause. As in the case of small pox caught by infection, without the knowledge of the sick, and even by inoculation, some febrile diagnostic symptoms occur, particularly the pain of the back and head-ach. Although the morbid process from inoculation commences

with the insinuation of the pus, the indisposition which is occasioned by it is sometimes so slight as scarcely to be noticed until the eruptive fever takes place. At other times this process is more distinctly marked by a greater degree of indisposition. The process also, in many cases, is more violent and shorter in fever. All of which varieties depend on the constitutions of the sick, and the manner of their being situated and treated, and not on any difference of the disease.

If then, after the morbid indisposition abovementioned, the symptoms which I have termed diagnostic appear, or even some of them appear, and some of them only are complained of, no experienced practitioner would hesitate to announce the disease to be fever: and even the inexperienced, if he attends to the state of the sick, and to the symptoms complained of, would be under no difficulty to know what the disease is.

1. A singularly morbid appearance of the countenance, [the eyes being particularly affected with dulness,] which cannot be ascribed to the short time the patient has been ill, must strike him.

2. The head being affected with more or less pain, most frequently across the forehead; and also very often with heaviness and confusion.

3. Nausea, or retching more or less, with sickness at stomach, and loathing of food.

4. Universal pains, especially in the back; or,

in the words of the sick, *pains all over them; wandering pains; pains in all their bones, or in their joints, but especially in the small of their backs.*

5. Debility and lassitude; which are *generally* accompanied by,

6. Rigors, or chilliness, which are succeeded by heat; or by chills and heats alternately and repeatedly, in a greater or less degree; and for a longer or shorter duration in different cases, succeeding each other.

7. If upon diligent enquiry it comes out that the sick, previous to their present illness, have been any way, or in any respect whatever, exposed to infection or contagion, no doubt will hang upon the mind of the practitioner, what the nature of the patient's case is.

When these symptoms are present in any case, it is of no importance which of them the patients mention first, as that will depend on their violence; upon the order in which they harass the sick, individually, most severely; and upon their own discernment. So that of seven men complaining at once of fever, each of them may at first mention a different symptom: this makes no difference, however, in their disease.

By this etching, or outline, febrile infection will be discriminated by any practitioner of discernment.

The fever, strictly speaking, is the offspring of

infection, yet, as I have already remarked, it may be propagated by various other means. But, as to what febrile infection is in itself, or what the nature of the process of the means which incidentally produce, or propagate it, may be, I shall not attempt to explain, any more than I would attempt to explain what oxygen, hydrogen, azot, or nitrogen is composed of; or what the nature or source of *caloric* is *à priori.*

We know nothing of the *prima causa* of the differences between remitting fever and febrile infection; nor is our not knowing it of much importance. As experience teaches us, that the differences are no material bar to curing both on one general principle, if the bowels, in the former are kept open.

We daily are convinced how limited our knowledge and penetration are! for though we see, yet are we unable to explain why suppressed perspiration in *some patients*, one year, should occasion cynanche tonsillaris; another year pleuritis; in other patients peripneumonia vera; in others peripneumonia notha; in others nephritis; in others rheumatismus; in others ophthalmia, &c. &c. &c.

All, therefore, that can be said on this part of the subject is, that the proudest philosopher that ever lived, when driven to the *prima causa* in any of nature's works, is obliged to confess his ignorance. To relate the obvious and healthful appearances of the animal œconomy; to perceive

the alterations and gradations from these to morbid states; to enumerate and class the symptoms or phenomena of such morbid states; to endeavour to prevent these from happening, and to remedy them when they happen, I believe comprehend all the physiology, pathology, and therapeutics, incumbent on the physician to study.

I shall now, without further apology, pass over the different doctrines which have been gravely insisted on by eminent authors, concerning fevers, having already noticed these in the First Part, and state what I have been enabled, by long experience and close attention, to say further on this subject, as to a successful manner of managing it. But I shall first advert to the—

## SECTION X.

### *General Affections of the System in Fever.*

The intellects are variously affected, from the slightest degree of wandering to perfect mania, for more or less time; and also with coma and pervicilium. The memory, perception, attention, and thought, are sometimes completely suspended, or there appears to be a temporary privation of those mental powers. Great, and sometimes total indifference; unusual dulness; and uncommon quickness occur. Depression of spirits,

languor, anxiety, fear, and despair, also, in various degrees, predominate.

The nervous system is more particularly affected with extreme debility, with universal or partial paralysis; as hemicrania, hemiplegia, subsultus tendinum, or convulsive twitches in different parts. They are likewise affected with laughing, *risus sardonicus;* singing; with unnatural voice and speech, with grumbling or muttering; and all the symptoms of hysteria.

The secretions and excretions, or natural evacuations, are also affected with preternatural colour, consistence, quality, abundance, diminution, or temporary suppression: the urine, stools, perspiration; and expectoration, with more or less fœtor; universal pains, or soreness; and universal heat or chilliness, are complained of.

The skin is affected with different degrees of heat, dryness, and roughness; with sensation of alternate chills and heat; with chilliness; with heat; with general or partial profuse perspiration; with hot or cold, watery, greasy, or clammy sweat; with reeking moisture, and frequent alterations of these. It is covered with many eruptions, besides petechiæ, maculæ, vibices and blotches. Sallowness, yellowness, sootiness, and at times lividity, appear on it. Desquamation of the cuticle, and sometimes of the cutis,

## SECTION XI.

### *Particular Affections of the System in Fever.*

The head, and probably the brain, is affected with sensation of general confusion, heaviness, lightness, and giddiness, and sometimes with universal or partial aching or pain.

The countenance, besides presenting the generally, yet inexpressibly morbid, inanimate, or blank appearance, is either flushed at times, or sallow, or icteric, or bloated, or partially swelled; or seems greasy, sooty, or squalid.

The eyes are affected with sensation of fire darting from them; with a livid circle around them; with diminution of sight, even to blindness in the paroxysm; with listlessness, with dilatation of the pupils; with sinking or retracting in their orbits; with lifeless and unmeaning appearance; with effusion of tears,—particularly at the external canthi, which become dirty, and acquire the consistence of pus; and sometimes they are very much bloodshot.

The ears are affected with deafness; with discharge, without any previous sign of inflammation; with pain; with impostume; and with *tinitus aurium.*

The nose is affected with eruption; with disten-

sion; and collapsion of the alæ; with sharpness; paleness; coryza; offensive smell to the sick; with itching; and with hæmorrhage.

The mouth is affected *externally* with various eruptions; and with motions as if the sick were tasting something. The lips are affected with paleness; with lividity; and convulsive twitches. It is affected *internally* with aphthæ; with bitter taste; more or less dryness, causing incessant thirst; with salivation; and with sordes, covering the teeth and lips.

The tongue appears as if macerated in water; or as if it had been boiled. Sometimes it is enlarged, and stiff; or it is shrivelled: or covered with white mucus, gradually becoming yellowish, brown, and black. Sometimes it is husky; or chapt; or aphthous, or as if it were striped; or covered with black slime, especially in the middle or near the root; the tip and sides appear red and moist, while the middle is very much diseased; and sometimes it is so tremulous that the patient can hardly show it.

The throat is affected with more or less appearance of inflammation, both internally and externally, accompanied with an exudation of serum, or lymph acquiring the appearance of pus; with putrid ulceration; with enlargement of the tonsils; and with parotis. The trachœa arteria is pushed violently upwards, and projected at times

with muscular convulsion as if it were swelled. It is also affected with hoarseness; and with rattling—not always fatal.

The thorax and its contents are affected with various degrees of pain resembling pleuritis; peripneumonia vera and notha; or paraphrenitis. It is also pulled upwards with more or less violence in respiration.

The lungs are affected with dyspnœa and unnatural respiration both in noise and the patient's manner; with frequent interrupted sighs; and with cough; and other affections terminating speedily in phthisis pulmonalis: especially after pneumonic affection.

The heart is affected with fluttering, palpitation, and perhaps with slight symptoms of carditis.

The diaphragm with convulsive symptoms, and others not to be ascertained exactly, nor described.

Singultus. The stomach is affected with loss of appetite; or dyspepsy with more or less insensibility; with debility; with nausea; sickness; retching; vomiting of matter, of different appearances as to consistence and odours, with worms alive or dead; with swelling; with sensation called *heart-burn*; with flatulence; with eructation; indigestion; inordinate craving; preternatural appetite; sensation of great weight and

oppression; and with acute pain; or with great pain; or with great tenderness, as appears from pressure about the præcordia.

The intestines are affected with constipation; relaxation; loss of tone, or with diarrhœa; with flatulent distensions; borborygmi; with griping pain, or belly-ach; with dysenteric symptoms; with sphacelus; and involuntary stools, of various colours and consistence, containing worms alive or dead, or fœtid matter. The liver and its appendages, [vesica fellis; ductus systicus; ductus hepaticus, and ductus communis choledochus] with obstructions; with preternatural enlargements, and with preternatural secretion; or redundancy of bile, or with suppression of it.

The mesentery, spleen, and pancreas, are affected with obstructions: and the two latter with suppression, or preternatural discharge of their respective fluids; and with great enlargement; particularly the spleen.

The kidneys and ureters with nephritic symptoms.

The bladder with suppression; micturition, or involuntary discharges of urine, which sometimes smells strong or offensive.

The abdomen is externally affected with more or less tension; and with pain which is much increased by pressure, particularly about the scrobiculus cordis.

The testicles are affected with contraction; with tenderness and pain.

The extremities are affected with sensation of soreness; with *wandering pains*, as the sick express themselves, and with rheumatic pains; with unnatural position; convulsive twitches; and paralysis.

The pulse is affected with endless variety.

In women the menses are variously affected with more or less obstruction; with frequent returns, and with excess in quantity.

## SECTION XII.

### *On prognostic and critical Days in Fever.*

On the subject of prognostics, I mean to confine myself to those which I have formed from my own observation and experience only. And on this part of my subject I differ widely from those physicians who reproach Hippocrates, because his prognostics have not been literally verified in their practice. Had they practised in the same region and climate, and under all the same circumstances which he did, and found his prognostics erroneous, their censure might have claimed regard. But that not being the case, instead of censure, Hippocrates merits our admiration, for having formed so many sagacious axioms,

which are confirmed by daily observations, and under circumstances so different; and in times and climates so remote from those in which he practised; which are another strong proof in favor of my opinion, of the universality of fever.

When differences between climates, seasons, and the constitutions of men, cease; when the manners, customs, and mode of diet, amongst men, become the same; and when the same method of treating diseases, regarding the difference between age and sex only, is universally adopted; then may physicians expect there will be a perfect similarity in cases of the same diseases, and of the prognostics, throughout the universe, derived thereupon.

Respecting critical days, I freely repeat what I have already said, that for many years I have paid no regard to them, in my treatment of febrile infection.

I think it proper, likewise, to observe, respecting crisis—that the evacuations, discharges, and other appearances about the sick, which have been considered or defined *critical,* are, in my opinion, not *causes*, but *effects* only of the commencement of a favourable alteration and change of the patient's constitution and disease, brought about either by medicine or nature.

To many physicians, there may be nothing new in this remark; but I believe it is new to young medical practitioners, and I think it

material in practice to distinguish *effect* from *cause*.

Experimental knowledge of diseases in general, and in particular of febrile infection, sufficient to enable the physician to prognosticate with tolerable certainty, is as difficult to attain perhaps as any knowledge relating to the profession. No part requires more attention and more experience, than to discern every circumstance, respecting situation, climate, season, age, sex, constitution, habits, and manner of treatment of the sick, which, as well as every symptom, ought to be well known and duly considered, before the practitioner forms his prognostic, and makes it known to the relations of the sick. To form a fair and just prognostic, besides having had long experience, he must fully state the whole of the circumstances respecting the symptoms and situation of the patient; then the experienced physician will be able, after having duly considered them like an expert arithmetician, to sum them carefully up, and to prognosticate with precison the event to be expected.

In prognostics, I consider no individual symptom of febrile infection, taken separately, a *fatal omen*; because in all cases about to terminate fatally, there is an assemblage of unfavourable symptoms about the sick.—But

When the patient is seized with violent appre-

hension; despondency; and extreme debility; which are sometimes defined by extreme prostration of strength and spirits; or fear; or dejection; or depression; or languor; or listlessness; or indifference; or great weakness—and when the countenance, at the same time, is excessively diseased: or, in other words, when the intellectual and corporeal system appear equally and violently affected, I observe the prognostic is invariably fatal.

When either the intellectual, or corporeal system only, is violently affected, the prognostic is proportionably less dangerous, *i. e.*

Though the intellectual system should be violently attacked, when the corporeal system is not extremely debilitated, and, *vice versa*, when the intellectual or mental power is little affected, and the corporeal system is extremely diseased, much less danger is announced. It would seem, therefore, that the one system is a material support to the other, when it is violently diseased, or that the general system is not equally morbid. But when, unfortunately, it happens that both are violently affected, as too often happens to previously disposed constitutions; if, at the same time, the proximate cause has made great impression on the system, and the infection is virulent—the sick represent plants instantaneously and entirely

blighted, which having the energy of existence arrested, all hopes of life are at once destroyed.

This observation will be found just, under every appearance of febrile infection.—In such a case, the physician is puzzled to decide whether the afflictions and privation of the intellectual system, or mental powers, comprehending the modifications of delirium; or those of the corporeal system, including topical affections, are most distressing to the patient; and which are most difficult for him to manage.

Sometimes one, and sometimes the other, with and even without skilful management, is enabled to drag the other system out of the *mire* of disease, if I may be allowed to say so, greatly maimed, or almost in a state of torpidity; of which the sick perhaps never, or with the greatest difficulty, recover perfectly. Sometimes the understanding is entirely destroyed; and sometimes only for a time. Sometimes one, and sometimes more of the senses are entirely destroyed. In other cases, speech; the use of the limbs, or of a limb, is lost. Sometimes general paralysis, and sometimes hemiplegia follows. In violent topical affections, suppuration of great extent; or gangrene; or mortification; frequently ensue—of which the loss of a limb is perhaps the consequence; or the patient may sink under the discharge. This, though no

less a curious than important subject, has never, to my knowledge, been duly attended to.

Cases accompanied with pleuritic or pulmonic affection, in constitutions which have formerly sustained external injury about the thorax, or in people subject to habitual bad cough, from whatever cause it may have originated, terminate fatally in phthisis pulmonalis.

When the sick say they are better, and think themselves too well to lie in bed, or to be confined, though they complain *they do not feel themselves quite clever;* which, in fact, implies that they are diseased in a way that they cannot express; when at the same time it is obvious to the experienced and discerning physician, from their pallid, sallow, icteric, squalid, or otherwise morbid countenance, that they are extremely anxious and afraid; and that their mind is exceedingly agitated and diseased, with an uncommon degree of solicitude and inquietude about them; under such an appearance of fever, in hot climates, the prognostic is always fatal. An exception never occurred to me.

The reason seems to be, that the state of the patients is not considered at all dangerous, either by the practitioner or patients themselves; so that the time is let slip which ought to have been employed in the most active exertion to effect the cure. Other physicians, I find, have attempted

to distinguish this deceitful appearance of fever as a particular species, because the countenance is icteric, and because they were not successful in managing it. They have therefore concluded that their unsuccessful treatment of the disease was owing to its incomprehensible malignity; and that it never before had occurred to any other practitioner. This appearance of febrile infection, however, is more peculiar to hot climates; and it is difficult to decide, whether the corporeal or intellectual system, in such cases, is most affected. But the patients' answers not coinciding with their apparent situation, indicate a diseased state of mind, as fully as if they were highly delirious. I wish, therefore, to impress indelibly on the minds of young physicians, and other medical practitioners, especially in hot climates, never to trust to slight appearances of febrile infection, but to exert themselves to effect the cure, with as much earnest and active solicitude as if it were an apoplexy, or as a surgeon would do to stop a hæmorrhage from a divided artery. An instant ought no more to be lost in the one case, than in the other. For if the proverb, *anguis latet in herba*, is applicable in any disease, it is in febrile infection, in hot climates.

Very profuse and colliquative evacuations accompanying fever, whether hæmorrhage, or dysentery; or diarrhœa long continued, sooner or later terminate fatally; and generally soon.

Green, or dark-coloured discharges from blisters, afford a fatal presage.

[Osborn's wife, in Fawley, recovered under my own practice, 'though the abdomen had that 'yellow and circumscribed appearance which is 'generally seen in dead subjects, when dissolution 'commences.' I thought she would have died.] See vol. iii.

Maculæ; or vibices; or livid, or yellow partial blotches or effusions, accompanying febrile infection, under debilitating or trifling practice, are always fatal. But under very active and reinvigorating practice, they are not always so.

Some symptoms, such as cadaverous smell, and involuntary profluvia of stools and urine, seldom happen until death is at hand.

An extremely diseased countenance, in the beginning of febrile infection, is fully as dangerous as the hippocratic countenance is, either in the end of fever, or of other diseases.

Stridor in the throat, vulgarly called the rattles, is not always fatal. Robert Cull recovered, though he laboured under this symptom. See *ibidum*, p. 148, 9.

I formerly observed, that patients seized with syncope; sudden giddiness, and faintness; and those, from whose noses a few drops of blood fell, died. But I am happy to say that, under tonic practice, I have since observed, these symptoms are not always mortal.

A very offensive smell about the sick; and very fœtid breath; though hitherto considered manifest signs of great putridity, are not always fatal symptoms.

Patients verging towards old age, recover from febrile infection with extreme difficulty. But when such patients delay to apply for assistance, as too frequently is the case in this hospital, until the fever is confirmed, or in an advanced state, they very seldom recover. See vol. iv.

But when the countenance relaxes, and becomes gradually brighter and more natural; when fear, despondency, and extreme solicitude, diminish, and, by degrees, give place to the patient's becoming hopeful; when exacerbations become shorter and less violent; and remissions longer and more distinct; when the intellects or mental powers become stronger and more easily collected; when, after excessive inquietude and pervigilium, they begin to doze and sleep a good deal—though the sick *should positively deny* they have slept; when they adhere to, or begin to assume their usual habits, to lie in their natural postures, and to take, though with reluctance, what is offered to them; when thirst abates; when the pulse becomes less frequent, more regular, softer, and firmer; when they find sensible relief from natural evacuations, bearing their illness well, and their looks answer to the time and degree of violence of their illness; when the tip and sides of

the tongue appear healthy, moist, and the moist parts gradually increase from the tip and edges towards the middle and back part; when crusts or sordes easily separate from the lips, mouth and tongue, though frequently replaced; when the skin impresses a more placid sensation on the touch; and when they daily lie quieter, and again begin to sleep more composedly—though no *critical discharge* should accompany these signs, a favourable termination of the disease may safely be predicted.

No other crisis need be looked for. As to critical days, my observations and experience have not enabled me to support the doctrine. I have, therefore, disregarded them in the treatment of my fever patients. But whenever a remission occurred on any day, I was particularly anxious to improve it. Afterwards exacerbations never prevented my persevering in my treatment: but patients are less able to co-operate with the practitioner during *their* continuance, than in the remissions.

To the preceding aphorisms I think it right to add the following observations. That of the four classes into which mankind may be divided, infants, youths, adults, and aged—infants are the least susceptible of febrile infection. The aged are less liable to be infected with it than youth—comprehending those from one year old to pu-

berty. That young persons gradually become more liable to be infected, or to be seized with fever as they approach puberty. And that adults, especially *in the army and navy*, are most subject to fever. It would seem, therefore, that fever is apt to seize on subjects while in a state of indirect debility more than in any other.

Infants are the least exposed to indirect debility of any of the four classes of life.

Old people, generally speaking, are very little exposed thereto provided they are temperate; and are very liable to many other, especially chronic diseases, that will be noticed hereafter.

Youth in growing up are more and more liable to incur indirect debility, from being suffered to indulge in eating various things to excess, and from some other causes; especially in being exposed to violent exercise, with all its consequences, which very often induces fever.

Adults, however, are from the nature of their duty and situation, as well as from their proneness to every excess, most of all liable to indirect debility, the state most apt to induce fever.

I have also observed, that the younger the fever patient is, provided due care in administering proper medicines is taken, the more easily and speedily the patient will be recovered.

# CHAP. II.

## ON THE MANAGEMENT OF FEVER.

### SECTION I.

### *Reflections on the preceding practical Remarks on Febrile Infection.*

FROM what has been already said, it appears that the numerous theoretic doctrines on fevers, have been evanescent, and of temporary duration only: and that the methods of treatment founded on these have been, generally speaking, unsuccessful, if not destructive.

It therefore, as appears in the author's comparative tables, in the volumes before published; as also in Dr. Millar's comparative tables in his works, became necessary to resort to a foundation more solid and permanent than such unstable doctrines, to regulate practice by—the foundation of universal experience and observation. Observation and experience have plainly demonstrated, that febrile infection is an idiopathic universal

disease, from its being curable every where on one general principle *only*. A fact, not confined now to the knowledge and practice of a few, as it was previous to the year 1790, when the author's Essay on Febrile Infection was published. A fact, which, though not yet universally received, has been confirmed since that period by the testimony and experience of many practitioners in various regions.

Observation and experience have now furnished us with the knowledge of other important facts concerning febrile infection. We know from that source that fever is *infectious;* that it is *an universal* disease; and cured every where, upon one and the same principle.

It would have given the author great pleasure, to have been able to add, that by experience and observation he had arrived at the knowledge of discriminating accurately between the symptoms of febrile infection, and of some other infectious diseases, at their commencement, as perfectly, as in their advanced state. But when this knowledge will be attained he knows not. Nor is he more certain when it will be in the physician's power to discern accurately between the symptoms of febrile infection, in its natural state, and those which are only adventitious, and incidental to the climate, season, and situation which the sick are in; or to their sex, age, and constitu-

tion; and to their treatment in all respects, whether medical or any other.

Such are the difficulties in our way to arriving at the pathognomonic symptoms of fever. Although these symptoms are, I believe, very few; they are nevertheless at present so blended and shaded with other symptoms, as not to be discernible by human sagacity, hitherto. It is a great comfort, however, under all these difficulties, that observation and experience have enabled us to furnish such a delineation and description of fever, as to render it comprehensible and discernible by every intelligent practitioner.

When we consider that febrile infection or fever, is a disease arising from, or acquiring the nature of a peculiar poison, it is not to be wondered, that its commencement, or first effects on the system, are so difficult to be distinguished from the morbid affections which proceed from other poisons. But, though the first symptoms of fever cannot be positively distinguished from the early symptoms of other poisons acting on the system; no more than the germs of the seeds of plants, which have been accidentally dropt, can be immediately known and classed by the gardener *Hortulanus*—yet the skilful medical practitioner will, in the progress of fever, as well as *Hortulanus* in the progress of the growth of his plants,

be soon enabled to distinguish its class, order, genus, and species.

The modes by which poisons are admitted into the system are various; either by the nose or mouth, in the act of inspiration (that is, by inhaling, with atmospheric air, morbid effluvia into the lungs); by swallowing poison into the stomach, in food, drink, or medicine: or by inserting it in wounds, as in inoculation; or by the bites of venomous animals; by friction or by contact; or by a person that is not kept clean *inhaling his own effluvia.*

When poison is inserted in a wound, as in the act of inoculation, the progress of its obvious effects on the system, can in some measure be traced from the moment of insertion, to the appearance or commencement of symptomatic fever. When poison is applied by friction on any part of the body, the effects are more slowly perceptible, though equally certain as in the former case. Again, when poison is applied by mere contact, its effects are equally imperceptible and less certain—unless some part of the infected apparel is worn, the effects of which will, almost, be certain infection by absorption, and at the same time, perhaps, by inhalation even of his own foul effluvia. But if a person is at all previously disposed to be infected—inspiring or inhaling the morbific effluvia about the sick will be sufficient to infect him instantaneously, as certainly as if he had

taken poison into the stomach. But the time that elapses between the infection being communicated, and the effects being perceived, is, in different subjects very different, and even in any one person varies, on different occasions. This was my own case when on board the Weasel and Blenheim, and both times I was infected to my own knowledge, and both times in a very different manner; as I have already observed. [See vol. i. and ii.] But on the other hand, I have been frequently infected without being sensible of it at the time: so that from experience I can venture to say, that the immediate ways and effects in which infection is communicated and perceived, are very numerous.

Concerning the property of fever, experience has also taught us, that its first attacks and future effects on the human system, entirely depend on the present state of the system; and that, although we are able to ascertain many of the circumstances, which may and do, act as remote causes of predisposing or of preparing the system for a state and condition for receiving infection, yet we are ignorant what that state and condition, positively, are, or what the quantities of either, severally or conjunctly, or of the number of these circumstances, are requisite to accomplish that state; and we are also ignorant in what infection consists; further than of its being certainly a very subtle and active poison, *sui generis*.

The number of morbid infections to which the human system is naturally liable without the poisons being actually inserted into wounds, or applied to the skin by friction, or inhaled into the lungs by inspiration are, providentially, not numerous. For if they were numerous, we should be the more puzzled at their commencement to distinguish them ; as it is only then that the difficulty occurs. And again, it is providential that this difficulty to distinguish febrile infection rarely occurs. For it occurs only in accidental cases of febrile infection ; at a time when it is not looked for, nor expected. This sometimes has happened on board of ships, in camps, in garrisons, in hospitals, in schools, and in other situations, without its ever being suspected. But after a few cases have occurred, the practitioner is no longer at a loss to distinguish and to know the disease.

Another remarkable circumstance concerning the morbific infectious diseases, is, that some of them occur naturally in very different states of the system, from what others do. Some of them occur, when the system is in a state of sthenia, and others occur when it is in a state of asthenia. This renders the distinction by the practitioner the more necessary and important, for the regulation of his practice. If the state of the system were the same at the commencement of all infectious diseases, the immediate distinction between the diseases, would be of little impor-

tance; but the case is quite the reverse, as daily appears.

But what the essential properties of febrile infection are, we are as ignorant of, as we are of elemental essence.

We only, by observation and experience, know that the effects of febrile infection on the constitution, proceed from an active poison, and that they are numerous and various in different subjects. That they all conjointly manifest a certain derangement in the mental and corporeal functions, according to the constitution of the patient, and of the sex, age, manner of treatment, season, climate, and other circumstances connected with the sick.

Whether this derangement is greater or more obvious in the mental, than in the corporeal functions, depends, therefore, on a state or condition of the system, which can only be ascertained by the symptoms which follow. But whichever of the two happens to be primarily affected, or the more affected of the two, by the change from the healthy to the morbid state; it strikes me the first effect of the poison induces the derangement, by debilitating the energy of life, so as, obviously, to affect all the salutary functions of mind and the body. This being the case, it follows, as we daily see, that a sensation of debility or weakness will be the first morbid symptom noticed by the patient himself, if he has sa-

gacity enough to attend to his own feelings and sensations, which always was my own case.

How the poison of febrile infection accomplishes this diminution or debility of the *vis vitæ*, and interrupts the equilibrium or power of the vital energy, by inducing a morbid affection and change of the system, which, if allowed to take its course, will probably terminate in the total destruction of the system, which is the province of the physician to prevent, I know not, and will hazard no opinion concerning it. The fact is so.

What the *vis vitæ*, or the *vital energy*, or the *equilibrium*, or power on which the healthful state of the system depends, are, I know no more than I do of the essence of any of the productions of nature. Though all human beings, from infancy to old age, soon make known their sensibility to the change from a healthy to a morbid state.—Neither the old terms of irritability and irritation; nor the new terms of exciteability and excitement, lend us any assistance to extricate us out of the mysterious difficulty; nor to throw the least ray of light on these subjects. The gloomy labyrinth still remains inexplicable. Still every person, who possesses his reason, although he cannot explain on what health depends, *à priori*, is competent to his own comprehension of being in good health, when he is so; and if asked how he knew he was so, would answer, By his eating, drinking, evacuating, sleeping, and enjoying all the

mental and corporeal powers he had hitherto enjoyed, without any pain or uneasiness. While the professional man would probably answer, that the person who is in the enjoyment of the *non-naturals*, or of the full exercise of the mental and corporeal functions, is in perfect health, according to human reasoning.

The first effect of febrile infection on the system, obvious to my comprehension, is more or less of debility; which deranges the mental and corporeal functions in a ratio with the idiosyncrasy of the patient, however he may be circumstanced or situated when he is first infected.

That febrile infection then has been and will continue to be the *same idiopathic disease* in all ages, seasons, and climates, there can be no reason to doubt; because we collect from experience that it is universally cured upon one and the same principle only. This principle, when we come to the treatment of febrile infection, will appear to the reader, from the means I have employed and recommended for that purpose, more clearly, than any reasoning can render it.

All this explanation of my own ideas concerning febrile infection, may be very unsatisfactory to the ingenious reasoner, who, notwithstanding the fate of the old doctrines, is perhaps eager to possess a new doctrine of fever, with which, I shall not undertake to furnish him.

The old nosological doctrines of genera and

species of fever, met with in authors, which have been fruitlessly attempted for so many ages to be established, are found to be at variance with observation and experience. Consequently, practice deduced from, or regulated by, these doctrines, was always unsuccessful. These facts can neither be controverted nor denied by the most enthusiastical admirers, or most powerful advocates of those doctrines.

The numerous and very different appearances of fever, from the most simple and distinct intermittent, to the most continued type we meet with; with all their diversity of symptoms, I believe, are only modifications of febrile infection; modifications depending on the constitutions of the sick, and the circumstances they are connected with only; and not upon any difference in the nature of the infection.

The distinction of the fever by the types of *intermittent*, *remittent*, and *continued*, unless they are, especially the two latter, considered as obstacles in the way of proper treatment, may be very convenient and useful. But if, according to the old doctrines, we are to be restrained by these types from energetic practice, where it is most essentially necessary, they are made an improper use of. All the other appellations of fever I conceive to be useless, if not hurtful in practice.

I am, nevertheless, aware that objections may

be raised by others, to my opinion. Because it may be thought that appellations to discriminate fevers will be requisite. For it has been said, " appellations of the fever are necessary to direct " us in practice."—Granted, that appellations to direct us *properly* are wanting, but not to mislead us. " Besides," it is again further said, " that there is in nature a real foundation for " various appellations and distinctions of fever." When they define all their nosological terms from their own observations and experience, and when their successful practice shall fully confirm their definitions, terms, and doctrines—I shall readily become a convert to their opinions. Appellations or names, without being definitely explained or expressed, certainly can answer no other purpose than to puzzle and perplex.

In like manner the symptoms of fever, which are so numerous and diversified, when they are erroneously applied to distinguish and subdivide them into different species of fever, only serve to mislead young practitioners; because they are, at least, many of them, incidental, or depend on the constitution, the age, sex, season, climate, or the circumstances arising from, and connected with, the situation, condition, and medical treatment of the sick, and do not arise from any specific difference of fever: which is universally, and under every appearance of type or symptom, the same disease in its various modifications.

In all my observations and long experience, I have never met with two cases perfectly similar. What end or purpose could possibly be obtained, then, by applying to every individual case a specific denomination, but to bewilder and confuse young practitioners? Must a distinct method of treatment be discovered for every individual case? The physician finds sufficient employment for all his consideration and attention, to adapt his treatment to the various constitutions, circumstances, and situations of the sick, without being obliged to find out a different principle to manage every individual case by; which would positively be requisite, were it absolutely proper to diversify fever according to its symptoms; and if in the nature of fever such a variety of species actually existed; which is contradicted by experience.

But although febrile infection is always more or less contagious, it does not follow that it may not originate from other causes besides contagion: for, on the contrary, we see instances of fever originating from very insignificant causes; i. e. from a simple chirurgical operation; a slight contusion, or a broken shin, as it is vulgarly called, and these terminating in the most virulent degree of infection, we daily see occur, in constitutions previously disposed; especially in the confined air of an hospital.

[Which instances shew that no case of symp-

tomatic fever is to be neglected, and that the constitution of the sick is always to be regarded, let the cause of fever be ever so trifling.

On the other hand, the energy which maintains the equilibrium, or healthful state of the general system, is so perfectly complete in other constitutions, that they are sometimes exposed to all the remote and proximate causes of fever; to the most violent external energies; to loss of extremities; and to the different sources of contagion itself, with impunity. Even the insertion of infectious matter into the system occasions no more, in such healthful constitutions, than what is called symptomatic fever, which is understood to be necessary to the eruption and suppuration of varioli, or to the digestion of wounds.

The manifest difference in small-pox affords a happy illustration of this part of the subject; because it is now generally allowed, that the eruption, whether distinct or confluent, entirely depends on the constitution and management of the patients, and not upon any specific difference of small-pox virus, or poison. If the diathesis of the sick happened to be sthenic, and the inflammation of any of the vital organs to ensue, the consequence might very soon be fatal, unless prevented by antiphlogistic treatment; but when properly managed, no more fever happens after inoculation than is necessary to complete the eruption and suppuration, and desquamation, of be-

nign and distinct pustules. If the diathesis, on the contrary, be asthenic, the patients, unless the energy or *vis vitæ* be properly reinvigorated and supported, will sink under febrile infection, which then accompanies the variolæ covering the body.

The great benefit, therefore, derived from inoculation, is by regulating and restoring the equilibrium of the system, whether superabundant or deficient. When this is neglected, as in the natural small-pox, how various are the appearances which they assume! Hence the various names of ichorous, crystalline, black warty, &c. as if these were so many real species of variolous infection.

In cases of asthenic small-pox, then, it is evident that two very distinct infections may and often do exist in one patient; and that subjects who never had small-pox, may contract the variolous infection; while those who have had small-pox, may contract febrile infection from him. The same remarks will apply to measles. Though small-pox, when they break out in the natural way, are generally more active and destructive than febrile infection, for a time, perhaps; still, it cannot be doubted that this is the greater foe and destroyer of the human race; because it is in a manner domestic or endemial, everywhere; while variolæ are only rare visitors, and infect a man but once in his life.

By the way, in 1789, when I expressed my concern, that inoculation should have fallen into the hands of so many ignorant persons as it had, I little thought, that the very circumstance I was lamenting, would turn out, as it certainly has, to be a material cause of the easy conquest over the practice of inoculation which vaccination has since obtained.

## SECTION II.

### *On the Indication for the Management of Febrile Infection.*

Having considered the theoretic and practical doctrines concerning fever, I shall now point out to the young practitioner a successful method of managing it. Febrile infection being a poison *sui generis*, the nature of which I presume not to hazard an opinion of; and having observed, that the effects thereof on the constitution, in every quarter of the world, are, derangement and *diminution of the vital energy*, that has been imparted by divine wisdom and goodness, to constitute and support the healthy state of man; the induction, whence to form the indication for curing it, must necessarily and simply be considered, to reinvigorate the general system; or to restore the diminution of the *vital energy* of life, or *vis vitæ*: and by adhering strictly to this principle only can the cure be successfully effected.

These plain philosophical facts are perfectly intelligible to every capacity. They entirely preclude, and even terminate all subtile sophistry and elaborate disputations on the doctrines of fevers, or the indications for their management. At the same time it will occur to the intelligent reader, that although an early and strict adherence to the principle contained in this indication for the treatment of fever, will be attended with salutary effects, yet, it still remains for the practitioner to study the idiosyncrasy of all the different constitutions of patients, and to accommodate and adapt the practice to each of those who may happen to be affected with fever, and come under his care. This study and attention, however, do not imply that there will be any necessity to deviate from the principle on which the general indication of the treatment is founded; but to vary and adapt the doses of medicines of the same class to the numerous idiosyncrasies and symptoms which may occur to them.

From what has been said, it is not to be understood, that either difference of climate, of season, of age, or of sex, can form any exception of, or in the smallest degree, alter the universal principle upon which the cure is everywhere, and at all times to be conducted—unless unforeseen and extraordinary circumstances should render some temporary deviation therefrom absolutely necessary.

To accomplish the indication the practitioner is not invariably confined to one medicine, nor even restricted from the use of any article of the class of tonics. For, provided he adheres chiefly to that class, and acts up to the principal indication, the more articles of tonic stimuli he can employ with propriety, the sooner he will recover his patients.

## SECTION II.

### *On the Means employed in the Management of Febrile Infection, particularly Evacuations.*

The first of these means which present themselves to our consideration are *evacuants*, so far as they may be necessary preparatives for administering roborants and tonics; which comprehend bloodletting, emetics, cathartics, sudorifics, diuretics, and blisters.

On each of these I shall say a few words, in the order I have placed them; and, first,

### OF BLOODLETTING.

The very title evacuants, which, viewed in the light of debilitating means, can never be properly used as means to cure febrile infection. They are

repugnant to the indication. It is however incumbent on the practitioner to consider how far one or all of them may be necessary, as preparatives for administering tonics. Because, besides their common effects of evacuating or debilitating, it must be allowed that they are accompanied with a degree of indirect stimulating power. Considered therefore in this view, they must be allowed to have a possible tendency to promote the cure; which appears obvious from attending to the mode of their affecting the œconomy, as the evacuations which they promote, are only consequences of the degree of stimulus excited by them. In many cases the stimulus immediately effects the cure like a charm; especially when administered at the commencement of fever.

But this remark does not apply to bloodletting, as it will not be found necessary, I verily believe, once in a hundred cases. John Willis, a marine, *who was subject to maniacal complaints*, is the only patient I remember to have taken blood from, who was positively benefited by the operation. [See vol. i. p. 390.]

I know not any circumstance or argument which can be urged in favour of this evacuation to cure febrile infection, and I much doubt there being in medical history one well-attested instance of its having been beneficial, unless accompanied with some topical affection. But, on the

contrary, in every case, it will be allowed, if prejudice is laid aside and facts regarded, that it would have been far better for the patient had it been omitted. This evacuation is destitute of stimulus, the property on which the benefit arising from evacuants chiefly if not entirely depends. Instead of exciting stimulus or imparting energy to the system, it diminishes them; and is therefore the most effectual remedy in diseases arising from sthenia. This doctrine is confirmed by experience, and explains in the most satisfactory manner why it has never been found beneficial in febrile infection; but, on the contrary, has been found destructive. Destructive however as it has been, authors have invariably adhered to the practice, from an erroneous opinion that all the *genera* and *species* of *fevers* commenced with more or less inflammation, yet never imputed their own unsuccessful practice to their own treatment of the disease. But,

To comprehend the general subject fully, it will be proper to attend to the several operations of the other evacuations.

### VOMITING.

Emetics act first by stimulating the coats of the stomach; then, through sympathy, by stimulating the parts of the abdominal viscera adjoining, or most contiguous, to it, particularly the duo-

denum ductus communis cholidocus; and ductus biliarius. The liver; the abdominal viscera in general; all the abdominal muscles; the muscles of the diaphragm; the æsophagus; and pharynx concerned; are all stimulated by it. And lastly, it acts by the more important stimulus which it excites throughout the system.

The relief communicated by the vomit, generally speaking, is proportioned to the degree of stimulus excited. It is a mistake, to suppose that vomits relieve merely by the quality or quantity of the matter vomited. This appears obviously, from observing the affections of parts seated at so great a distance from the stomach, upon which, its contents, admitting they were morbid, could be supposed to have had little, if any influence, are immediately relieved by the stimulus of vomiting.

PURGING.

Smaller doses of the same medicines which vomit, will often purge. Therefore as the stimulus excited will always be in a ratio to the dose, this ought to be proportioned to the stimulus required, if it can be ascertained. Conformably to this reasoning, experience teaches, that the stimulus of vomiting not being sufficient, the additional stimulus of purging is required sometimes, to effect the cure, though at other times either of them is alone found sufficient for it. But if purging be-

comes beneficial, the benefit, I apprehend, no more depends on the quality, or quantity of the stools, than on the quality or quantity of the matter brought up by emetics. But it wholly depends on the degree of stimulus excited in the primæ viæ, to promote the evacuation. In remitting fever purges may be and are necessary; but in febrile infection hardly ever, after the fever is confirmed.

### SWEATING.

The degree of stimulus required to promote sweating, is less than that required to effect purging: as appears from smaller doses of the same medicines, which produce vomiting and purging, when assisted with tepid beverage, being often sufficient to promote profuse perspiration. Yet, in many cases this stimulus, after the two former have been used, is found requisite to affect the cure. In some cases this, though so gentle a stimulus, is found sufficient for the cure. It is not, however, more than the two former evacuations, to be continued long, nor repeated without doing a manifest injury, as the quantity of perspiration, if it often exceeds what is naturally evacuated, produces no other effect than to debilitate. The benefit occasioned by sudorifics, as well as by the two preceding evacuations, proceeds *chiefly*

from the stimulus which they excite by promoting them, and acting upon the whole surface. But very profuse perspiration debilitates extremely.

### URINARY AND SALIVARY EVACUATIONS.

If ever febrile infection was cured by either of them, it was not owing to the quantity or quality of the respective discharges, but, as I have before observed, to the degree of stimulus which the medicines occasion by promoting them. An instance, however, of a cure being attempted by either of them, has never come to my knowledge.

Mercury or antimony might be so administered as to promote all the evacuations, except letting blood, provided the dose could be ascertained; yet, as they often do mischief in other diseases, even when given with great care, I would caution young practitioners against their indiscriminate use in febrile infection, because there are many other medicines, milder and more certain in their operations, to make choice of, than these; especially antimony, of which the operation is very precarious.

### DISCHARGE FROM BLISTERS.

Respecting the discharge from *blisters*, many

practitioners have applied them with the same intention that they prescribe the medicines to promote other evacuations, " to carry off part of the " morbific matter," and have, therefore, as one healed up, ordered another to be applied, to keep up a constant drain of the morbific matter. But their doctrines and practice, viewed in this light, are diametrically opposite to our indication, so far as they debilitate.

When blisters have been found efficacious in curing fever, it has been owing solely to the stimulus which they excite in the system; and that more particularly when applied at the commencement of the fever, when little stimulus was required to restore the equilibrium of the system —even before the lymph discharged by the blister could well be supposed to become morbid. —But the salutary effect of a blister, at the commencement of fever, is found before any discharge takes place.

Should it come out, which I have no doubt but it will, that repeated blisters, applied and healed as soon as possible, are effectual by their stimulating power only—it will establish this remark.

But all that can be said of evacuations as a cure for fever, after merely implying the primævi, proves the propriety of that practice no more than saying that many have recovered of small-

pox, under the alexipharmic or old hot treatment, proves the propriety of such practice; or saying that many have recovered from the most dreadful accidents, justifies those who placed the sick in such dangerous situations.

The reasoning is equally strong against the use of evacuants, when employed and repeated with a view to purge off morbific matter. For, although they have been found [See vol. ii. and iii.] beneficial when administered at the commencement of fever, it was never owing to the quantity or quality of the matter evacuated only, but chiefly to the stimulus which they excited in promoting their respective evacuations.

[On this principle, query if electricity might be so managed at the commencement of febrile infection, as to effect a cure?]

Young practitioners therefore are not to imagine that emetics; or nauseating doses; or purgatives; or sudorifics, are to be repeated with impunity, on the pretence of curing fever, seeing their principal effect is to debilitate. Unless, therefore, they are found beneficial in the beginning of febrile infection, they may rest assured that all evacuations, including bloodletting, will prove highly prejudicial afterwards: nor even in such cases as they have been found beneficial at first, are they to be repeated, because the degree of stimulus which they now excite will not com-

pensate for the debility which their evacuating power will induce. They are never therefore to be betrayed into this practice under the specious pretence of carrying off, morbid or noxious matter, saburra, colluvies or fomes of the disease, or with a view to remove the universal spasm from the surface of the body ; as they will only hasten general debility, and particularly the debility of the stomach thereby, which is more immediately affected by febrile infection than any other viscus. Nor, though stools and perspiration are natural evacuations, and indispensably requisite to health, are they ever to administer purgatives and sudorifics with any other view than to obviate a long suppression of those evacuations generally—remembering that costiveness is beneficial.

When febrile infection occurs to patients labouring under hepatic or other visceral obstructions, it will be proper to combine aperient and deobstruent medicines, with roborants and stimulants, throughout the cure, or perhaps in some cases of remittent fever ; but these exceptions do not alter the principal indication for the cure, they require an additional one, and more caution only.

## SECTION IV.

### *Remarks on Tonic Medicines*

The indication for curing febrile infection, deduced from observation and experience, clearly points out the class of medicines to be tonics.

Evacuations, and all other means which have a tendency to debilitate the system, consequently, can have no fair admission in the cure, unless in the way we have mentioned. While every thing which has a direct tendency to strengthen the system, or comes within the class of tonics, may be conducive thereto.

This being matter of fact, it will be right to make some remarks on the tonics which have been found most beneficial in practice for fulfilling the indication. Although there are many articles of the tonic class, the most powerful, and therefore the most eligible, are but few. Of this numerous class of roborants or tonics, I say, very few of them will generally be found sufficient for the purpose; and of those few, the principal are Peruvian bark, wine, and sedatics and animal substances. The effects of those I shall endeavour to explain, after taking notice of some of the greatest objections raised against bark, as being a general febrifuge.

## *Remarks on Bark.*

Much controversy there has always been concerning the properties and effects of bark. But had it really been the pernicious and insignificant powder which many have laboured in their numerous volumes, to persuade mankind to believe, the task would have been labour in vain or superfluous; because, if that character of it had been just, it would soon have been universally discovered, and the medicine, with its name, would have sunk into oblivion. But experience teaches that, either from ignorance of its effects, from prejudice against its being used in fever, or from not knowing how to use it, they have endeavoured to defame it, though, fortunately, instead of injuring its reputation, they have promoted it. They have done this, by making it more generally known, and to be made trial of by impartial and candid practitioners, who observed that its enemies had decried it, without adducing sufficient evidence that they had made fair trials of it, and found it pernicious or ineffective. At the same time, they also observed the inconsistency of some of its enemies, who, while they were decrying it as a febrifuge, were liberal in praising it as a wonderful antiseptic.

Individuals, it is true, have furnished accounts of the superior efficacy of bark in curing inter-

mittent fevers, and even well-marked remittents. But unless Sydenham's declaration in his last illness—"That the same method of cure would "answer in every constitution," be construed into recommendation of bark for the cure of fever—no other writer except Dr. Millar, in his observations, [If any other writers at that time, avowed that bark would cure all fevers, their practice contradicted their assertion—and I have never heard of them, nor seen their writings.] had boldly asserted, "*that bark will cure all the ideal variety of fevers*," before the first edition of the author's Observations on Jail, Hospital, and Ship Fever appeared, which confirmed what the author advanced from his own experience, [See vol. i. and ii.] that bark would cure fever in all climates.

In a field of practice so extensive as the author's has been, the reader will, I presume, admit that had bark possessed the pernicious qualities attributed to it by many writers, they could hardly have escaped the observation and attention of a person, watching with anxiety its effects. But, so far from discovering pernicious or prejudicial effects from bark in the treatment of fever, I have, on the contrary, found it every where a safe and powerful remedy in febrile infection, as well as in many other diseases, when neither wine nor opium, nor any cordial, were joined with

it—*effects* which its opponents were entirely unacquainted with, only, because they had never made fair trials of it.

Hence, I am led to believe that the many unjust reproaches and aspersions which have been thrown out against bark, must have proceeded either from their not prescribing it until the advanced state; or near the fatal termination of fever; or from their doing it so sparingly as to render it ineffectual. Which show they were unacquainted with the efficacious properties that bark possesses; and although they placed no confidence in it, that still they were unwilling it should be thought they had left any medicine of character untried.

Some practitioners, indeed, fairly acknowledge that they do not know when they should administer cinchona in febrile infection, by their starting as a question of great difficulty, "when "the proper period to begin to administer the bark is?" "because," say they, "it never can be "until inflammation, (a circumstance which rare-"ly, if ever, happens in febrile infection,) is "carried off by the antiphlogistic plan:" which plan, followed up with abstinence, confinement, and natural tendency of the disease, rapidly augments the impending danger from the great *debility*. When *this* is advanced it is seldom they can do any good whatever with bark, in the trifling manner they administer it.

In this state of the disease, to effect any good purpose, with the liberal use of the bark internally and externally, they should administer cordials and powerful stimulants. Because, though I allow bark, e.g. to be as important in curing febrile infection, as bread is in our nutriment, yet, to fulfil their respective indications, other articles as coadjutants are often, if not always, absolutely requisite, in both cases.

But when some practitioners prescribe bark, they apparently do it upon no principle. For, after administering only a few scruples, or half drachm doses, before the fatal termination—which, as many ounces were requisite to have prevented —they exclaim, that the bark failed them, and would not answer in those cases. Or should the patients live, and not recover speedily, they lay aside the bark, and prescribe other medicines in fever, instead of administering larger and more frequent doses of the bark.

[I have heard a medical practitioner tell his patient, who happened to be a surgeon himself, " that he must continue to throw in the bark," when he had prescribed *half* a drachm every six hours.]

When these practitioners prescribe vomits and purges, do they not proportion the doses, as near as they can judge of the patients' constitutions, to the intended operations? When the doses they prescribed are found insufficient, do they not

continue to repeat them until they operate sufficiently?—Admitting, then, that bark, after full and fair trials, had failed, in a case or two of a thousand, to cure fever, might not instances be adduced wherein ipecacuan and jalap failed to vomit and purge? And should cavillers be disposed to contend, that neither the ipecacuan nor jalap were of a good quality, might not the same remark, with equal propriety, be made concerning the bark? and too often there is room for it.

My Peruvian bark, in the American war, at one time was so bad, that I was obliged to double the quantity of the dose. After bad bark has long been ineffectually administered, a few doses of good bark have been found sufficient to effect a cure. Bad bark is the source of inexpressible mischief in practice, and the quantity has increased exceedingly since the recommendation of red bark, of which, unfortunately, the price and adulteration have kept pace with the demand for it.

If, then, there is difficulty in ascertaining doses of the most common medicines, such as emetics and cathartics, from our not being acquainted with the constitutions of our patients; and if practitioners, forgetful that the same person requires larger doses to affect him at one time than another; is it astonishing, or does it afford matter for wonder, that the precise quantity of bark which is necessary to cure febrile infection, should

not be ascertained, more especially as bark has been administered too sparingly, and apparently upon no certain principle?

Whoever expects to cure febrile infection with bark, should administer it on the principle, "*that* "*it must be given liberally from the commence-* "*ment of the patients' illness until the cure is* "*effected, without regarding the quantity required* "*or administered,*" unless he intends to add another to the number of practitioners and writers, who, in the trite jargon, unjustly and unreasonably exclaim, "that in such cases the bark failed "them"—though their manner of giving it was fallacious—only from its being so sparingly administered. The same jargon, having passed from one to another on the baseless foundation now recited, has proved the bane of thousands. I cannot imagine what could introduce and so long support such a destructive precept, "to de- "lay giving bark until an intermission or remission is procured," while daily observation showed, that during their fruitless endeavours and expectations to effect either of these, the sick were lost. Upon whatever authority this precept was promulged, or however venerable their names who have supported it—in justice to mankind, I must say, from far greater authority, observation and experience, it has proved one of the most fatal precepts which were ever inculcated in physic.—Delay and parsimony in administering bark and

supporting the *vis vitæ*, in febrile infection, have been, unintentionally, foes to the human race.

Having mentioned the objections which theorists have unjustly raised against bark as being a medicine proper to cure febrile infection, or as being a proper medicine to be administered until an intermission or remission is obtained; and having also reminded the reader of the folly and fatal consequences of administering it upon no principle; I would further observe, the nature of the disease having been fully explained, respecting the properties of bark, that, considering it as a simple, and by administering it with water only, it is very superior to any other simple in the *materia medica*, as appears to a demonstration; and to the satisfaction of the most scrupulous sceptic, who will take the trouble to read the author's observations, [See vol. i. and ii.] especially on board the Rainbow, Edgar, Romney, and Blenheim, where it was administered in water only—in some cases with the addition of crude sal-ammoniac or tartar emetic, which contributed nothing to its roborant or stimulating cordial power. Yet the records of physic do not contain an instance of such extensive practice being more successful. If the medical reader still wishes for a more satisfactory explanation of the properties and effects of bark, considered as a febrifuge, I must refer him to his own ideas and comprehension of it, when he prescribes it as the

most powerful tonic and antiseptic in gangrene and mortification. After he has discussed that important question, I will venture to affirm that scarce one casuist will be found so subtile and vain as to flatter himself he is able to impose on the most juvenile practitioner, so far as to induce him to believe, notwithstanding the salutary effects which bark produces in various diseases, "That it has any more than one mode of acting "on the general system, whether the disease be "universal or topical." If this position is consonant to sound philosophy, as I imagine it is, surely all the crude objections of writers, brought against it as being a proper medicine for every stage of febrile infection, fall to the ground.

Though topical affection, even of the lungs unfortunately should accompany febrile infection, and sometimes interdict the administration of bark—such rare instances can hardly be adduced as an argument against the doctrine of its general utility; and much less against the general principle of the treatment. Because, it must, I apprehend, be well known, that chronic inflammation may induce phthisis, and that chronic inflammation will not bear antiphlogistic treatment.

The property of bark being simply and obviously to strengthen the general system, can any medicine be better, if so well calculated for restoring tone and energy thereto, when affected with universal disease, arising from general debility, than bark, a vegetable substance, which is

universally approved as the most effectual remedy for the worst degrees of topical debility—*gangrene*, or *mortification?*—In every point of view, sound philosophy appears consistent—whereas false philosophy or false theory is like the horse in the mire, wherein he plunges only deeper and deeper by every exertion to extricate himself.

If medicines, of which the mode of operation cannot be satisfactorily explained, are supposed to produce any other effect than what may be referred to a simple philosophical known cause—operating either generally or topically on the system—I will venture to affirm the supposition is founded on error. The doctrine of specifics, with the candid and intelligent philosopher, vanishes in air.—He acknowledges no such class or catalogue of medicines.

Though, fortunately, one succeeds in a few steps towards explanation, how short is the philosopher's career, if from thence he proceeds to definition and first principles. As the mode is only learned by experience, that one article of food is more agreeable and nutritious than others, in like manner, experience teaches that one medicine is superior to all of the same class.—Analysis may recommend, but it is experience only which can confirm the character.

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Mercury, which has been styled a specific for curing lues venerea, although like all others mys-

terious in its operation, is only more powerful than those medicines possessing the same properties of stimulating, attenuating, and removing, morbid obstructions of the absorbent system in a less degree.

Opium, it is true has been found superior to any other medicine in allaying pains; but still this superior power depends on its cordial or stimulating quality, and therefore has been found useful in fever; and many constitutions cannot bear it with impunity, even as a sedative.

Peruvian bark has been found far more powerful than any other medicine, in curing mortification and intermittents; but this undoubtedly has been entirely owing to its roborant, invigorating, or *tonic power*—So that in the effects of these three most famous medicaments, nothing like mysterious or specific property exists. Other medicines possessing the same properties which these do, though in a less degree, will perhaps cure those diseases for which they have been said to be specifics. Were the case unfortunately otherwise, what would become of those nations where those three *specifics* are not known? I believe that bountiful Providence has provided in every region a suitable remedy for endemial disease, if the medical practitioners had sufficient sagacity to discover and apply it properly.

As soon as the primæ viæ, or first passages, are emptied, which may be done in two hours time, there is no rational objection remains to administer bark in febrile infection. Because the indication being "to restore the diminution, and re-"invigorate the energy which maintains the "equilibrium or healthful state of the general "system, now assailed by debilitating poison," it is certainly sound philosophy to apply the remedy as soon as the disease is discovered.

I would therefore prescribe it immediately in doses from gr. x to ʒij or more, according to the exigency of the case, and to the age, sex, and constitution of the patient—every hour or seldomer, in the form and vehicle most agreeable to the sick, to saturate the system with bark.

But the practitioner must remember, that when febrile infection and debility have been advancing for days before the sick complained, or assistance has been called in, the salutary power of bark, in whatever way it is administered, will be much slower in being now observed, than if it had been prescribed at the commencement of fever, while the healthful energy was but little destroyed or diminished. If this position be allowed to be valid in other diseases, it is certainly admissible g. e. here?—If letting blood in peripneumony is neglected at its commencement, will any one future bleeding be equally efficacious? So here it will be found a never-failing

axiom in practice—" The more early in the dis-
" ease, and the more liberally Peruvian bark is
" administered, in the form and vehicle most
" agreeable to the patient, the more successful
" the practice will be, and the sooner the patient
" will be recovered, and less liable to relapse."
And it is also to be remembered, that in all cases accompanied with topical affection, other suitable means may occasionally be administered along with the bark.

It may be combined with volatiles; liquid or solid opium, or hyosciamus; ardent spirits, compound spirits, wines, or with any simple waters. I gave it in common water for many years. With water alone the form may be varied many ways; and after the same manner it may be varied with distilled waters of any sort, with wines, compound spirits, and ardent spirits and tinctures, almost ad infinitum—besides with milk in different ways, as I administered it successfully in Pat. Tonyn, Esq.'s case, after I had tried it ineffectually with other vehicles. In milk it agreed perfectly with him, and he soon recovered from a very dangerous situation which his friends thought him in.

## *On Wine.*

Wine,' if judiciously administered, will be found of great benefit, as a coadjutant or auxiliary

to bark, throughout the cure; and an essential part of diet in the convalescent state, to obviate relapse, scurvy, and perhaps consumption, by its assisting to recover the general strength soon. But respecting the quantity to be administered, or how frequently it ought to be repeated with the bark, or between the doses of the bark, must be left to the sagacity of the practitioner. On this occasion he must be regulated by circum-cumstances which cannot possibly be enumerated, nor at all foreseen. He is never to be unmindful, however, that one or two glasses are as complete a cordial to some people as several bottles are to others. How various the gradations, then, between those extremes! But, regardless of the quantity, as well of bark as of other medicines which he administers, he is to be regulated entirely by the effects; and never to be forgetful of the inebriating and intoxicating qualities of wine. He is never to pour it into the stomach with no other view than, like a bravado, merely to boast that he had given so much, and carried the practice beyond what others had done before him—beyond the limits of discretion;—and thereby, perhaps, defeated what ought to have been his intention—to have cured his patient—to have acquired praise by restoring the diminished energy only;—instead of incurring just censure for exposing his practice to public condemnation, or perhaps contempt.

Upon no members of society is it more incumbent than upon the medical, to be exemplarily temperate. I should, for my own part, if I were ill, as soon consent to an executioner being brought to my bedside, as a medical practioner who, in open defiance of physiology, morality, and all decorum, would order wine, or intoxicating liquors, to be poured down my throat—regardless of idiosyncrasy, and my antipathy to them—for no better reason, perhaps, than because he could bear a large quantity himself, and was fond of them. It is too *general a remark*, that physicians are fond of prescribing freely what they like themselves.

Ardent spirit, in my opinion, ought never to be administered in any case, much less in febrile infection, but when, from idiosyncrasy, wine positively disagrees with the sick. For I knew a gentleman on whom wine, in any quantity whatever, given as an experiment to deceive him, always acted as a violent poison, and induced temporary madness;—or when more powerful stimulants are required. In such cases I would dilute spirit with simple waters, and administer it as a medicine, to prevent the sick and their attendants from knowing the composition, in such quantities and as frequently as real circumstances required. I also profess myself, however, an avowed enemy to the use of ardent spirits, unless in cases of absolute necessity, because I have so frequently

seen their bad effects, by destroying the digestive tone of the stomach; and by inducing dangerous states of scurvy, and hepatic affection; besides inducing very bad habits. When spirits become absolutely necessary in any case, deception in giving them is wisdom in the practitioner, and friendship conferred on the patient, especially if they are omitted as soon as possible.

## *Remarks on Opium.*

Opium, as an antispasmodic; as an anodyne; or as a sedative; given in doses from 10 to 30 drops, is universally known and administered; and these effects of it have been acknowledged by eminent authors. Sydenham and many others. One author of respectability has given it the preference even to bark, as a restorative. The same author, Dr. Lind in paroxysms of fever, accompanied with violent head-ach, gave it with great relief to his patient.

But for the knowledge of its effects, as the most powerful stimulant in the materia medica, when administered in large doses, the profession is very much indebted to Dr. Brown; who, in experiments on himself, as well as on others, boldly exceeded, by many degrees, the largest doses I ever heard of, prescribed before that period. It is necessary, however, to except those

patients who have been long in the habit of taking it in chronic diseases. Such people, by degrees, arrived at very large doses, before his time. From experiments, however, we learn that, when given in large doses, instead of causing, it prevents, sleep, most effectually, and induces stupor only, or madness.

The doses formerly, in recent cases, were very moderate, but Dr. Brown gave it in doses of 150 gtt. Opium had also long been known amongst the Asiatics to be a most powerful stimulant. They have been in the habit of taking it in large quantities, when they intend to excite the degree of madness called *running the muck*. But its effects as a stimulant were not brought into medical practice until Dr. Brown made his experiments, I believe.

Of the truth of its preventing sleep and inducing stupor, I am fully convinced by my own experiments on myself, and upon other patients; which I was induced to make from Dr. Brown's and Mr. Jones's account of opium. Given, however, in the manner hereafter mentioned, it neither occasioned sleep nor comatose symptoms. But however favourably I may be disposed to think of opium, I would by no means presume to *dash* at first with large doses, until I had acquired some knowledge of the patient's constitution. Administered in moderate doses with bark, in febrile infection, and gradually increased according to circumstances, it acts as a powerful stimu-

lant. But a trial how much can be poured down the throat, is far less to be made with opium than even with wine. Extremes in medical practice ought never to be adopted but on sure ground, or in the most desperate cases; especially with active poisons, of which opium is certainly one of the most powerful.

For the information of others, how needful precaution is, in administering opium to patients with whose constitutions practitioners are unacquainted, I shall now relate the manner in which I made trial of it on myself, and was affected by it. When I made my experiments, I was in the state of health commonly called *nervous*—from living too abstemiously while I was using violent exercise daily.

I began with doses tinct. theb. sp. vol. arom. a. gtt. xxv. sp. lav. c. gtt. xxxv. ex vin. alb. ℥iss, which I took now and then at bed-time, gradually increasing the dose of tinct. theb. & sp. vol. arom. & sp. lav. c. to gtt. lxx. of which the general effects after the latter dose, were as follow:

I passed the night comfortably, though I could not sleep; but early in the morning I was more inclined than usual to lie in bed, and even to doze. When I got out of bed, my countenance was extremely diseased, and I was told that my eyes appeared bloodshot, as if I had been drunk over night. I was so very languid, confused, heavy, and giddy, that I could scarcely stand. My

mouth was exceedingly parched. I perceived a disagreeable sensation about my throat; and on attempting to swallow, bread especially, I felt deglutition almost impeded from straitness and dryness in the pharynx and æsophagus, as if they had been constringed. My appetite, though always keen for breakfast, was entirely destroyed. I retched frequently, and, altogether, was perfectly diseased, and unfit for business. My pulse was languid and slow; and I was completely unmanned.

I therefore resolved to take a dose of tinct. theb. gtt. xl. in the manner before mentioned, which gradually recovered me; but I had no appetite; my swallowing continued very difficult; nor was I comfortable all day. I was less nervous than usual the day following, and, except being costive, was, in other respects, well. The doses of sixty, fifty, forty, and even of thirty drops of tinct. theb. affected me in the same manner as the one of seventy drops, only in a proportionably less degree.

I have, in a similar way, given opium to many patients debilitated from various causes; and to one I administered doses of ninety drops—all of whom, next day, felt themselves affected as I was. But numbers of them complained also of great itching, and of a slight eruption over their bodies, after taking it.

The dose, however, which I most commonly

administered, was fifty drops of laudanum, with the same number of liquor an. Hoff. or sp. ammon. comp. or of sp. lav. c. either in wine, or in ardent spirit, not exceeding an ounce and a half. Thus administered in the exacerbation of several bad cases of febrile infection, a remission was effected.

But in one case of fever, which an eminent physician consulted me on, thirty-five drops were prescribed, in a gentle cordial draught, ineffectually. The patient had been ill a considerable time before the consultation, and I did not see her again. She had then marks of dissolution about her; and she had been extremely debilitated by purges, which the apothecary had given her, we were informed, previous to our seeing her.

The cases of debility, in which I have made trial of opium, one excepted, terminated favourably. This was the case of Mr. ———, an emaciated person, at the point of death, to whom it was administered frequently in very small quantities.

That the effects of opium, or of diffusive stimuli, are similar to those occasioned by an excessive quantity of wine, I have fully demonstrated. That every person can bear much more wine at one time than he can at another, is universally known. That the same dose of opium may, in like manner, have different effects at different times, in the same constitution, according to the

state thereof; and therefore that it ought to be administered with extreme caution, requires no additional argument to prove.

I beg leave also to insert here the case of Dr. Brown's last illness, which furnishes a most melancholy argument in favor of this reasoning. Accustomed to administer, and to take, opium in large doses, he imagined he could manage this powerful medicine with as much facility and safety as the dexterous surgeon manages his knife; but his death, which was the consequence of his taking an improper large dose, proved his mistake.—His fatal mistake, while it affords a signal triumph to his opponents, who probably hug themselves in their security against such a catastrophe befalling them, by their not making experiments, holds forth a caution to rash practioners, who imagine their experiments could not be limited, 'That 'unless accurate discernment between the diseased 'states of the system, and unless judicious de-'liberation, regulated by experience, govern 'their practice, death will infallibly limit their 'experiments.' Dr. Brown possessed great abilities, which he employed for the public good; had his demeanor, his discernment, and his caution in practice, corresponded with his scientific knowledge and his comprehensive genius, his loss would have been more universally regretted, than it now is.

Having found the usual forms of administering cinchona were often rejected by the stomachs of the fever patients in this hospital, I was under the necessity to turn my thoughts on devising another form to administer it in, more agreeable to the stomach. It was then that it first occurred to me, that by fermenting the decoction, it would become a medicine possessed of very important additional property, to what it had been hitherto known to possess; and would thus be rendered more agreeable to the sick:—both objects which were very desirable.

Besides the usual forms, therefore, of administering cinchona, recommended in the former edition of this part of the work, I would recommend it to be given in a state of fermentation, in the cases that cinchona is found, in the usual forms, to be rejected by the stomach. Of which, the manner of preparing will be stated in the sequel of the work; with another very agreeable form of administering cinchona, either as a preventive from, or as a cure of, fever—especially remitting fever—that I have lately hit upon.

I think also proper to notice another article which has been added to the small number of medicines, as yet found of any consequence, or of real efficacy in curing febrile infection, as before mentioned.

The article I mean, is the affusion of cold water, particularly recommended by Dr. Currie.

Of the efficacy of the cold affusion, I cannot speak from my own experience. But, according to Dr. Currie's account of his experiments with it, I am warranted fully in asserting, that its manner of operating, and the period of the fever when its use is found most efficacious, accord perfectly with the general remarks I have made: "that fever is to be cured universally on one "general principle, and that the sooner the means "for obtaining this end are liberally employed, "the more efficacious the practice will be."—By roborants or tonics.

Every additional article of medicine, therefore, belonging to the class of tonics, which shall be found by experience to be efficacious in curing febrile infection, is a corroborating proof of my remark. And the cold affusion being, according to Dr. Currie's observations, found of the less efficacy, the later in the fever it is delayed to be made use of, coincides exactly with what I have said concerning the use of cinchona in fever—"the earlier it is administered in fever, the more "effectual it is, and the less will be requisite to "cure the patient."

The cold affusion is to be administered, then, in the early stage of fever, during the hot period of the paroxysm, and also to be repeated in the manner Dr. Currie has directed. See his Book.

But the use of this application does not interdict the administration of cinchona, and its coad-

jutants, wine, and opium; or hyosciamus. Because they all concur to the attainment of the same object—the cure.

It is very remarkable, in the progress of the cure of febrile infection, that, generally speaking, when it is advancing favourably—the state of the bowels coincides with the indication for the cure, or treatment, which the author has deduced from his observation and experience; that is, *a constipated state*, a state which does not debilitate. This plainly shows how very prejudicial it must be to use means daily to keep the bowels in a contrary state. I mean a lax or soluble state, as it is commonly called—a state which certainly tends to debilitate and counteract the indication to strengthen; an object that we are not for a moment to lose sight of, unless it be for some momentary urgent reason.

It is no less remarkable, that the most obvious effects of the cinchona; opium; and wine, especially of red port, the principal remedies employed in the cure, tend to constipate or to promote constipation of the bowels, and to check the other profluvia the sick happen to labour under; and that unless they produce these effects, the cure is known to proceed very unfavourably—from the profluvia counteracting their efficacy: and by their hastening debility more rapidly, than medicines can possibly reinvigorate the system.

However, if constipation of the bowels be much dreaded or apprehended by the practitioner, I would recommend, instead of opium, some preparation of hyosciamus or some of the formulæ containing it, hereafter mentioned.

Hyosciamus is a medicine I have been in the daily habit of using many years: and without the least prejudice, I have observed, in a very liberal use of it for near twenty years in this hospital, that without the bad effects of opium, which are known to every practitioner, hyosciamus contains the good effects. I have also observed that the tincture and powder made from the exsiccated extract, are far more efficacious forms of that valuable simple, than the common extract in use. The method of preparing these, and the doses, will be described in the Formulæ. A tincture of hyosciamus is now given in the New Pharmacopœia.

The other medicines which are at times proper to be administered along with those I have mentioned, and place my chief dependence on, for the cure of febrile infection, may be comprehended under aperients, deobstruents, bitters, and stimulants. Of the first class, the neutral purging salt, manna, rhubarb, jalap, aqua ammoniæ acetata, neutralized kali, ipecacuan and jalap, will be found sufficient at the commencement of fever.

Of the second class, kali, soap, lime water, aqua

calcis; aloetic preparations, antimony, digitalis, and hydrargyrus.

Of the third class, gentian, colomba, snake-root, bark from St. Lucia, cascarilla, eleutheria, indica, or loperiana, myrrh, aromatic confection, and steel.

Of the fourth class, sal succini, spiritus ardens, tincturæ variæ, and volatils.

Besides which, the preparations of various animal substances are conducive to effect a cure.

## SECTION V.

### *On the general Method of managing Febrile Infection.*

Having briefly submitted to the attention of the reader, the nature and effects of evacuations recommended and employed by most of the authors on the subject; and the effects of particular remedies which have been found most essential in the cure of febrile infection, I shall proceed to state the general method which observation and experience authorise me to recommend for curing fever. In doing this, however, I would not be understood to enjoin *positive* rules; because the various constitutions, and the numerous unavoidable circumstances which occur in practice, may render deviations from general rules absolutely

necessary. But this latitude is only allowed to be extended to the choice of, and to the doses of medicines of the tonic class. Not the least deviation, from the general principle upon which the cure must be invariably conducted, is here implied. In all climates, in all seasons, and in every situation the principle of "reinvigorating the "general system, or restoring the diminished "energy," will be invariably found requisite, under all the intermediate degrees—from the slightest degree of febrile infection, to plague itself—only adapting the quantity and frequency of the doses of medicines to the violence of the disease, and the patient's age.

I cannot help observing here, in support of this general remark, that in the bay of Mexico, in 1766; on the coast of Africa, in 1769; at Jamaica, 1774; at Gibraltar, in 1780; in the British channel, 1783; and at Newfoundland, in 1788; I experienced, both at sea and on shore, (from 1759) until the present moment, indeed, in public as well as in private extensive practice, and in my own illness, the happy effects of conducting the method of treating fever upon the general principle I have recommended. Topical affection, however, is not to be neglected, when it occurs; and the complex indication must, if possible, be attended to and fulfilled.

## SECTION VI.

### *Application of the Management, to the Commencement of Febrile Infection.*

The commencement of fever is the most advantageous period for the sick to obtain assistance, and the period when medical practitioners will derive most credit from their practice. A moment of this precious time should not be lost, but every instant should be employed in using the most effectual means to fulfil the curative indication; because, though many cases are so mild as neither to require great exertion, nor great skill to manage them, it is uncertain, at the commencement of fever, in what manner the case may terminate, especially if the practitioner is unacquainted with the sick, or is in a hot climate. In my own practice, I have often found most danger where at first none appeared. Therefore,

Should there be reason to suppose that the *primæ viæ* are loaded with indigested matter, or saburra, let it be *immediately* dislodged, and carried off, by I. II. III. IV. or V. [see the Formulæ]; and unless a stool is soon obtained by the emetic, either VI. VII. VIII. or IX., is to be administered. In many cases, the emetico catharticum, X. or XI. may be preferable, at the commencement, to

the vomit; but in cases of very great debility, and in advanced cases of the fever, before the medical professor has been called in, it will be proper to omit both emetic and cathartic; and only to administer a clyster, if the sick are costive. The emetic and cathartic may be assisted with camomile tea, broth, or any other convenient and suitable drink.

In the evening, when the operation of the medicines already prescribed is finished, I would order the pediluvium, and one of the sudorific draughts, XII. XIII. XIV. or XV. to be taken, and some suitable warm drink after it; wine whey, vinegar whey, weak sherbet, wine and water, weak brandy and water; or an infusion of any of the common herbs, sage, hyssop, mint, or balm; sometimes it must be regulated by circumstances, and the patient's inclination. I would also order a blister to be applied between the shoulders, especially if head-ach is much complained of: but

If, after the operation of the vomit, it is too late in the evening to administer the purge; if the cases admit of delay; and if the sick are costive, either VI. VII. VIII. or IX. should be given next morning; and, immediately after a stool is procured, the bark, in the form and vehicle most agreeable to the sick, should be repeated, according to the urgency of the case; i. e. every hour, or every two, three, or four hours, as prescribed

in XVI. XVII. XVIII. or XIX. until the cure is effected.

Should the case appear urgent at its commencement, I would immediately order the bark, after the manner of XX. XXI. or XXII. every hour; and if I practised in a hot climate, or where febrile infection was virulent, this should be the mode of practice I would adopt, the moment I was called in.

If the sick complained in the morning, I would either prescribe the emetic, the emetico-catharticum, or the clyster, immediately; and the bark, as in No. XX. XXI. XXII. or with or without any aperient medicine, according to circumstances, until the patient recovered, which will be about the time when bark is begun to be administered by practitioners in general. The sudorific, pediluvium, and blister, may likewise be prescribed the same night at bed-time, if thought proper. In bad cases, the bark ought to be administered as regularly through the first and every succeeding night, as in the day time, while danger appears.

The anodyne stimulant draught, or bolus, No. XXIII. XXIV. or XXV. may be repeated every night at bed-time, or oftener, as circumstances require; and those must also regulate the quantity and quality of the medicines, and nutriment, to be joined with the bark.

## SECTION VII.

### *Application of the Management of Febrile Infection, when it is confirmed in the System.*

If the sick have delayed to call in assistance until febrile infection is confirmed in the constitution; until debility is far advanced in its progress, and is now rapidly increasing; and if the practitioner has not seen the patient until an alarming exacerbation of every symptom is come on, and the stomach is now so greatly deranged that it will not retain medicines nor drink; or perhaps not until the time is irretrievably lost, when a vomit, an aperient, or a sudorific, by their stimulant power, might have been of great benefit, but are now interdicted by the general derangement and debility of the system, insomuch that evacuation would most probably do much more injury than their stimulant power could repair,—a moment is not to be lost.

I would therefore immediately use tepid bathing, or lavation, with a little vinegar in the water, and then prescribe the formulæ, No. XXVI. or XXVII. according to circumstances, and drink, as suitable to their cases and situation as possible; to be distilled into their mouths, *were it practicable*, rather than to administer it in draughts. If the stomach continues to reject every thing, the

draughts XXVI. or XXVII. are to be repeated as occasion requires; or XXVIII. may be given in the same manner, until the stomach is composed. The bark is then to be given as liberally and as frequently as the sick can bear it, either with medicines, or with such a proportion of wine, compound waters, or ardent spirits diluted, or decoctions of flesh or fowl, as may be found proper.

Should the practitioner have conceived a prejudice against opium, the stomach must be composed with hyosciamus, in any form the practitioner pleases; or with volatiles, ardent spirits, compound spirits, or wine, in the forms most agreeable to the sick, and most suitable to their cases;—then the bark may be given in any of the forms as has been before directed.

But the practitioner is now to expect that much more bark will be required to effect a cure, than if it had been administered at the commencement of the patient's illness. So conformable to truth will the axiom which I have formed from experience always be found, "That the earlier and "more liberally cinchona is given in fever, the "more speedily it will be found effectual, and the "less will certainly be found requisite for the "cure."

In violent exacerbations, the anodyne stimulants may be repeated with great advantage along with the bark; and blisters may at any period of

the fever be serviceable, provided they are applied only as stimulants, and healed up as soon as possible, and not upon any account be kept open as drains, which cannot possibly have any other effect on the constitution than to debilitate.

## SECTION VIII.

### *Application of the Management of Febrile Infection when it is far advanced.*

But if the medical practitioner has not been called in until obvious symptoms of dissolution are come on; when profuse hæmorrhage, dysentery, colliquative diarrhœa, or colliquative sweats, and extreme debility, and paralytic symptoms, are hastening the sick to the fatal period; let him under such circumstances, upon no pretence whatever, lose any time, (even if these should appear at the commencement of fever), because the danger is equally great, as if the fever were of long standing, before such symptoms appeared. Let him not imagine that these appearances imply any specific difference of fever, because the difference in the cases depends on the various degrees of their violence only, which shows they require the greater expedition in the treatment, and the more frequent repetition of the medicines: let him not therefore, I say, with either ancient or modern

theorists, be an idle spectator, and expect, that by those profuse evacuations, nature is either relieving herself, or pointing out a method by which they ought to assist her to carry off the morbific matter of the disease, when the little remains of strength and life are only running out. —On the contrary, let him, I say, be diligent and active, and consider it his duty to restrain such evacuations; to support and reinvigorate the diminished energy *by every possible means*, particularly by administering bark, both internally and externally, in forms similar to No. XXIX. XXX. XXXI. and XXXII. of the Formulæ, in clysters, cataplasms, fomentations, and even baths —the aim being, as it were, *to saturate the system* with Peruvian bark and other tonics, as speedily as possible. In the meantime, volatile stimulias XXXIII., or mineral acids, or any other medicine or vehicle which may be thought proper, are to be administered internally with the bark. The sick may likewise be indulged with ripe fruits; and decoctions of meats. Even though the stomach should again and again reject them—the same or similar means are still to be persevered in—with the addition of fixible air, as XXXIV. and XXXV., because neither philosophy nor experience point to any other method of treatment, by which dissolution can possibly be prevented.

In this, as well as in the preceding state of fever, cinchona in a state of fermentation will be

found of essential benefit, because it will agree with the patient's stomach, when nothing else will.

Sinapisms may also occasionally be applied to the feet; and at times covering the head with a blister will be highly proper, especially when the head is much and obstinately affected.

When the sick labour under the grievous symptom of stupor or coma, for which fever has vulgarly been denominated typhus—though few of the sick ever labour under it, when they have been properly managed from its commencement—tepid bathing, lavation, and blisters, are peculiarly serviceable.

## SECTION IX.

### *Management of particular Symptoms.*

Respecting the management of particular symptoms which occur in febrile infection, I shall first take notice of pulmonic and hepatic affections.

When we meet with either of these untoward symptoms, it is to be considered whether they are chronic affections, and of long standing, or as merely incidental, arising from the circumstances about the sick; or from the season, *and not from febrile infection.* However, they are so inimical to the patient's case, that they will require all the

attention, skill, and experience of the medical professor, because in managing them, or any other incidental symptoms, the principal indication for the treatment of fever must never be lost sight of, in some measure, at least, for any time.

The reader is therefore reminded, that I am not speaking of peripneumonia; nor of hepatitis, nor of any affection arising from and depending upon inflammatory diathesis; but of chronic or incidental affections, which probably owe their origin to, and are the consequence of diseases proceeding in the first instance from an inflammatory diathesis, or from old hurts, and are now accompanied with chronic pain, cough, expectoration, and perhaps with incipient tubercles of the lungs.

Hepatic affection, accompanied with pain, may arise from enlargement of the liver, occasioned by former diseases; and from obstructions and suppression of the biliary secretions and excretions; all of which symptoms will most probably be relieved by XXXIV. and XXXVII. and with calomel in a small quantity, morning and evening —or XXXVIII. But when mercurials are given as deobstruents in hot climates—great caution is necessary, because they are very apt to excite profuse salivation. Purgatives and sulphur should therefore be occasionally joined with them.

Hæmorrhagia will be stopt and prevented by such medicines as XXXIX. and XL.

The icteric yellowness, or bilious-like suffusion, which often appears over the whole body in fever, especially in hot climates, is not by any means a fatal symptom. But its sudden appearance, notwithstanding its continuance is generally of short duration, is very apt to alarm the young practitioner, and to indnce him to think he has got thc disease called, vulgarly, *yellow fever*, to contend with. He is not therefore to imagine that it implies any peculiar malignancy of the case; nor that it proceeds from the texture of the blood being broken down and in a dissolved state, of which the serous parts are extravasated into the capillary vessels, being relaxed from extreme debility, and exciting the alarm. But he is to consider it an effect of constipated bowels, or of incidental obstructions in the liver and biliary ducts; and therefore that deobstruents, especally emetics, or aloes and calomel, should be joined with the bark. The sudden departure of this symptom, on procuring free stools, will prove the truth of this remark, in most cases at least.

Why the liver is so frequently affected, especially in hot climates, is not easy to be accounted for. But certain it is, that, the stomach excepted, no other viscus is so often affected.

The train of eruptions, particularly petechiæ, maculæ, or vibices, which are the most danger-

ous, disappear, and will yield, on persevering in the general method of treatment already mentioned, together with acid nitric, or muriatic acid, or the acid of fresh fruits.

Delirium and other local affections will require blisters and fomentations, perhaps again and again; and the former will also probably require and be relieved by sinapisms.

The diminution of the different senses; or of the uses of the extremities; or of the natural evacuations; or of the periodical discharges; or other incidental symptoms; are to be remedied by fulfilling the general indication—unless the method of treatment which I have pointed out is deferred too long, or until the extinction of the vital energy is at hand—when the Peruvian bark and stimuli, which, had they been administered early and liberally, would have succeeded—will prove ineffectual. But when the remedies before mentioned, are administered frequently and liberally, the medical professors will have the satisfaction to reflect that they have done their utmost, and often enjoy the pleasure of seeing the sick recovered from the jaws of death, beyond their own expectation, and that of every person connected with them.

# CHAP. III.

## CIRCUMSTANCES REQUIRING PARTICULAR ATTENTION IN THE MANAGEMENT OF FEBRILE INFECTION.

### SECTION I.

### *On the Administration of Medicines*

It is much to be lamented that medical practitioners are very often imposed upon and deceived by the patients, and every one about them —even by relations as well as by nurses. They are assured that their directions have been strictly followed, when the medicines are hid and thrown away. Yet, notwithstanding this unfair and ungenerous treatment, the *Doctors* are blamed because the sick do not recover. But surely it ought to be an object of the first importance, with all parties concerned in the management of the sick, that the directions of the medical professors should be faithfully attended to, both respecting the administration of medicines, drink, and every other necessary attention; or candidly to tell them so, and discharge them.

Medical professors and practitioners ought, in bad cases especially, to be distinct in their directions; rigid in their rules; and careful in their inquiries in what manner the sick were managed, and passed the time since their last visit. They should be very strict and accurate, yet mild and gentle in their manners. Their visits should be more frequent than the visits of medical men commonly are; and they should see the medicines given to the sick when they visit them. By which means they will receive better information of the state the sick are in, than they possibly can learn otherwise. Experienced practitioners, I know, stand in no need of this minute advice; but the young and inexperienced, who are apt to imagine that they have discharged their duty to the sick when they have written a prescription, and given a verbal direction, must be cautioned against this indifferent, formal, and flimsy practice—if they wish to acquire reputation and knowledge in their profession, and, what is still more important, if they wish to be successful in practice.

## SECTION II.

### *On Air.*

Air is of the highest importance to the exis-

tence of every animated being, animal or vegetable. Whether we are in health, ailing, or sick, it is equally essential and necessary to man. Unless, therefore, constant attention is paid to this *pabulum vitæ*, practice in other respects the most judicious will prove not only ineffectual, but even the health and lives of medical practitioners themselves, and the attendants on the sick, will be in perpetual danger. Negligence in respect to air has been destructive to thousands of valuable lives. Every possible method ought to be incessantly used to render it as pure and salutary as the situation and circumstances of the sick will admit.

Various are the means which have been made use of for this purpose, and recommended by authors—of whom the late Dr. Lind, of Haslar Hospital, has been more particular than most writers on the subject. Since the publication of the former edition of this work, Dr. Carmichael Smith's mode of fumigation has prevailed; and been thought useful by many. But on board ship the most effectual general method, that I know, beyond comparison, is to fumigate with tobacco. Various substances have been burned, or fumigated, or evaporated, in the chambers or apartments of the sick; in wards of hospitals; and in sick berths on board of ships. All of which may be more or less useful, and may therefore be tried by turns, in the manner I have

mentioned in my Observations on Jail, Hospital, or Ship Fever. [See vol. ii.] But as those directions cannot be followed in hospitals, nor in chambers; other means of changing the air, and rendering it salutary, must be the more particularly attended to.

Wards for fever patients in hospitals ought to be so lofty, and the windows so high, as that the upper part of them might be open without any risk of the wind or stream of air blowing upon the sick in bed. The wards should also be so constructed as to have windows on both sides; that, some on each side being open, occasionally, (besides ventilators) a thorough draught of fresh air might force the foul air out. There should be no curtains round the beds or cradles; but there might be linen curtains to the windows, died with colours least offensive to the eyes, to obscure the light.

Various things may be burnt in rooms—as cascarilla, frankincense, myrrh, and camphire, or cork. Others may be evaporated—as spirit of salt, spirit of wine and camphire, æther, and vinegar; and manganese and sulphuric or nitric acid. There should always be a little fire, which is the most powerful ventilator, in the wards, to keep a constant draught of foul air up the chimneys: and Dr. Carmichael Smith's mode may be also tried. The wearing-apparel of the sick should be carried out of the ward or room, as soon as

they are admitted into the sick berth or ward; and whenever they are shifted. Indeed it would still be better if there was a room purposely to shift and wash the sick in, before they were carried into their wards or berths—to prevent as much as possible stench, filth, and infectious effluvia, from being carried along with them. Provisions ought never to be kept in the wards longer than the sick are eating or supping in them. Besides strictly following those directions, in rooms wherein sick lie—the door, or a window, or both occasionally, should be constantly or very frequently opened. If the bed stands on castors, it should be moved out of the draught, when both are open; or the curtains should then be haled round the head of the bed. At other times, the curtains should never be more haled round than barely to shade the light from the eyes of the sick. The window ought never to be close down; nor the window-shutters close shut; and the curtains down at the same time. Care must be taken to admit so much fresh air at all times into the apartments of the sick, as will force the foul air up the chimneys, or some other way. When the weather is so hot that a fire cannot be suffered in the wards or rooms, a large lamp should be burnt constantly in the chimney for a conductor of the foul air. The rooms should never be kept hotter than if the sick were in perfect health. In a word, the purer and the more temperate the air is, the more favourable

will the situation of the sick be rendered; and the less risk medical professors, relations, and attendants about them will stand in of being infected.

## SECTION III.

### *On cleanliness about the Sick.*

Cleanliness is a matter of great importance to the sick in general, and more particularly to fever patients, and must, therefore, be carefully attended to; otherwise all the skill and attention of the practitioner to save the patients' lives, and to prevent the contagion from spreading, will often prove ineffectual. Every circumstance about them merits the minutest care. Whether they are situated on board ships; in wards of hospitals; in the corner of a hovel, or in the apartments of a palace; makes no difference respecting the absolute necessity there is for attending diligently to cleanliness. No sort of excrementitious matter—whether stools, urine, or expectorated phlegm, mucus or pus, should be kept and harboured about the bed. No old dressings; foul linen; or clothes of any sort, more than are absolutely necessary; or provisions, should be kept in wards, berths, or apartments of the sick.

The sick are to be got out of bed, once at least, every day, if possible, and to be kept up as long

as their situation admits, to allow their beds and bedding to be aired at fires, or in the sun, or to be shifted, as occasion may require. When they are so weak as to be incapable of sitting up, they should either be moved into another bed, or be laid on a couch or mattress, on purpose that their beds and bedding may be aired, when they cannot be changed. I not only have had beds and bedding aired as often as possible, but have ordered two sets of bedding and beds to be destroyed on board ship, before some patients have recovered. Provided proper care is taken in doing it, and the circumstances of the sick will admit, neither the chambers, nor the beds, bedding, or the linen of the sick, can be too often aired, or changed. The apartments, wards, cabins or berths, should be frequently swept and sprinkled with something, according to circumstances, to cool and refresh them.

When a fleet, an army, or a family, become sickly, either the physician's, or the surgeon's, or the apothecary's attention should be incessantly employed about the sick. Indeed medical practice, in the two former branches, labours under such insurmountable difficulties, that all possible care and exertion will, at times, hardly procure the practitioner self-approbation on the occasion, nor exempt him from danger. I must therefore repeat, that sick on shore require the physician's attention and visits much oftener than

is customary, were it only for their own credit. When the lives of valuable subjects are in danger, expences and trouble bear no competition with the consideration of preserving them.

## SECTION IV.

### *On Quietness and Rest.*

They who never have been sick on board of a a ship, cannot possibly conceive what fever patients suffer from din, some of them at least, and from perpetual clamor, especially when the head is, unfortunately, much affected. Neither can words express the luxury and comfort which they enjoy when removed from a ship to a quiet situation on shore. I speak from experience.

The incessant, though irremediable noise on board, continually disturbs and distracts the head, far beyond the power of any one's comprehension who has not experienced such an additional affliction, as I have done. Admitting, therefore, that the sick were fully as well treated, in other respects, on board as they are in hospitals on shore; the enjoyment of quiet rest, and tranquillity, gives a decided preference in favour of the shore for the sick—were they lodged in tents only. With this advantage they will recover sooner.

Respecting sick on shore, I shall only observe,

that the more quietly every thing is conducted in their chambers or apartments, by medical professors, relations, and attendants about them, and the less they are disturbed by any visitors, the more comfortable in every respect the sick will find themselves; and the sooner they will recover. The mind ought not upon any account to be disturbed in any way; whence will be derived another advantage, viz. the infection will be less liable to be communicated to others.

## SECTION V.

### *Drink and Nutriment.*

When thirst is incessant, as frequently happens, the most judicious manner to administer drink is as nearly as possible to keep distilling it into the mouth. Large draughts ought never to be allowed, because they only satiate craving for a moment; the mouth and throat soon become dry again, and a repetition of the draughts, by distending the stomach, which presses against the diaphragm and lungs, and upon the great vessels, only occasions inquietude, anxiety, and oppression about the præcordia.

For drink, I generally prefer wine and water.

Sometimes it will be proper to acidulate it with the juices of fresh or preserved fruits; or with

mineral acids; and sometimes a little burnt or toasted bread adds a grateful flavour to cold water.

But in prescribing drink it will frequently be proper to consult the patient's inclinations. At times the circumstances and situation of the sick must regulate the choice—but water alone will very seldom, if ever, be proper; because the drink ought to contain a degree of stimulant or roborant power—so that it may coincide with the general indication for the cure. Herb-tea is preferable to water.

Respecting nutriment, nothing but what is in a fluid state will be swallowed, until they arrive at a state of convalescency. And then, in administering food—be the rank or condition of the patient what it may, no regard should be paid to fashionable hours—which, I believe, have often been destructive to many convalescents with weakly constitutions, among people of condition. When craved, is the properest time to administer it.

In ordering and administering diet as well as drink, the situation, circumstances, and habits of the sick must often determine the choice of both. Even when it is fully in our power or left to us to choose, the inclination of the sick must be sometimes consulted and indulged.

Decoctions of butcher's meat, or of fowls; or soups; jellies of meat diluted, with barley, rice,

oatmeal, or vermicelli, occasionally boiled in them —will be found very proper and beneficial. Sago, rice, salop, tapioca, panado, light puddings, Indian arrow-root, or lichen Islandicus, boiled, and administered with the addition of more or less wine, sugar, and spices, as may be thought proper, are pleasant and nourishing articles of food. So are boiled or poached eggs.

Roasted, baked, or boiled apples, with wine and sugar, are also a pleasant change of food.

But the mode of dressing solid meat may be varied agreeably to the inclination of the sick.

## SECTION VI.

### *The obvious Reasons why Fever is more easily cured in Hot than in Cold Climates.*

Authors agree tolerably well as to the reasons why fever is more easily cured in hot climates than in cold; but, in my opinion, they have not explained themselves sufficiently. As it appears to me of consequence in practice, that they should be thoroughly explained and understood by young practitioners; I shall endeavour to throw some more light on the subject.

In hot climates, the sick are lodged on board ship, in hospitals on shore, or in private houses,

in more airy situations, and seldom lie with more than a sheet over them, and with very little, if any, woollen about them. Woollen not only absorbs infection more than linen, but is cleansed with greater difficulty. Healthy seamen, truly, seldom lie on their hammacoes, if they can find a place to spread their bedding any where above deck, or about the poop, booms, forecastle, or even the tops; and then they generally sleep in their frocks and trowsers upon the bedding without any other covering, not even regarding or fearing the night dews, to which indeed they ought never to expose their naked bodies, nor ever sleep in them. A frock and trowsers, a cap and shoes, are the common apparel of sailors, of which they have a change or two; and for their own comfort, when they are too lazy to wash them every day, they rince them overboard, or in sea water, and dry them in the sun; which they very readily do for one another when they are sick. So that their dress, whether they are sick or well, is always cleaner and lighter, besides being less adapted to imbibe and retain infection, than it is in a cold climate: consequently the aura or vapour arising from the sick themselves, must be far less obnoxious to themselves, and to every one about them. This fact speaks for itself. When they arrive at a convalescent state, whether they are at an hospital or on board ship, there is

very little difference in their dress: as, instead of a frock, they only wear a shirt, and a thin jacket without lining.

Ships, from the mildness of the atmosphere, are much better aired, oftener and better cleaned, than in colder and stormy climates; so that people, whether they are well or sick on board, breathe a purer atmosphere in hot than they can possibly do in cold, northern countries.

The inhabitants on shore are chiefly dressed in very thin cloth coats, without linings; or in linens, nankins, dimities, or silks and muslins, and thread or silk stockings; their linen is often shifted, at least twice in the day. Their beds are hung with muslin or gauze, and they sleep with a sheet and thin counterpane, or perhaps none, over them. So that their bedding is easily aired in the sun, or washed, which is frequently done: and infection by these means is either washed away, or very little, if at all harboured. Besides, their houses are airy, being built with care to receive a thorough draft of the sea breeze, or most prevailing wind, in the day time. But they are equally careful to exclude the night air and land winds.

The facility with which perspiration is likewise promoted, is a great advantage to the sick and the practitioner; the pores of the skin being generally open, which no doubt contributes greatly to the effect of the medicines employed in the

relief and recovery of the patients. These are advantages, and they are certainly great ones, which the patients derive from their situation in hot climates; to which may be added another of some consequence—i. e. the difference between the medical practice in hot climates, from what it is in northern latitudes. As diseases, especially fever, *terminating* sooner in climates *within* the tropics, are more speedily fatal than in those countries situated *without* them, physicians are obliged to be more early and more active in their practice in the former situation than in the latter—Though many eminent practitioners are still governed by the old doctrines of *despumation*, *depuration*, *concoction*, and critical days, which are only productive of procrastination, if not destruction. But their practice in other respects is conducted after the same as it is in colder climates.

There are diseases certainly in which physicians may discover profound judgment, by patiently and attentively observing their progress, and watching for a favourable moment to act: but such delays in fever, in hot climates, are always dangerous, if not fatal. Experience has convinced me, that more can be done for the patient within the first twenty-four hours of fever, in any climate, than in many days after, admitting every thing to go on favourably in the cure. Words can convey no idea of the advantage arising to the sick from an early and liberal use of

medicine in fever; nor of the pleasure enjoyed by the physicians, who have it in their power to prescribe from the beginning of the patient's illness. *Obsta principiis* is perhaps in no disease so applicable as in fever; for one day lost in treating it is, generally speaking, never to be redeemed.

In a cold climate, from the moment the fever commences, the sick begin to breathe in an infectious atmosphere; it being rendered so from the nature of their dress, their bedding, and from the little confined rooms on shore, as well as on board ship. In bad weather especially the air becomes almost unavoidably more and more contagious, until they either recover, or warm weather sets in, which enables them to admit a frequent change, if not a free circulation, of air and the apartments of the sick, and the patients to wear fewer woollen clothes and blankets—retainers of infectious effluvia, which are constantly thrown off from the general surface of the body, by perspiration as well as by respiration, and also from the excreta, urine, and fæces.

It is also to be lamented, that, under such circumstances, many particles of the noxious effluvia are momentarily taken into the circulation again by both the absorbents and the lungs, and consequently must acquire a more exalted degree of virulence. Besides, many common people, in

cold climates, do not change their linen oftener than once a week, if so often. But all these evils are concentrated in the sleeping apartments and beds of the sick, during the winter; when the latter, especially, are loaded with woollen or cotton furniture, besides blankets, which are either very seldom cleaned or aired, and never shifted. In winter all possible care is taken to shut the air out of their apartments, which undoubtedly tends to aggravate the evil.

These circumstances, if duly considered, will be allowed to explain satisfactorily to the philosophical reader, why fever is more easily cured in hot than in cold climates; without erroneously supposing that there is any specific property in the air of hot climates, to resist or overcome febrile infection. Experience has often proved, while fever prevailed either on shore or on board of ships, unless a proper use is made of the local advantages peculiar to hot climates—that so far from the heat being a benefit, it becomes to the sick, and to those attending them, an additional calamity. Instances of this have frequently happened at Jamaica, and elsewhere, on board of his Majesty's ships of the fleet.

The advantage in practice, in hot climates, derived from the perspiration being more easily kept up than in a cold climate, is by proper treatment, easily supplied in any climate.

The circumstances which I have stated, appear to me to explain, in a great measure, why fever is more easily cured in a hot climate than in a cold one, and which I have not found sufficiently allowed and attended to.

## SECTION VII.

### *Remarks in Greenwich Hospital.*

Before I conclude this subject, I think it right to mention a few observations on fever in this hospital. Because fever is neither endemial, nor confined to any season or age.

My appointment as physician to this institution took place in December 1790, but I could not begin my observations before September 1791.

To establish the tonic, or Peruvian bark treatment of fever, I had many difficulties to encounter; of which prejudice in favour of old established practice was not the least. But, fortunately, in May 1792, four boys complained of fever, who recovered soon under my usual method of treatment; —though one of them, by the mismanagement of his parents, to whom he was suffered to go while he was yet in a convalescent state, had a violent relapse, and recovered. Upon which it was acknowledged that my method of treating fever had been fairly tried.

Bark and wine as medicines; with beef-tea oc-

casionally; and blisters applied early, as stimulants only—even in the cases of children, whose systems were supposed to be in the most inflammatory diathesis, were administered successfully; (and in all cases of fever which have been brought under my care soon after the patients were taken ill, the bark or tonic method of treatment, has succeeded perfectly in curing them—a remark which extends also to my patients out of the hospital)—and were means never known to have been made use of here to cure fever. The method of treatment therefore afforded to those hitherto accustomed to prescribe the debilitating mode of managing fever, a degree of surprise proportioned to its novelty, and the success which attended it.

## SECTION VIII.

### *A brief Recapitulation.*

The learned professor will, I trust, forgive the plain style in which I have written this synopsis; and the experienced one will know how to appreciate the work at large, by comparing my observations with his own: and

The young and inexperienced, for whose instruction they are calculated, will find in them a faithful guide. At least from the many assurances I have received of their utility in the service, I cannot possibly entertain a doubt, and to ac-

commodate them in particular I have consolidated these into a synopsis.

It is the privilege of sceptics to doubt and even to avow their doubts—more especially if they seriously intend to satisfy themselves and the public of the veracity or fallacy of the propositions or remarks of which they doubt, by candidly comparing them with observation and experience.—And then it is incumbent on them to avow the issue fully, that others may be informed and judge for themselves likewise.

But professional men, who not only choose to avow their scepticism in delivering their opinion, but to carry scepticism into their practice also, without having any intention to do the authors of the propositions and remarks of which they doubt, the justice to examine them by the only touchstones, observation and experience, which would remove their own doubts, by shewing them the validity and veracity of the remarks, are certainly not friendly to science.

When scepticism is thus applied to practice, the consequence is, that medicines which would have proved effectual, had they been given in proper time, are delayed to be prescribed until it is too late, and instead of fixing the blame where it ought to be fixed, upon their own dilatoriness, they are too apt to lay it unjustly on the medicines, and especially upon those, against which they entertain a prejudice.

I have always considered it as a vast advantage, which medical practitioners in public service enjoy, that they are generally consulted so early in fever; that they see their patients so often, and that they have authority over them and their attendants, more than practitioners in private practice have, generally speaking. Indeed the patients themselves, and the empire, share in this advantage; and it will be always found to correspond with, and confirm what I have already said; that the sooner patients apply for assistance, the sooner means are made use of and the more liberally bark is administered in fever, the more efficacious will the practice be.

Cinchona, if delayed to be given in febrile infection until debilility is far advanced, though administered *now* in the most judicious manner, will be found to act far more slowly than if it had been given liberally and early. But should debility be so far increased that the tone or digestive power of the stomach is much impaired and suspended, the proper time to have given it is perhaps irretrievably lost; and it will now lie inoffensively, though inertly upon the stomach. But its want of efficacy in all such cases is no more to be charged against the virtue and efficacy of cinchona to cure febrile infection; than the want of power in bread, meat, or any other species of food, to nourish and restore a man who has been starved to the approach of death, could

be charged fairly against such articles of food, as containing and possessing no nutritive property. The event of this practice in both cases is similar; i. e. neither bark in the one, nor any species of food in the other, can effect impossibilities. To fulfil both intentions, they must be given in due time, and in sufficient quantities.

The properties of bark have been found, and allowed by the generality of writers and practitioners, to be effectual in curing intermittents; but it has been positively interdicted, as if it had been deleterious in continued fevers, (I speak in compliance with custom), "because," say authors, "of its phlogistic and constipating qualities."—But, admitting that it does possess these qualities, upon what principle is it, I beg to be informed, that they prescribe it in the simplest form and appearance of fever—intermittent fever—which, inasmuch as this form and appearance are nearer to the healthy state than the continued form of fever is?—it is certainly so much nearer to the state of sthenia, or the inflammatory diathesis. I should be very glad to see this difficulty solved by them; because it seems to me impossible to reconcile the practice in the one form and appearance, with the interdiction in the other. It appears to me that the reason why bark has been found so effectual in curing intermittents is, that, the tone of the stomach being as yet little impaired, it is capable of digesting the

cinchona; and also of being stimulated by other medicines more easily than it is when more debilitated. Or, in other words, that the vital energy or digestive power in intermittents, is but little diminished, and that much less bark is required to repair the diminution. While the reverse obtains in continued fever. In this form, the vital energy being greatly diminished, much more of the medicine is required to act upon the stomach, and to restore the energy—the tone or digestive power of the stomach being so greatly destroyed, that it is proportionably less able to digest, or to assimilate the bark as a febrifuge or tonic. Consequently, the longer it is delayed in any case of febrile infection, to administer proper means of relief, under so much the greater disadvantage they must be administered; the greater quantity of them will be required; and the longer they must be continued, to effect the cure.

Therefore, as the effects of cinchona, when administered to cure febrile infection, will always be in a *ratio* to the diminution of the tone and digestive power of the stomach; or of the vital energy, and general debility of the sick—and as the commencement of the fever is the period of the disease nearest to the healthy state, so this must consequently be the most proper and advantageous period to administer it for the benefit of the sick and credit of the physician. Then much

less wine, or hyosciamus, or other adjuvant medicines, will be required in the cure.

Respecting the efficacy of bark, in curing febrile infection, I have already reminded the reader of such cases as are accompanied with incidental, or habitual, topical affections; that these affections are not to be disregarded and neglected. But on the contrary, while in prescribing for the fever, and I am endeavouring to fulfil the indication to cure it, I pay at the same time particular regard to them. But as such complex cases cannot be enumerated nor stated before they occur, practitioners must discriminate them, and manage them, according to the best of their judgment, upon the principle I have proposed.

There is one weighty difficulty, however, that I know may be ingeniously raised against the treatment I have pointed out for febrile infection—which is, although practitioners should admit of its superiority to any other treatment, in what manner is febrile infection, they may say, to be treated in countries where neither cinchona, nor wine, nor opium, are known? To which I would answer, most certainly,—by other articles of the tonic class which happen to be at hand. And I will venture to say, there is not a region on the face of the earth that does not supply a number more of that class, besides those mentioned, and cold affusion. But I might as well ask, how do mankind live, where neither bread, butcher's meat,

nor beer, nor wine, nor ardent spirit, are known? The rudest herds of men, in the most distant corners of the earth, have articles of food and cordials, which answer all the purposes of nutriment and luxury which those do in this empire. Some macerate, pound, and make into lumps or cakes, one sort or other of grain, or of trees, or of roots, which they either boil or roast, in place of bread. All of them have their fish, or their wild fowl, or their venison, or the flesh of some animals, for meat; and they enjoy their *unfermented* wines, or their oils, instead of our intoxicating cordials. Should the medical readers unfortunately practice in the situation now alluded to, they will most probably meet with some medicines possessed of similar properties, I say, though perhaps in an inferior degree, to bark, wine, and opium, or hyosciamus.

But whatever be their situation, in their practice they should religiously abstain from the antiphlogistic or debilitating treatment, considering it a moral duty, as well as more judicious and humane, to do nothing, rather than to do mischief.

It will therefore be incumbent on us to remember, that throughout the remotest regions of the earth, wherever we practice, we have it in our power to fulfil the indication, deduced from observation and experience; and we can no longer plead ignorance as to what is proper for the cure

of febrile infection. Because, that, *Deo juvante*, fulfilling the indication will be found invariably successful, and therefore undoubtedly proper. I therefore repeat that, even refraining from the antiphlogistic treatment of fever, will be found a great improvement in the treatment of fever, comparatively speaking.

From what has been said, I trust the reader is fully convinced of the importance of the subject of febrile infection. In all ages and regions its influence has been felt. No rank, no age, nor sex, has been secure against it. It has set bounds to the ambition of the most proud and powerful monarchs. The emperor, as well as the meanest peasant of his realm, has sunk, or may sink under it, unless it is properly managed—so nearly are related the effects on the human constitution of extreme penury, and of affluence when abused. The one no less than the other debilitates, predisposes, and renders us liable to be afflicted with this universal disease. To guard against it, and its consequences, it is the interest of all men to steer, as much as possible, between these extremes. While moderation and temperance are incumbent on the one class; industry, sobriety, and cleanliness, are incumbent on the other: and should we, notwithstanding all our care, be yet visited with the direful calamity, we have reason to thank God that he has furnished us with means to over-

come it, if on our part, we are but careful to make a timely and proper use of them.

With a view to enable the inexperienced reader to distinguish the disease from any other, and when present, to employ suitable means to overcome it, these axioms are never to be lost sight of—" That febrile infection, or idiopathic fever, " is always, and every where, the same—That " it always is more or less infectious—That it " originates from a diminution of the vital ener- " gy which maintains the equilibrium or healthy " state of the system—That the cure entirely " depends on restoring that diminished energy" and " That it will be most speedily and effectu- " ally accomplished by the tonic method of " treatment, which I have so strenuously en- " deavoured to recommend and to introduce, " after many years observation and experi- " ence."

I am perfectly satisfied that every practitioner may be fully convinced of the truths which I have stated in this synopsis, provided he will take proper measures to be convinced.—If he will only divest himself of prejudice, and make a conscientious trial of the bark or tonic treatment of fever, and compare the eventual success of it, with all other methods of managing fever hitherto practised and recommended, I have no doubt to which side the experimental balance

will preponderate in favour of, and fully satify him. But in conducting the experiment, he must consider it an invariable rule to be observed, that the bark must be given liberally and early in fever, whether remittent or otherwise—so early as in a manner to obviate fever; and he is to be guided by its effects without regarding its colour, the quantity, or the number of the doses given.

The four cases following will illustrate the preceding doctrine :—

CASE I.

Mr. Boon, the boatswain of the Edgar, aged about 32, irregular from being exposed to much fatigue, after *drooping* about eight days was affected with acute pain in the left side of the thorax under his breast, to which pain, he said, he was subject when indisposed; the pain also, he said, was severer sometimes than it was at others—besides having felt universal pains, with heat and thirst, for two days before, the 5th of March 1780. I ordered a vomit for him, which operated and procured him several stools; and the bark was administered in the afternoon.

6. He rested ill from the severity of pain at times through the night, and his tongue appeared foul in the morning. I prescribed the bark every

two hours. In the afternoon, when he felt an exacerbation of heat coming on with his usual pain, he took a dose of the bark, which he told me, with apparent pleasure, carried both off in ten minutes after.

7. He enjoyed a good night, and had no considerable exacerbation afterwards. The bark was continued until he perfectly recovered strength on the 20th.

This patient had the fever three different times, accompanied with the pain of his breast; and always recovered by the same management.

CASE II.

Mr. Dixon, one of my assistants, aged 22, apparently of a strong habit, drooped for two days, with chilliness, soreness, and fullness about the throat, and with loss of appetite; and complained in the evening of the 6th of July of such exquisite universal soreness, that touching any part with his finger gave him pain; and of great lassitude and depression. The tongue was whitish, the pulse was quicker, and skin hotter than natural. He took a vomit immediately; and a sudorific when he went to bed.

7. The fever rather increased through the night, although he had sweated profusely. A purging draught was ordered in the morning, and

the bark to be taken in the afternoon, which he neglected. No remission was observed throughout the day. The heat, thirst, and universal pains, with profuse sweating, harassed him exceedingly; and he still complained of being costive. At bed time he used the pediluvium, and repeated the sudorific.

8. Though he had several stools in the night; and though the sweating still continued, being very profuse when he moved in bed, there was no remission of the symptoms in the morning.

I ordered him a drachm of the bark every two hours; and a little wine now and then. He moaned; sighed; was often vomited, and purged; and was apprehensive of dying this afternoon; but he sweated much less. I gave him an anodyne draught at bed time, and applied a blister between his shoulders.

9. He passed an indifferent night, there having been no remission of the symptoms. In the morning he craved small beer at one time; and milk at another; and there was a slight hæmorrhage from the right nostril. I continued his bark, and ordered him an opiate occasionally. He also took ten grains of alum in the forenoon on account of the hæmorrhage. The discharge from the blister was yellowish serum.

10. The remission of the fever was more distinct, but he still complained, though in a less degree, of all the other symptoms. I continued his

bark, opium, and wine, as before, and gave him fifteen grains of cream of tartar. In the afternoon he was entirely free of fever; and a little blood, quite cold, dropped from the right nostril. He never had any return of the fever afterwards; but he complained of retching, and of exacerbation of pains for several days at times. I continued his medicines therefore, diminishing the number of doses gradually, and instead of opium, the last two or three days of his illness, I ordered him ten drops of spirit of hartshorn with every dose of his medicine, and more wine.

### CASE III.

Mr. Blake, aged about 22 years, apparently of a stout make, and of a robust constitution, on the 13th of June, about noon, was attacked with a severe paroxysm of fever, which terminated by perspiration in a remission about six in the afternoon. He then complained of head-ach; of universal pains, especially lumbago; and of debility, distressing him very much. I ordered him two drachms of bark immediately; and that it should be repeated before he went to bed.

On the 14th in the morning he was much relieved, and in the course of the day took an ounce of the bark. The day following he returned to his duty, and never had a relapse.

CASE IV.

Mr. R., aged about 38, of a healthy, though delicate constitution; temperate in his living; and well-accustomed to different climates, without being affected by changing them, arrived at Gibraltar on the 19th of January 1780, in perfect health; but no sooner did the wind veer round to the eastward, and blow what is called there a *Levanter*, than he was seized with symptoms of fever; and these were always increased when it blew strong. While this gentleman remained there, he was regularly affected by those winds, and constantly relieved by a liberal use of the bark, without taking any medicine previous to it. Sometimes about a sixth or a fourth of a grain of emetic tartar was joined with the bark. In the mean time he varied his diet and living as little as possible.

On the 10th of April 1781, the wind being about NW. and westerly, blowing strong at noon, after having for a considerable time before been much exposed to infection among the prisoners in the hospital on shore, where his duty led him, he felt the *Levanter* pains coming on about eight in the evening, to which he had hitherto been subject only during the approach and continuance of the easterly winds; and expecting the change of weather, he continued doing his

duty, and took a little tincture of bark twice that day.

On the 11th, the pains were more severe and wandering. At one moment he had the sensation of being extremely fatigued, and the next he was so easy that he forgot all these sensations. Sometimes there was an unusual heat in the skin; while the pulse was very little affected. He took the tincture of bark as he had done yesterday; went with languor about his duty, and imprudently walked, and stood a good deal in the sun. After which he went on board in a small open boat, during the strength of the sea breeze, by which means he was so much fatigued that he could eat little dinner, and passed the night indifferently afterwards from an exacerbation of the pains.

12. Finding himself worse, the pulse being rather weaker than natural, and irregular, besides having a slight nausea, he took half an ounce of the tincture of bark with one fourth of a grain of emetic tartar three times in the morning. However, perceiving a chilliness come on at ten before noon, he began with the bark in substance; and took four scruples with two drachms of the tincture in a little tea. At 11 he was not colder, and repeated his medicine. He was so much overcome with fever; with the severity of the pains, and head-ach, that he lay down in bed at noon; soon after he repeated his draught, with eight

grains of salt of amber, and drank freely of warm tamarind beverage. The heat became vehement, the pulse was strong and rapid, and the pain darted violently from one place to another during the hot fit, which was succeeded by a profuse sweat, and followed gradually by a remission about four in the afternoon. Notwithstanding the severity of the paroxysm, neither his reason nor his spirits were in the least depressed. But he was astonished to feel himself so extremely weak; and the head so greatly diseased, though not pained when he got out of bed at four, when the paroxysm was ended. He repeated his bark thrice more, and took ten grains of sal. succin. with the bark when he went to bed at eight o'clock, having first had a copious stool.

13. The remission continued, and became more distinct. The head still seemed greatly disturbed; after he had enjoyed a tranquil and very pleasing night. Though he felt himself extremely weak he went about his duty on board, taking bark every two hours.

14. He had a good night; and continued the bark. But with the first dose he took an ounce of salts, and two drachms of crem. tart.

He persisted in taking bark, and never had any return of the fever while he lay at Gibraltar; but did not recover his strength until he left it on the 20th of April. He enjoyed a good state of health afterwards.

At bed-time on the 12th, and on the evening of the 13th, he took ten grains of sal. succin. without any perceptible effect.

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*Comparative Statement of the Proportion of Deaths under the different Methods of managing the Fever on board the Juno.*

Treated with bark on board, 216 patients—1 death. Proportion of deaths 1 to 216.

Fever patients belonging to the Juno treated *without* bark on board, at New York and Rhode Island hospitals, 296 patients—16 deaths. Proportion of deaths more than 1 to 16.

[See also from pages 399 to 405, vol. ii. of the author's Works.]

# CHAP. IV.

## ON THE MEANS TO PREVENT FEVER AMONGST SEAMEN AND SOLDIERS, EMPLOYED IN SICKLY SEASONS, IN ANY CLIMATE.

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### SECTION I.

*The Method of preventing Fever on the Coast of Africa, in* 1772, 3, *and* 4, *&c.*

"THE most effectual means of preserving the health of seamen, as set forth by Dr. James Lind, of the Royal Hospital at Haslar," were compiled with so much attention, and are so copious *in his essay*; that Dr. Blane published an abridgement of them while he was physician to the fleet under Lord Rodney.

But while I was on board the Weasel in 1769; and on board the Rainbow in 1772, 3, and 4, on the Coast of Africa; I observed how inadequate the common means of precautions Dr. Lind recommended were to prevent the men, necessarily employed on shore duty, from being infected with

marsh effluvia. And the incidental tornado at the island of St. Thomas, under the line, (see vol. i. p. 125) calling upon me for the best method I could *instantly* devise to render as little pernicious as possible the marsh effluvia and night air, which all our people employed in wooding, watering, and marketing for fresh stock and vegetables, were exposed to.—The sudden tornado having raised on the shore so much swell, that a boat could not land to bring the men off.—It struck me, that a dose of the tincture of Peruvian bark was the best article of prevention I could possibly send them; and Captain Collingwood very humanely sent wine of his own to give the tincture in. All the people, as well as the officers who were on shore, and took the medicine, thought themselves much better for it at the time, which was early the morning after the tornado.

But most of the men had the fever afterwards, though they all recovered.

Reflecting on this circumstance, the next voyage (1773), I prepared a strong wine tincture of bark, to give a dose of it to the men every morning who were to be sent on shore duty, and in the evening occasionally when they came on board, which was administered to them accordingly; and also in 1774 on our last voyage in the same manner, with the desired success: for none of those men had fever either of the two voyages. Ever since

bark in wine has been ordered on that coast in his Majesty's ships, to prevent fever, I believe. [See vol. i.]

## SECTION II.

### *On fermenting Peruvian Bark Decoction, as a Means to prevent Fever.*

I have had no opportunity to try the efficacy of the fermenting decoction of bark, as a preventive from fever; but I see no reason to entertain a doubt about it. I therefore insert here my directions for preparing it, as they were printed in 1799, without any further preface.

### DIRECTIONS

*For preparing the fermenting Decoction of Bark, and for administering it either as a Preventive or Cure of Fever.*

In the treatment of fever, and other diseases wherein Peruvian Bark is proper, a method that would enable the stomach to retain it, and render it grateful to the palate, when the usual formulæ are rejected and nauseated, as often happens, to the great disadvantage of the sick, and disappointment of the practitioner, had long been a desideratum in medical practice.

Having often reflected on the subject, it occurred to me that by giving bark in a fermenting state I might probably attain the desideratum, and by that means save much time to the sick, as well as the bark which is wasted in the untoward cases alluded to, when administered in the usual formulæ. I therefore, in Autumn 1796, made the following experiments:

I.

I dissolved, in a gallon of boiling hot decoction of bark, two pounds of treacle [half this quantity of treacle, and a sixteenth part of this quantity of barm, if it is good, will be sufficient, I find by experience]; and, before it was cold, I added thereto a pint of barm, which, after being well agitated in the mixture, soon occasioned a very brisk fermentation.

The bark, in this fermented state, was administered in a dose of one spoonful every hour, to a fever patient, who nauseated the usual formulæ of the bark; and ever since, according to circumstances, both as to the quantity and frequency of the dose, it has been administered to fever patients in this hospital, with a degree of success beyond expectation, in staying on the stomach, in pleasing the palate, and in the speedy recovery of the sick. Sometimes it has been made use of

as a vehicle for other medicines, but generally alone.

II.

Afterwards I dissolved, in a gallon of the decoction of bark, two pounds of brown sugar, [half this quantity may suffice], and, upon adding a little barm to the mixture, a violent fermentation ensued.

III.

I next dissolved, in a quart of the boiling hot decoction of bark, four ounces of honey, which, with a little barm added thereto, fermented very briskly.

IV.

I boiled a gallon of sweet wort (the first run for making our hospital beer) half an hour, into which, while boiling, I put of Peruvian bark two ounces, and continued the decoction ten minutes in a close vessel; and to the decoction, before it was cold, I added a little barm, which brought on a very brisk fermentation. All those four preparations, to my palate, were very agreeable.

V.

In a quart of the boiling hot decoction of bark I dissolved succ. liquorit. four ounces, and, before

the mixture was cold, added a little barm to it, which fermented faintly; though, from first to last, three times more barm, in proportion to the quantity of decoction, was added, than in any of the three last experiments: but the taste of the bark was entirely concealed in this preparation, which was too luscious for my palate.

Although I have not made trial in my practice, of all those five preparations of the fermenting bark, there does not appear to me any reason for doubting but their medical properties must be similar: the practitioner, therefore, according to exigencies, or his own inclination, may adopt either.

It is further to be observed, that the dose, both as to quantity and frequency, is to be administered, according as the case requires, from one spoonful every half hour to eight or more spoonfuls, at such intervals as the practitioner sees fit, either alone or as a vehicle for other medicines.

## VI.

With the barm skimmed off, No. I. fermented with much less barm than is therein mentioned, very good bread has been baked; I am therefore satisfied, that the facility of thus having fresh barm to bake every day, for the sick on board the fleet, will be a valuable acquisition.

## VII.

The decoctions of sarsaparilla, both simple, [it does not ferment near so well as the compound; nor this near so briskly as the Peruvian bark decoction] and compound, fermented with treacle and barm, and administered either alone or as vehicles for other medicines, have been productive of great benefit in this hospital, in cases of broken down syphylitic habits, and in one very remarkable case of cacochymia, when the usual formulæ were rejected and nauseated.

That essence of malt dissolved in the boiling hot decoction of bark, and the mixture fermented with barm, will be equally pleasant and efficacious as No. 4, there appears no reason to doubt.

## VIII. IX. X. XI.

Of the decoction of snakeroot, gentian, quassia, and cascarilla, in sweet wort, and fermented with a little barm, I have made such ale or beverage as will be found very grateful, and, I dare say, will be much coveted by the sick and convalescents at sea.

That the extracts of the four bitters last named, and of others dissolved with any of the sweets mentioned in No. 1, 2, 3, and 4, or with essence of malt in boiling water, and fermented with a

little barm, will make as pleasant ales as their decoctions, may rationally be inferred.

To administer fermented bark in doses from two to eight ounces, according to the discretion of the practitioner, as a preventive from sickness, is an experiment now in process.

After the preceding statement of the experiments, the following direction will, it is presumed, be sufficient to guide any medical gentleman in preparing the fermenting bark, when he is inclined to make trial of it, in such cases as have been mentioned, or in any other he thinks proper.

XII.

Take of the decoction of Peruvian bark eight pounds, or one gallon; of treacle or brown sugar from one pound to two pounds; and of barm one or more spoonfuls, according to its goodness, i. e. freshness. Dissolve the treacle, or brown sugar, in the boiling hot decoction, and before the mixture is cold add a little of it to the barm, and cover it up till it ferments; then gradually add the remainder of the mixture, and, as soon as it is all in a fermenting state, administer it to the sick.

After the fermentation has gone on briskly for some time, before it begins to fall, the barm may be skimmed off for baking, and what is not wanted immediately for baking should be kept

carefully for next brewing. I prefer the barm of No. I. or II. for baking; and should the taste of those two preparations be thought too sweet, more of the decoction of bark may be added to the fermenting bark, until they are reduced to a palatable sweetness.

### *Additional Directions.*

If it is intended the fermenting bark shall not contain any of the powder floating in it, the decoction should be allowed time to depurate by standing, and afterwards be poured through a piece of flannel, or bunting, before the sweet and barm are mixed with it for fermentation.

Many other, besides febrile cases, occur in practice, in which the fermenting bark, either alone or as a vehicle for other medicines, may be made trial of; but, more especially, I would recommend the trial to be made in such cases as the usual formulæ of bark do not succeed for the reasons before mentioned.

Upon the same principle the fermenting decoction of sarsaparilla, either alone or as vehicles, are recommended to be made trial of in cases of syphilis, especially when the constitution has been broken down by neglect or mismanagement.

It is requested of the gentlemen who make trials of the fermenting bark, or other fermenting medicines, to state the cases in which they

make them, and with the result thereof, also to state their own observations and opinions concerning the medicines, in their returns to the Commissioners for Sick and Wounded Seamen.

It will be proper to carry some dried barm or thick barm in a bottle to sea, to make the first fermenting bark; or it may be made by adding some treacle, dissolved in a little hot water, to the thick grounds of small beer, or to a little fresh bottled ale or porter, and the mixture kept warm until it ferments.

Little tubs and kegs necessary for brewing the fermenting bark, and baking the bread, may easily be made on board ship, by the captain's permission: and it may be fermented as often as it is wanted, on board or on shore in any part; although the bark beer will keep in bottles many years. I know from experience, having tried it. Was I to give it as a preventive against fever I would not prescribe less *than two ounces*, nor more *than eight ounces*, for a dose.

## SECTION III.

### *Directions for preparing Peruvian Bark Bread, as a Preventive and Cure of Remitting Fever.*

On reflecting how difficult, if at all possible, it would be to apply either of the two methods of

prevention from, or cure of, fever, that are mentioned in the two preceding sections to any large force employed in a sickly season, as happened at Walcheren; it struck me that Peruvian bark given in the form of bread might be a very practicable one, and fully answer the purport of a preventive against fever, and also cure it; and thereby to obviate in future those national calamities occasioned by such sickness and mortality. A form, which I imagine is the most commodious for every dispensary purpose; a form the most agreeable to young or old, whether given to prevent fever, or a relapse; a form the most œconomical, and most portable for carrying it, or sending it out on any expedition whatever, ready made, in tin canisters, fit to be issued immediately by the medical departments, as a preventive, to such men as they may see proper; or as commanding officers may think fit from time to time to order on particular services, to be supplied with certain proportions thereof, as the medical officers see fit.

I accordingly made the following specimens of the Peruvian bark bread.

1st. I ordered one ounce of Peruvian bark to be kneaded into a pound of the fermented dough prepared to be baked into the pound loaves of bread that is baked for our pensioners.

2d. Into a loaf made of the dough before men-

tioned, that weighed lbiijss, I ordered four ounces of Peruvian bark to be kneaded.

Both the specimens were blacker—especially the last—and had not risen so much as the other loaves of bread.

3d. Of dough ready prepared to make the white biscuit, called captains' biscuit, I ordered one ounce to be kneaded into one pound; and the mass to be divided into eight biscuits; *which would keep for any length of time.*

But although the 1st and 2d specimens would be found highly beneficial in an hospital, made use of as medicines, and administered under the eye of professional men; and although 3d would be found still of more extensive utility, as it would keep any time; it was suggested to me by a very eminent practitioner, *Dr. Baillie*, to whose consideration I submitted all the three specimens, that men would not be prevailed on to eat them; I therefore made and submitted to his inspection and opinion specimen

4th. As follows: Peruvian bark in powder, eight ounces; ginger root in powder, and caraway seeds, of each one ounce; of treacle eight ounces, and of wheat flour enough to make the whole into a mass fit to be baked—into Peruvian bark gingerbread; which specimen my friend acknowledged was unexceptionable; as no person he thought would refuse to eat it: but he also suggested the propriety of giving it, on trial, as a

cure for remittent fever; which was accordingly, by my directions, made trial of by the apothecary in the two following cases, under his inspection, and signed by himself, and sent to me.

*The Copies of the two Cases, as signed and sent by the Apothecary, Mr. Matthew Kent, to me.*

Neil M'Kenzie, ætat 71—was admitted a patient 10th August 1810, for quotidium ague. He had an emetic, and afterwards he took half an ounce of the Peruvian bark gingerbread every three hours, which prevented the return of the fit; and he continued taking it for several days after, and had no further return of ague.

Joshua Murry, a school boy, was admitted into the infirmary on the 5th of August 1810, he had considerable fever, and his bowels were opened. He had an emetic ordered him, and took saline medicine with antimonial wine; and for a day or two after, his complaint became a regular remittent fever; and he took two drachms of the bark gingerbread every two or three hours with the best effect, and soon recovered his health.

(Signed)

MATTHEW KENT,
Apothecary.

The following case was sent me in the most polite manner by the army medical board:

(COPY.)

*York Hospital, Chelsea,*
*24th September,* 1810.

GENTLEMEN,

I beg leave to inform you, that I have had only one opportunity of making any trial of the bark bread. In a case of tertian, the patient ate nearly one pound of the spiced gingerbread in the day previous to its accession, and continued to eat it till the usual period of attack. The fever stopped, and as no other remedy was employed, the gingerbread may be fairly considered as effecting the cure. Smaller portions of the bread were afterwards eaten, and no relapse occurred. I have the honour to be, &c.

(Signed) JOHN PRICE, M. D.
Physician to the Forces.

*To the Director General and*
*Principal Inspectors of the*
*Army Medical Board.*

I have also received the following case from Mr. Gladstone, Surgeon of the Royal Asylum, accompanied with a complimentary letter, wherein he says, "That bark gingerbread seems to be "particularly adapted to the cure of intermittent

" fevers in children of that age (ten), as they rea-
" dily take the bark in that form."

(COPY.)

William Henry Archer, aged ten, admitted into the Asylum Hospital, 28th August, for tertian ague. His bowels were emptied by a calomel purge. On the 29th and two following days he took three ounces of the bark gingerbread each day. On the 2d October he had a paroxysm of fever, considerably less violent than the preceding. Next day he returned to his medicine, and continued it until he was discharged perfectly recovered.

(Signed) WM. GLADSTONE.

I must acknowledge, that administering the Peruvian bark gingerbread as a cure for remitting fever, or for tertian ague, to patients of any age, is an extension of its utility beyond the limits in practice, for which I first designed it. *These were only as a preventive* of fever in the first place; and *as a preventive and cure of relapses.* It therefore in children's cases of ague is a valuable acquisition to society, as well as to the public in being a preventive of fever, which I have no doubt it will be found.

But a faint idea can be conceived, and *that* only by the few professional men who have been

employed in somewhat similar situations, what difficulties must have occurred, to baffle the skill and impede the exertions of the medical officers employed in our late expedition to Walcheren. And of these difficulties the preparation of, and faithful administration of the means of relief, admitting they possessed those means of relief in abundance, were not the least.

The means for the prevention of sickness, which had been so successfully employed by me on a small scale on the coast of Africa, it was impossible to have applied with effect at Walcheren—equally impossible must it have been to have administered bark in a fermenting state to such numbers; though both these methods of administering the bark will be found of great efficacy and utility, especially in hospitals and similar situations, on a small scale of practice.

Perceiving, therefore, with the deepest concern, that a mode of prevention of sickness applicable to armaments on so extensive a scale as that at Walcheren was still wanting, I resolved to make trial of the Peruvian bark in different forms of bread, as already mentioned—an idea which had long floated on my mind. And which, if providentially administered in a proper manner, I have no doubt will prove a great national benefit. The quantity of the dose, and the repetion thereof, may be easily regulated by the practitioner, (as the quantity of the bark is speci-

fied in each form), according to the intention with which it is given, whether as a preventive of Fever, or as a cure thereof.

It being ascertained that Peruvian bark ginger-bread will cure remittent fever, the inference that it will prevent it *follows*.

I would however recommend the bread being made under the eye of a professional person, and when baked, that it should be aired, especially in summer, for a day or two before it is put away, or packed up.

When it is to be sent abroad, it should be put up into tin canisters, to preserve it from vermin.

Immediately on its arrival *any where*, it is ready to be dispensed or disposed of, either as a preventive or cure of remittent fever, as medical officers may see proper, when commanders in chief order and direct men to be sent on service.

This form of the Peruvian bark being thought by Dr. Baillie, as well as myself, unexceptionable, as also by other medical professors, the benefit which the public will ultimately derive from it and the other means of prevention and cure of *fever*, must depend on various circumstances, but chiefly on the fidelity of their preparation and administration.

One suggestion more I wish respectfully to offer, with the fullest confidence of its utility to those who may hereafter have the direction of medical affairs on expeditions—without their seeking

to know for what country, or climate they are preparing them—because they will always come into use in the hospitals—viz.

To make several pipes of Peruvian bark wine; and several butts of Peruvian bark spirits—with the addition (or without) of any warm bitter, as ginger, cascarilla, canella alba, capsicum, or snake root, that is thought best—the utility of them is obvious.

With such valuable medical preparations, committed to the care of the proper officers, it will no doubt be expedient to send instructions, *prepared by the medical departments* for young practitioners to regulate their conduct in dispensing them in a manner *suitable for the service they are employed on.*

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PRINTED BY D. N. SHURY, BERWICK-STREET, SOHO.

# SYNOPSIS MORBORUM.

A

SUMMARY VIEW

OF

# OBSERVATIONS

ON THE

*PRINCIPAL DISEASES*

INCIDENT TO SEAMEN OR SOLDIERS,

WHETHER ENGAGED IN ACTUAL SERVICE OR RETIRED FROM IT;

CAREFULLY ABRIDGED AND DIGESTED,

FROM THE LATEST EDITION OF THE AUTHOR's WORKS,

IN FOUR VOLUMES.

DESIGNED CHIEFLY FOR THE USE OF

YOUNG PROFESSIONAL PRACTITIONERS

IN THE

*NAVY AND ARMY.*

IN TWO VOLUMES.

VOL. II.



BY

ROBERT ROBERTSON, M.D. F.R.S. F.A.S.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS,

*And Physician to the Royal Hospital for Seamen at Greenwich.*

Opinionum commenta delet dies;
Experientiæ judicia confirmat.

LONDON:

Printed by D. N. SHURY, Berwick Street, Soho,

FOR THE AUTHOR;

AND SOLD BY CADELL AND DAVIES, STRAND.

1811.

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Page 49 line 11 *for* blisters *read* bitters
— 13 *for* barks *read* bark
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A few transpositions of little moment the reader will find necessary, and also some slight typographical errors, to allow for.

# PART III.

ON THE OTHER DISEASES WHICH MOST FREQUENTLY OCCUR AMONGST SEAMEN AND SOLDIERS.

## CHAP. I.

### ON SCURVY.

According to the method which I proposed to follow, I am now briefly to offer the unexperienced reader some directions for his guidance in the management of the other diseases which occur most frequently to seamen and soldiers; and are therefore most deserving of his care and attention.

Next to febrile infection scurvy has been, perhaps, the most fatal of the diseases which infest seamen and soldiers. I shall therefore very briefly relate the appearances of scurvy on board the Prince of Orange, 1761, after a long cruise in the *Bay*, under my own observations.

The sick at first complained *of pains in their bones;* of lassitude; that their legs, on which appeared small red spots like flea bites, swelled to-

wards night; and that their gums were sore. Their faces appeared bloated, sallow, and squalid, and their breath was offensive.

This was considered the first stage of the disease; after which

The lassitude, with debility, increased; the swelling of their legs continued all night, and was dropsical; the miliary spots spread; the glands in several places were indurated; their gums were spongy, enlarged, loose, and bled on the least touch; their breath was very fetid; their countenances became more sallow and squalid; and they complained of cough, which occasioned pain in their breast, that increased on the least exertion, especially towards night.

These were considered symptoms of the second stage.

In the third stage they lost all power, as well as inclination, to move, and could scarcely bear to be moved in the most gentle manner without fainting; the dropsical swellings and indurated glands became inflamed, and broke out into foul ulcers, that discharged a thin bloody ichor profusely. The miliary spots spread more and more, became livid, and bled profusely on the least scratch or excoriation. The gums were so putrid that their teeth dropt out, and their breath became still more offensive. The cough was more incessant, and the pain in the breast more violent. They frequently had a smart fever, especially towards

night; their countenances were ghastly; and one patient, (the only one) who died, voided copious fetid, purging stools, immediately before his death.

The blood let in the first stage exhibited an unusual quantity of loose, black crassamentum in little serum.

In the second stage the crassamentum was looser, blacker, and less in quantity; while the serum,—now having a bluish tinge with scum on it,—was proportionably increased.

The crassamentum, the third stage, was only black gore, scarcely adhering together, in a variegated serum, with a greenish scum. When poured out of the bason, what had subsided resembled grounds of coffee.

The ulcers of the men that had the scurvy produced a black, spongy, or fungous excrescence daily, though removed, compared by the sick to bullock's liver—and discharged profusely a thin blackish fetid ichor. They bled also profusely on the least touch.

On these ulcers topical applications produced no beneficial effect, until the general system was repaired. It was very remarkable that

*Thomas Yelton*, aged about thirty, whose lower jaw had been fractured on board, and a perfect callus formed before he was seized with the scurvy, had the callus again dissolved by it.

Beyond the symptoms which characterize scurvy and its progressive advances from its first appearance, which are very obvious in the patients themselves, as also in the mass of blood, which it completely decomposes—also in dissolving callus of bones, and in gradually occasioning an entire privation of muscular motion, and of all the different senses—we know but little. For to all these morbid appearances we have no reason to attach infection.

Whatever debilitates the system preceding sickness, or whatever depresses the mind—as want of exercise, sloth, indolence, dirtyness, confinement in foul air; poor living, with grog only to drink, when there is scarcity of water, will induce scurvy—and, although the sick will derive benefit by removing these causes, by any means opposite to these symptoms, yet no one medicine whatever is known to be so efficacious in curing it as the fresh juices of lemons, limes, and oranges. But, thank God, that ripe fruits also, of every kind almost, will cure it—especially ripe grapes. Also wine, beer, ale, cyder, porter, perry, and fermented bark drank in the fermenting state. All the pot herbs and vegetables, particularly onions, shallotts, leeks, and potatoes, and fresh milk will cure it. Broths, soups, gruels, farinaceous preparations, especially *soons;* every sort of tea, with sugar or molasses, honey; and must. will all contribute to the cure of scurvy.

Immersing all the contracted limbs in fresh earth, has often been the means of curing patients of their lameness, though at death's door.

To enlarge on this subject, after what has been said by different writers, especially Dr. Lind, would be superfluous.

See the Author's Works, vol. i. p. 25, 299, 326, 329; vol. ii. p. 273, 313, 315; vol. iii. p. 222, 226, and 259.

# CHAP. II.

## ON DYSENTERY.

### SECTION I.

*The Symptoms of Dysentery as they occurred in Jamaica.*

DYSENTERY is a frequent disease among seamen and soldiers, and has been very fatal at times to many, especially in hot climates; the idea entertained of its being infectious, I believe is general.

By many writers it has been considered a disease of sthenia—that is, arising from inflammatory diathesis—and modes of treating it accordingly pointed out by them. But the consequence of the treatment has been so unfortunate as to prove the impropriety and the error of this doctrine being considered invariably so.

The causes of dysentery, besides the admission of the contagion or infection, are, chiefly, cold applied to the surface of the body, whether with wet or without it; the night air; thin clothing; intemperance, especially with new spirits; bad water; and sometimes an abuse of fish bring it

on or induce it. These are the principal causes, though others may be mentioned. But whatever may be the causes of the disease, all the circumstances connected with it are to be considered in the treatment.

At Jamaica in 1772-3-4, the patients afflicted with dysentery complained of frequent loose stools; in some cases with, and in others without gripes or any blood; of *soreness of the belly*, as the sick expressed themselves; of pain and weakness of the loins; of nausea and thirst. The pulse was quicker, and the skin hotter and drier than natural.

When the disease had its course for two, three, or more days before they complained, which was too often the case, the account of its beginning and progress, which I got from the sick, was very indistinct; the symptoms having varied, and continuing to vary, according to the manner in which they had lived, and the time they had been ill.

Many were seized at first with chilliness or rigors, retching, bloody stools, violent gripes, *twisting of their guts*, as if they had been cramped, or contracted into knots; and the pain such as if the bowels had been pierced with knives; in all these different ways the sick expressed themselves. Tenesmus; hæmorrhage at the nose; numbness of the feet; great prostration of the strength and spirits; faintness from their being at first seized,

were also complained of by some patients. The more of these symptoms that concurred in one case, the more dangerous the case always proved.

But in whatever manner they were first affected, their cases soon became nearly similar, and apparently differed in degrees of violence only; unless they were relieved by the first evacuations, which, I am sorry to say, seldom occurred. Their stools, which at first were copious, and somewhat excrementitious, with blood in some cases, and in others without any, as I have already observed, continuing so throughout the disease, soon diminished in quantity, and became more frequent, watery, slimy, or of the consistence of mucus, mixed or streaked with blood. In some cases they appeared like the *Carnis Lotura*, and in others like mere sanies. The gripes and tenesmus continued to increase daily, and to harass the sick, with very little respite, until the disease either became chronical, or until the strength of the patient was exhausted, and mortification seemed to take place. The pain then ceased, their stools ran off involuntarily, and death put an end to their calamity. Such cases were preceded by one or more black, putrid, and very fetid stools.

In the course of the disease many other alarming symptoms occurred, however, viz. *very hot stools*; *a profuse hæmorrhage ab ano; amazing dilatation in ano*; [These symptoms have not

been taken notice of by any author which I have read.] procidentia ani; dysuria; suppression of urine, especially towards night; great tension and pain in the abdomen; flatulencies; severe pain about the pubes; vomiting, particularly after taking any thing; sense of great internal heat; vomiting of worms; voracious appetite; apthæ; pain and soreness of the eyes; tinnitus aurium; wildness in the countenance; great anxiety and restlessness; delirium; hiccup; an hippocratic countenance; deliquium, and cadaverous smell.

Some of these may be reckoned symptoms of fever; and different in degree of strength and malignancy amongst the sick. Towards night there was generally an exacerbation. The pulse was sometimes quick, small, and irregular, and at other times very languid, though very often it was not to be depended upon, as it varied with the patient's fatigue of getting out and into bed only. However, it generally sunk gradually, and was either very small, tremulous, or vermicular, with subsultus tendinum, before death. The tongue, from being white at first, became daily more foul; and at length appeared brown or black; and the teeth became crusted over with sordes. The thirst was generally insatiable. The skin most commonly in the beginning was hot and dry, but towards the fatal termination there were partial and cold clammy sweats, particular-

ly on the face and breast, and the extremities became cold.

## SECTION II.

### *The Symptoms of the Dysentery to the Southward of the Equator.*

In the dysentery which happened to the southward of the equator, the sickness at the stomach; the gripes; the pain in different parts, and contortion of the bowels were more violent; and the prostration of strength and spirits were much greater. Some were also attacked with alternate rigors and heats; violent head-ach; vomitings, and had very quick and full pulses. Others were at once seized with frequent purgings of blood; and violent gripes, without a feverish symptom. In one case, which proved fatal the third day, a violent pain in the bowels preceded the purging, which was attended with very great prostration of strength, wildness of countenance, and the utmost despondency. And though it was not near so *epidemical* as the flux at Jamaica, it was more malignant; or as Sydenham expresses himself, "of a more sprituous nature." [See Swan's Translation of his Works, p. 156, part 6.]

## SECTION III.

### *Reflections on Dysentery.*

Of all the diseases which attack a ship's company, the dysentery, if not the most fatal, is, in my opinion, equally so with any other; and by far the most loathsome. The constant doleful complaints from the various violent pains, from gripes, and tenesmus; the continual noxious fetor about the sick, as well as of the necessary buckets; not to mention how extremely disgusting to the sight such objects must be, in spite of all the means which can be used, are evils peculiar to dysentery alone. Yet, great as they are, they are undoubtedly much increased when the weather is so bad as not to admit the lower deck ports to be up in large ships, or the hatchways in small ships to be unlayed. The foul air, then being much more confined around the sick and where the well people lie, is consequently drawn into the lungs again and again by respiration, and soon becomes more foul and noxious, which renders it unfit for the salutary purposes of both the sick and the healthy. (This was long before the improvement of sick berths.)

Such circumstances are perhaps much more powerful agents in enfeebling the seamen; in depressing their spirits during bad weather; and in

rendering the dysentery epidemic, than the inclemency of the weather to which they are exposed upon deck in their watches. It is very pleasing to observe the immediate alteration which appears in the countenances of the men, when the ship is well washed and aired, and when they have cleaned themselves after bad weather. From being quite sallow and dejected, they acquire a healthy look, and fresh spirits.

But the poor dysenteric patients suffer more particularly from being so weak, that they are unable to get on deck to enjoy a moment's fresh air in fine weather.

As it is to be apprehended that infection might be communicated to the rest of the ship's company by suffering the flux patients to ease themselves in the common seats of the head, they ought not to be suffered to go there upon any account, admitting they are able to go. When they arrive at a convalescent state, one side of the head should be allotted for their use only, and the well people prohibited from going thither, under the pain of being punished. But the best mode for the sick, and for the rest of the ship's company, is to include one of the round houses with the sick berth. This will always be found the most appropriate convenience. Now, indeed, it is generally done in ships while first fitting.

If cleanliness in the sick berths be necessary in other diseases, there seems to be yet a more in-

dispensible necessity for their being kept remarkably clean in the dysentery, for the reasons before noticed.

## SECTION IV.

### *On the Means used in the Treatment of Dysentery.*

What rendered the dysentery on board of ships at that time more distressing, was, that no *certain method* of curing it had been discovered in 1772, 3, and 4.

Peruvian bark, from its well known properties and effects in various diseases, seemed to be the most suitable medicine for curing dysentery, after proper evacuations; but, in the manner which I made trial of it, I found it came far short of my intention, or expectation. It is true, I did not give it in a recent case, after the first vomit and purge, because I apprehended that the early use of astringents was absolutely improper, and would have increased the irritation, instead of curing the disease. Had I fortunately, however, taken notice of that passage in Dr. Lind's Treatise on Hot Climates, where, (p. 276) in speaking of the method of curing the flux, "he recommends a mixture of bark with opium, after vomiting and purging the patient," I certainly would have laid aside my own prejudice against

the early use of it; and have given it a fair trial. However, I must acknowledge, that I found it preferable as a corroborant in the declension of the disease to any other tonic. If it was administered in a fermenting state with due care, I am of opinion great benefit would be the result.

Ipecacuan, performed nothing as to curing the dysentery, to entitle it to the character of a specific; and most probably for the reason which Sir John Pringle assigns. [See p. 261 of his Observations on Diseases of the Army.]

Rhubarb, toasted or untoasted, so strenuously recommended by the learned Huxham, was far from being of that efficacy which he found it. [Vide Observationes de aere et Morbis epidemicis, tom. ii. p. 106.]

Diascordium with opium, another favourite medicine of that great author [Ibid. p. 100] in curing the dysentery, was not more efficacious than the former; nor was theriaca. Opium, which was the immortal Sydenham's [See Swan's Translation, sect. iv. chap. 8.] principal remedy in the cure of dysentery, was barely a palliative in the dysentery under our immediate consideration.

Terra japonica was of no real service. How proper soever the great Boerhaave's [Vide Aphorism 966 and 976] method of treating the intestines, in an inflamed state, may be, in the beginning of dysentery, other medicines are certainly

requisite to complete the cure. Besides, the inconveniences that attend the use of fomentations and injections, which, to be of any real service on board of ships, must be frequent, especially when many are sick, are insuperable.

## SECTION V.

### *The Treatment of Dysentery.*

I did not judge it proper to let blood in the dysentery, except in one case at Jamaica, which commenced with hæmorrhage at the nose. As the patient had been no way reduced by any preceding illness, to occasion it, I thought this an indication to let a few ounces. In some other mild cases, which occurred on our passage from Jamaica to England, when our latitude was pretty high, and the weather cool, I took away blood sparingly, because some particular symptoms, in the course of the disease, though not at the commencement, seemed to require it. These patients, indeed, all recovered, though I do not by any means ascribe this to their being let blood, but entirely to the favourableness of the attack of the disease; for I am firmly of opinion, that general blood-letting in the dysentery in hot climates would be as bad practice as in the remitting fever, after the sick had been there any time.

The cure was begun by administering ipecacuan. as an emetic. In the Jamaica flux, I generally gave from ten to five-and-twenty grains of the powder at one dose. Though it always vomited the patient well, and frequently procured him a more copious stool or two than usual, I found that it operated much better by stool, when I gave five or six grains every hour, and repeated that quantity three times. In this manner, therefore, I generally prescribed it in the equator flux; and in the mean time the patients drank thin gruel, barley water, chamomile tea, or water with toast, at pleasure. At night I always gave an opiate from the first of their complaining, to ease the violent pains, and procure rest.

If the patient complained in the morning, and the operation of the ipecacuan. was over, I gave him the same day, at Jamaica, from one to two scruples of rhubarb; very seldom toasted. Huxham, in his account of the dysentery which raged at Plymouth, in 1743, gives rhubarb the preference to all purges, in these expressive words:— "Omnium sane optimum est rhabarbarum, quod "exhibendum est sæpiùs (tostum id semper si "ab Indiis venit orientalibius) cum nucis mos-"chatæ, aut cinnamomi pauxillo." [Vid. ibid.] I changed the rhubarb purge in the equator flux, for the sal. cath. amar. which I found to act more powerfully, and with greater ease to the patient. I therefore generally gave an ounce of Epsom

amar. dissolved in half a pint of thin warm gruel, divided into three or four parts; one of which he took every half or three quarters of an hour, until it was all taken; allowing thin demulcent drink to work it off; and in the evening the opiate. The one which I made use of, was either solid opium, or laudanum l. But when the vomit was taken P. M. the purge was administered next morning.

If the gripes were much relieved by the vomit and purge, and the flux had abated the day after; whether it was the second or third day of complaining, I gave no other medicine than the opiate morning and evening, and allowed the patient demulcent drink at pleasure. If, on the contrary, the gripes continued violent, the stools small and frequent, and the patient had a frequent ineffectual desire of going to stool, I repeated the purge daily, and the opiate according to circumstances, until their complaints were relieved.

When my patients were sufficiently purged, and the symptoms of irritation were moderated, I endeavoured to restrain the flux by small doses of ipecacuan. rhubarb, and opium, three or four times a day. Or gave diascord. cum opio pulv. two drachms to half a pint of water sweetened with syr. com. made into a mixture; a spoonful or two for a dose every two, three, or four hours, and the opiate at bed-time.

But after the patient appeared to be recovering

it too often happened that an exacerbation came on, either from the disease having been only palliated; or more frequently perhaps, from some irregularity of the patients, and the neglect of the attendants. I was therefore obliged to repeat, again and again, the purges and ipecacuan. after I had begun to administer astringents.

When the disease was violent and protracted, it became necessary to use the white decoction; opiates more liberally; emollient fomentations for the abdomen; emollient and anodyne clysters—composed of the decoction of lint seed, or solution of starch and opium; astringent and antiseptic clysters; the decoction of bark; or of cascarilla—or of balaustine flowers cum opio, and to give astringents internally with wine, viz. the terra japonica, bark and cascarilla, together with opium; and white decoction for drink. But these all proved, often, ineffectual.

I shall now, after much longer and greater experience, lay down a few directions for young practitioners to manage dysentery; when and wherever it may occur.

If the patients complain immediately after they are seized with dysentery, it will be right to order one of the ipecacuan. emetics in the formulæ, and when the stomach is composed, after the operation of the vomit, to give them from four to ten grains of calomel, with half a grain to two grains of opium, according to circumstance,

or with hyosciamus; and in an hour afterwards to give them half an ounce of No. VII. repeating it every half hour, until the first passages of the intestinal canals are thoroughly cleansed: and immediately after, whether it be bed-time or not, either throw up an anodyne injection, or administer an opiate or a dose of the hyosciamus according to circumstances. [See the Formulæ.]

Here the hyosciamus has peculiar advantages over the opium, inasmuch as this never fails to constipate the bowels, which that never does.

The most eligible form to give opium in, however, to dysenteric patients, is the pulv. ipecacuan. comp.—as in this form it is least likely to constipate the bowels.

The intention of administering the anodyne being not merely to abate the pain, and thereby to remove the spasmodic affection of the bowels; but more particularly to promote a full determination of the obstructed perspirable fluid matter from the intestines to the surface—which occasioned the disease—by the pores of the skin and the urinary discharge; it will therefore be necessary to repeat the anodyne with ipecacuan or a small quantity of antimonial powder, with a view to keep up the perspiration until the patients are effectually relieved: which will be accomplished in some cases much sooner than in others. In the mean time, the sick may be frequently indulged with small quantities of tepid diluting drinks,

such as the infusion of mint, barley water, or oatmeal gruel, or weak decoctions of beef or fowls.

But, sometimes, to promote the perspiration, the warm bath may be requisite—about the 96° degree of Farrenheit's thermometer.

When the sick are effectually relieved of the pain, spasm, and profluvia, great care to guard and defend them from fresh cold will be necessary—and I apprehend this cannot be done so speedily and effectually by any other means as by anointing the body with oil, and obliging them to put on next to the skin a flannel shirt.

Should the debility already occasioned by the disease, and by the manner of curing it, be so great as to require the having recourse to tonics—the decoction of bark, with eleutherium or zingiber, and an anodyne, at night, will be most proper. Wine prudently used will now also be of great service.

But when the sick have delayed to apply for assistance, perhaps, until the disease has been gaining ground for some days, as too frequently is the case—when the stomach is become extremely irritable, and probably a degree of chronic, or erysipelatus inflammation is excited by the pain, and spasmodic affection, occasioned most probably by the acridity of the serous exhalation from the inflamed surface—so that the inflammation or irritation, and the morbid exhalation, are kept up

as it were by action and reaction—then the most lenient methods for soothing and composing both are to be immediately adopted.

With this view, omitting the vomit, I would recommend the anodyne purging pill to be given instantly; and instead of the chamomile cathartic, to give the castor oil an hour after it. And as soon as the bowels are thoroughly emptied, either to throw up the anodyne clyster, or to administer the anodyne by the mouth, repeating the one or the other occasionally, according to circumstances. At the same time using the hot bath, or applying fomentations, leeches, cupping, and blisters to the abdomen; with bland demulcent drink, as the patients crave it, and as their several cases require.

Observing, that in curing dysentery it must be an invariable rule to keep the sick in bed, with a view to promote a determination to the surface, and to maintain the perspiration until the cure is perfected. And it is also to be remembered that the bowels are to be kept pervious throughout the cure, by clysters or other gentle, yet effectual means, as I have mentioned.

To perfect the cure, and to restore the tone of the intestines and of the general system, bitters will be highly necessary, as well as wine, and a restorative diet.

From the most attentive consideration to all

the circumstances connected with dysentery, I am fully satisfied that it is, in the first instance, a local disease or affection only; and that by timely and proper care it may be prevented from becoming a disease of the general system. Its being infectious no more constitutes it a general disease, than tinea or psora constitutes either of them, a general disease of the system.

## CHAP. III.

### ON ACUTE RHEUMATISM.

This is one of the diseases to which seamen and soldiers are peculiarly subject. It generally arises from their getting wet, and from their being obliged to keep their wet clothes on, while on their respective duties; and from standing or sleeping in their wet clothes; though other causes may induce it. Two species of rheumatism, viz. acute and chronic, occur in any season, especially if the weather be cold and wet, or stormy, but more frequently in autumn or spring. I shall speak of the acute only at present.

It attacks people of different ages, though generally the young, the middle aged, and particularly those of a sanguineous temperament.

The predisposing causes may no doubt be various, because, whatever can induce a state of sthenia in the system, will pre-dispose it for the correspondent species of acute rheumatism. For instance, a vigorous, strong, athletic man will, upon getting wet or on being exposed to cold, be seized with acute rheumatism; while a man, debilitated by previous disease, or other means, or

who is not naturally robust, will, from the same causes, be seized with chronic rheumatism.

The proximate cause, is supposed to be acrimonious humour; or lentor; or viscidity obstructing the functions of the minute perspirable vessels.

Cold and wet applied to the joints may operate with more facility on the superficial vessels, which are less covered with cellular membrane, than those of other parts; while at the same time they may produce a constriction of the vessels on the surface; and, by thus acting as a stimulus, induce an increased impetus of the blood, which terminates in inflammation and pain in the joints.

The further effect of cold and wet may, after the constrictive resistance is formed, excite the vis medicatrix to increase the impetus of the blood; while the cold stage and spasm support and produce pyrexia, when there is a phlogistic diathesis in the whole system.

Whether the explanation given be satisfactory or not; it is certain that acute rheumatism is accompanied with an inflammatory or phlogistic diathesis of the whole system—which points to the method of cure.

In this manner is rheumatism induced; and whether it turns out acute or chronic will entirely depend on the state of the system antecedent to the proximate cause now related.

The manner in which the disease commences

and advances, with the different symptoms and degrees of their violence—removes all doubt, with an experienced practitioner, whether the disease be acute or chronic; or whether it be rheumatism or fever.

The definition of the acute, according to Cullen, is " a disease from an external and for the most " part an evident cause; accompanied with fever " and pain about the joints, following the tract of " the muscles, infesting the knees and other " great joints, rather than those of the hands and " feet; and increased by external heat."

The chronic he describes—" After rheumatism, " a violent strain or sub-luxation, pains of the " joints, or muscles, increased by motion, flying " more or less, and increased by any external " heat; the joints are weak, rigid, and fre- " quently and readily become cold—without " fever, and generally without tumour or swel- " ling."

The names given to it in the Nosolog. Methodica Culleni are five; the species are seven, and the symptomatic species are forty-four.

In acute rheumatism the patient is commonly seized at first with a cold stage, succeeded by heat, the pulse full and hard, thirst, foul white tongue, countenance flushed and rather fuller than in health, with violent pain in one or more of the large joints, or in the loins; or in one of the pectoral, or in some of the intercostal mus-

cles. The pain frequently shifts and returns to the same parts; and often occupies different parts at the same time. The fever and pains are generally worst in the night. The parts affected swell, and have a red blush, and are then so tender that they cannot bear to be touched.

The paroxysm generally remits towards morning, with perspiration, and an evacuation of urine which is at first of a singular red colour, depositing little or no sediment—but gradually becomes less red, and deposits a copious lateritious sediment, which is always a favourable symptom, especially if plenty of this urine is made, and if accompanied with free perspiration, and an abatement of the symptoms. Sometimes the limbs are left in a paralytic state, and continue so a considerable time, after rheumatism: but I have never seen the inflamed parts suppurate: and

I have never lost a patient with rheumatism alone—but generally it has terminated favourably with my patients in a short time—though I have had some cases continue bad for several weeks and become chronic at last.

The cure of acute rheumatism consists chiefly in antiphlogistic treatment: bleeding therefore is absolutely necessary, and perhaps a repetition thereof oftener than once may be requisite. But while letting blood is enjoined, a farinaceous diet with diluting drink, must be rigidly adhered to—such as thin gruel, or very thin panado, barley-

water; or toast and water, common tea, or sherbet.—In the mean time purging and sweating must be attended to; both of which greatly relieve the patient. But it is very seldom that vomiting will be found proper. The hot bath is frequently found of very great service in rheumatism.

The quantity of morbid fæces voided by the patients in rheumatism is astonishing, and shows that the natural functions of the abdominal viscera are very much disturbed, and participate greatly of the morbid affection with the general system.

To purge the patients I commonly give from ten to twenty-five grains of the following powder or mixture:—

Jalap and nitre in powder, of each a drachm; antimony tartarized, one grain; oil of peppermint, from four to ten drops; sugar one drachm and a half, mix, for a powder.—Or add occasionally tincture of jalap, two drachms; of water, three liquid ounces and six drachms, to be made up into a mixture, and to be kept in a cool place.—The dose one table spoonful occasionally, or less, or more.

If this medicine is given in small quantities in any convenient vehicle, and repeated occasionally, it very often brings on a plentiful perspiration and discharge of urine, and also empties the primæ viæ; to the great relief of the patient. But sometimes it may be proper to give from two to five

grains of the pulvis antimonialis, with the addition of an anodyne at bed-time; or the compound powder of ipecacuan. in small doses, every four, six, or eight hours, to promote perspiration, and diminish the febrile heat.

Until the fever is subdued or brought to distinct remissions through the day, which will not happen until the primæ viæ are thoroughly cleansed, again and again perhaps, nothing further than close attention to this method is necessary, and then the bark becomes proper.

While the inflammatory diathesis continues, topical applications, (except leeches, which cannot always be applied to the affected part) do no good; but when that is carried off they become useful, more especially cupping—even friction alone does good then. Various have been the applications made use of—[See the Formulæ.]—but they have all been stimulating or rubefacients, and the disease is sometimes so obstinate as to afford opportunity to try them all in succession, before the patient is relieved. Bathing with care in warm salt water, has often relieved very obstinate cases; and the cold bath afterwards may be proper, to brace up the patient. When the convalescents have an opportunity to ride on horseback, they should pursue it daily: and they should wear flannel next their skin.

I shall speak of the chronic rheumatism hereafter.

## CHAP. IV.

### *On Pleuritis or Peripneumonia.*

Of all the genera of phlegmasiæ incident to seamen and soldiers, next to rheumatism, pleuritis, or peripneumonia, is the most frequent, though they are liable, no doubt, to all of them; pleuritis and peripneumonia being not only in the first instance the most dangerous, perhaps, of any of the genera; but is ultimately so as leading to a chronic disease, phthisis pulmonalis, which destroys the patient.

The difference between pleuritis and peripneumonia consists chiefly in the situation of the inflammation. That is to say, when the inflammation is confined to that part of the pleura which lines or covers the interior surface of the cavity of the thorax, it is then denominated pleuritis.

When the inflammation is extended to, or is in any part of the membrane which immediately invests the lungs, it is called peripneumony, or peripneumonia vera. But when the inflammation extends to the pericardium, or to the parts of the pleura covering the mediastinum, or the superior side of the diaphragm, it is named otherwise. There is, however, no specific difference between these inflammations or

diseases; though it is always pleasant, and indeed proper, to know where the seat of the disease is, when practicable. The disease in general, however, is known by the following symptoms:—

When the inflammation is confined to the pleura which covers the inner surface of the thorax only, it is called pleurisy; but more particularly when the pain is fixed in either side. The sick complain first of a cold stage, succeeded by heat, thirst, anxiety, and severe fixed pain, or pricking pain, which may be in any part of the lining membrane: though sometimes the pain shifts. If the pain is in either side, they lie on the affected side; for the same reason, if it be seated under the scapulæ, they lie on their back; if in the mediastinum, they may lie, as I have seen in some instances, upon the face. A short frequent dry cough, increasing the pain, accompanies the disease. The pulse in the mean time varies, is quick, strong, and hard; sometimes vibrating like a cord. The excreta, in some cases, commence with the cough and disease, but in other cases they do not. They also vary exceedingly in consistence, colour, and quantity; at first generally they are thin or frothy, and gradually become thick or purulent, frequently streaked with blood. But sometimes the excreta brought up are bloody before the patient applies for assistance, or are livid. The breath

sometimes is extremely fetid, especially if it happened that the patient's system was *before* scorbutic; which, indeed, renders it a very different case to pleuritis, and not to be confounded with pneumonic affection in scurvy. The quantity of excreta differs also exceedingly in different patients.

But when that part of the membrane which immediately invests the lungs is the seat of the disease, the pulse sometimes is quick, small, and hard; sometimes full and soft; and towards the fatal period of the disease it becomes very quick, small, soft, and irregular. The pain is not violent, but when the patient inhales a full inspiration, it creates great uneasiness, and he breathes with particular caution. The countenance is flushed, especially the cheeks; and the eyes are inflamed. The head is affected with pain, confusion, and delirium. The thirst is great in peripneumony; there is a sense of great internal heat, and the breath or expired air from the lungs is hot. In this manner the sick are affected with peripneumony.

The larger the inflammation is, or the more space it occupies, either in pleurisy or peripneumony, the greater is the danger; and when, notwithstanding proper means are used to relieve, the symptoms continue or abate but for a short time, and return with more violence; when there is no laudable excreta; when inquietude comes on, and increases with delirium—

when the patient can lie but on one side; or almost in an erect posture, (when the fever is violent); and when the breathing continues very difficult, and the countenance is bloated and flushed; when the pain, without abating, shifts to another place; the greater is the danger.

The reverse of those symptoms is critical, and foreshows a favourable termination.

When that portion of the pleura which covers the upper part of the diaphragm is inflamed, the disease is called paraphrenitis; when the pericardium and heart are inflamed, the disease is called pericarditis and carditis.

The remote cause of pleuritis or peripneumonia, generally, is cold, by which the obstructed perspiration is determined to the lungs; while at the same time the patients are also continually inhaling the cold air; especially in constitutions predisposed to inflammatory diathesis. This explains, why these diseases are most frequent in the winter and spring; and why more particularly in the latter, when changes in the atmosphere are most frequent, and the system is disposed to sthenia. But, besides a cold atmosphere, whatever obstructs or injures the lungs, may occasion these diseases, at any period of life; though most commonly they occur between the age of puberty and sixty. Among athletic subjects, therefore, it is epidemic in some seasons.

It terminates either in resolution, suppuration, gangrene, or in hæmorrhage.

When it terminates in resolution, the patient recovers rapidly.

When it ends in suppuration, it is apt to bring on, or to lead to, phthisis pulmonalis.

When it termin tes in gangrene, (which I much doubt having ever happened), it destroys the patient suddenly, I make no doubt.

And when it ends in hæmorrhage, if the vessel is considerable, and pours out any quantity of blood, the patient is instantaneously suffocated.

In some cases, the quantity of serous fluid, or coagulable lymph, poured forth from the exhalants of the inflamed surface of the pleura, is so great as to destroy the patient. This may be denominated the hydrops pectoris.

Sometimes the cavity of the thorax is lined with a soft pulpy white mucus, and sometimes the extravasated fluid becomes somewhat membraneous, which forms an adhesion or connecting substance between the pleura and viscera; the finer and thinner part of the exhaled fluid having been either taken up by the absorbents, and expectorated, or voided by the kidnies or intestines. The trachea and bronchia are sometimes lined with the same sort of pulpy or membraneous-like matter. And the excreta appeared, during life, to be in all respects part of the same fluid. These appearances I have seen on inspecting subjects who have died under my own observation.

When inflammation terminates favourably by resolution, the excreta are copious, somewhat purulent, brought up easily and without much pain, and perhaps streaked with blood. These occurring at the same time, with a remission of the fever and of the other symptoms, and when also accompanied by a copious, general, warm perspiration, continuing for some days, the sick are perfectly relieved. Sometimes a hæmorrhage at the nose; in some cases the hæmorrhoidal discharge, or bilious stools; and a copious discharge of urine, with a plentiful sediment, carry off the disease. An erysipilatous eruption on the skin, has been also observed to remove the inflammation.

When it terminates in suppuration, it is uncertain how many days it will require for that purpose. However, frequent slight cold shiverings foreshow the suppuration. A remission of the pain, with continuation or augmentation of the cough and dyspnœa, a more frequent pulse, and an exacerbation of the fever in the evening, are signs of suppuration having already taken place.

The cure requires a diligent perseverance in the antiphlogistic method.

Letting blood, at a large orifice, from the arm, repeatedly, in such quantities as the case may require. Purges or clysters, and sudorifics, are to

be administered between the bleedings ; and antimonials in small doses, with aqua ammonia acetata, or with kali neutralized and diluted, until the sick are perfectly relieved.

Young practitioners must remember, that in cases of sthenia, when they are letting blood, especially in the first bleeding, it is not uncommon for the patients to faint, and to bear every bleeding afterwards very well. Both leeches and cupping may also be very requisite and beneficial, after general bleedings become improper. Blisters may also be applied to the pained part.

*Whatever drink is craved, should be frequently administered in very small quantity. It may be demulcent, subacid, or nitrous, or toast and water, or sometimes cold water. The inhalation of warm vapour is sometimes very serviceable. When the inflammation is entirely carried off, and any teazing cough remains, opiates are beneficial.* The diet, if any is craved or administered, should be chiefly fluid farinaceous substance, or ripe fruits, when they can be had ; either raw or dressed according to the inclination of the patients.

## CHAP. V.

### *On Variolæ, or Small Pox.*

The small pox is not a disease peculiar to seamen, nor to soldiers, yet they are not exempted from it; and it occurs so frequently as to render it an object of serious and strict attention; as well for the purpose of endeavouring to render the disease mild, as to prevent it spreading amongst the people, who may not have been inoculated nor vaccinated.

How far vaccination will in future tend to eradicate the small pox remains to be proved.

The general character of small pox is well known, though many young practitioners, I am certain, are but little acquainted with them, to be able to distinguish them from some other diseases, until suppuration is advanced—a period of the disease too late to ascertain and render it mild, for the safety of the patient. Their not endeavouring to be fully acquainted with small pox, and perhaps other important diseases—may render them liable to be considered procrastinators, who think they have it in their power to attain the knowledge of the disease at any time, until it is too late. Or, in other words, as the disease

comes frequently under their observation, they either suppose they are perfectly well acquainted with it; or that they can at any time learn all that is needful to be learned of it, until they discover their mistake. And, then, they have to study what the disease is, when they ought to be curing it.

Small pox is a disease *sui generis*, highly infectious and contagious, producing symptomatic fever for three or four days; followed by an eruption, which continues coming out for two, three, or four days, and maturate or suppurate in four or five days more: so that about the eighth day from the commencement of the eruption, the pustules begin to burst or to break, to dry, and afterwards to desquamate or fall off in crusts.

But to be more particular. Of small pox there are two species—distinct and confluent, proceeding from the same variolous matter: i. e. the same variolous pus or matter will by inoculation or infection, in one infected patient, produce the distinct, and in another the confluent small pox; so that those distinctions depend on the constitution and management of the sick, and not on any differences of the infection.

In order to discriminate between the two species, it is necessary to describe them separately, and to begin with the distinct.

The patients about to have distinct small pox, complain first of chilliness or rigors; which are

followed by intense heat; with violent pain of the head and back; with vomiting; great propensity to sweating, in adults; with pain, upon pressure, about the præcordia; stupor and sleepiness: and frequently an epileptic fit among infants immediately precedes the eruption.

On the fourth day of their illness—sometimes later, and very seldom sooner, the small pox appear; and then the febrile symptoms either abate greatly or disappear—except that in adults the propensity to sweat still continues, howsoever lightly covered they may be; even until the pustules are maturated. The eruption appears first on the face, neck, and breast, and then on the whole body. At this time they complain of pain in the throat.

About the eighth day from their being taken ill, the interstices of the small pox begin to grow red, to swell, and to give pricking pain in the face—next to the face, the hands and fingers swell.

The pustules, from being smooth and red, become rough and white, which is the first mark of maturation. The milder the small pox, and the more genuine they are, the nearer the colour of the interstices among them are to the damask rose. The rougher and more yellow that the pustules become daily in the face, those on the hands and the rest of the body swell, maturate, and become smoother, with a very slight depression in the centre—which disappears when the ma-

turation is complete, and before they become rough.

On the 11th day from the commencement of the illness, the pustules of the face, as well as the rest of the body, having attained their maturity, the swelling and inflammation begin to subside, and the pustules having acquired a yellowish cast, and the pus contained in them having become more opaque, they begin to burst, dry, and fall off; and on the fourteenth or fifteenth day, they for the most part entirely fall off the face. Throughout the disease the sick are generally costive. But the bowels of infants are relaxed.

The confluent, besides the symptoms which they have in common with the distinct small pox, only in a more violent degree, and appearing later, are accompanied with symptomatic fever, that continues, especially towards night, after the eruption is completed; with debility; anxiety, sickness and vomiting; by which symptoms, an experienced practitioner can foretel the eruption will be confluent. Nevertheless, the sick are not so prone to sweating in this as they are in the distinct species; and sometimes a diarrhœa precedes the confluent, which is never observed to precede the distinct.

The eruption sometimes appears before, but hardly ever after the third day, unless some vio-

lent symptoms, such as very acute pain in one part or other, prevents it. Whereas the eruption of the distinct happens on the fourth day. In the confluent likewise it is observed that, after the eruption, the fever and other symptoms continue, which is not the case in the distinct.

The first appearance of the eruption often resembles erysipelas or measles. But when maturated, they are of a brownish appearance. The progress of the confluent through its stages is slower than that of the distinct. It is not unusual for the skin to drop off in many parts, as if it had heen an eschar in consequence of a caustic application.

The violence of, or the degree of danger arising from the disease, is not to be estimated from the number of pustules covering the body, but from the number on the face and about the head and throat, and their confluency. On the contrary, if they are few and distinct on the face, head, and about the throat, the danger is little, though they should be very numerous on the body and extremities.

There are two other symptoms which accompany this sort, of as great importance as any yet mentioned; and those are, the salivation in adults, and the diarrhœa in infants.

The former commences the first, second, or third day; and continues similar to the salivation

excited by mercury, until the eleventh day after the eruption, when it lessens with the tumor of the face; and then the arms and hands begin to swell. After this swelling subsides, the lower extremities swell in the same manner, and the suppuration of the pustules advances on both extremities favourably while they are swelled.

The fever in both species continues from the first attack of the disease until the eruption, when it disappears in the distinct; but with only some mitigation in the confluent sort, in the day-time, during the maturation.

In small pox, especially when the disease is violent, there is always an exacerbation of the fever and other symptoms towards evening.

In the distinct species, the eighth day from the commencement of the eruption, is the most critical; and in the regular confluent. the eleventh day. These days ought therefore to be carefully attended to by practitioners. But in some unfavourable cases the gradations are much slower.

On the eighth day of the distinct, the swelling of the face and the redness of the interstices of the pustules have attained their acme. And on the eleventh day of the confluent, the swelling of the face which succeeded the salivation has attained its height; then succeeds the swelling of the upper, and at last that of the lower extremities.

Otherwise, the sick perish. Phrenitis, coma, petechiæ; bloody urine, hæmoptoe, suppression of urine, and diarrhœa, in adults, are all symptoms showing great danger.

The method of treating small pox is so generally known to be the antiphlogistic, with the admission of cool air, or to carry the sick into it; and to give an anodyne regularly every night; that nothing need be said on the subject. However, it is to be recollected, that in some cases the cordial and stimulating plan, comprehending anodynes and vesicatories, may be absolutely necessary; and to distinguish these confluent cases must be the task of the diligent and attentive practitioner. I have mentioned before that I have been obliged to administer the bark freely, throughout the disease; as if it had been fever, and with the same happy effect.

## CHAP. VI.

### *On Morbilli, Rubeola, or Measles.*

THIS disease, of the class Pyrexia, and order Exanthemata, I have frequently met with on board ship; and I have had occasion to lament, in my official situation, that young practitioners have not thought it worthy of much attention. I found it necessary, therefore, to warn them of the consequences of this indifference, because it is a disease, often, not only dangerous, but is always infectious.

When properly attended to, however, from the beginning, it very often passes through its different stages, like the distinct small pox, with safety to the patients.

The measles is also one of the diseases which have been described by many authors: but as it may occur to a number of the young practitioners who have not convenience for libraries, I shall insert its description from *Sydenham*, who has furnished the most accurate history of this dis-

ease, of any author I know; besides it is probable this work will fall into the hands of more of the young practitioners in the public service, than the works of Sydenham will.

He observes, that the disease commonly begins in the beginning of January, and disappears in July. So that it may occur any time between these periods. Certain it is, that in the month of July I have met with it in the British Channel, and on the banks of Newfoundland, as may be seen in vol. i. and ii. of the Author's Works. But on board the Edgar they occurred even in October, November, and December. See vol. ii.

Sydenham observes, " The measles chiefly " attacks the young. It comes on with a chilli- " ness and shivering, and an inequality of heat " and cold, which succeed alternately, during " the first day. The second day these termi- " nate in a perfect fever, attended with vehe- " ment sickness; thirst, loss of appetite, the " tongue white, but not dry; a slight cough; " heaviness of the head and eyes, with continual " drowsiness, a humour also generally distils " from the nose and eyes, and this catarrhous " effusion of tears is a certain sign of the ap- " proach of measles; whereto must be added as " not less certain, that though this disease mostly " shows itself in the face by a kind of eruptions,

" yet, instead of these, large red spots, not ris-
" ing above the surface of the skin, rather ap-
" pear in the breast; the patient sneezes as if he
" had taken cold; the eye-lids swell a little
" before the eruptions; he vomits, but he is
" more frequently affected with looseness, at-
" tended with greenish stools: but this happens
" chiefly in children during dentition, who
" are also more fretful in this distemper than
" ordinary. The symptoms usually grow more
" violent until the fourth day, at which time
" generally little red spots, like flea-bites, begin
" to appear in the forehead and other parts of
" the face, which being increased in number
" and bigness, run together, and form large red
" spots in the face of different figures; but
" sometimes the eruption is deferred until the
" fifth day. These red spots are composed of
" small red pimples, seated near each other, and
" rising a little higher than the surface of the
" skin, so that they may be felt upon pressing
" them slightly with the finger, though they
" can scarce be seen. From the face, where
" only they first appear, these spots extend by
" degrees to the breast, belly, thighs, and legs.
" But they affect the trunk and limbs with a red-
" ness only, without perceptibly rising above
" the skin."

" The symptoms do not abate here upon the

" eruption, as in the small pox; yet I never " found the vomiting continue afterwards: but " the cough and fever grow more violent, the " difficulty of breathing, the weakness and de- " fluxion of the eyes, constant drowsiness and " loss of appetite, persisting in their former " state. On the sixth, or thereabouts, the erup- " tions begin to dry, and the skin separates, " whence the forehead and face grow rough; " but in the other parts of the body the spots " appear very large and red. About the eighth " day those in the face vanish, and very few ap- " pear on the rest of the body."

But, " the eruptions generally vanish in four " or six days from their first appearance, in " most subjects, unless the disease happens to " be of a very malignant kind."

" Those who die of the measles ordinarily " perish on the ninth day, by suffocation.

" The dangerous symptoms in this distemper " are great loss of strength, coldness of the " extremities, restlessness, violent vomiting, and " continual cough and looseness, difficult de- " glutition, a delirium, convulsions, and pro- " fuse sweat, especially in persons advancing in " years."

It is to be particularly remembered, that the most dangerous symptoms—after the measles disappear, and have gone through their regular

stages—arise from pneumonic or peripneumonic, affections.

The manner of treating the measles ought to be the same as in the small pox, viz. *antiphlogistic*—adapting the degree thereof to the several cases.

In every stage of measles the patient ought to be kept no hotter than if he was in perfect health; but to breathe the same temperature of air. Every night an anodyne will be highly proper to allay the cough, uneasiness, and irritation.

After the desquamation, purging will be as necessary and proper as after the small pox.

## CHAP. VII.

### *On Scarlatina Cynanchica*

I HAVE of these three diseases, which occur in this school, given the first place to the scarlet fever, as being the most frequent of the three amongst our boys. The pensioners and nurses are seldom affected with either. The history and management of these diseases however are so generally known, especially since Dr. Willan's publication of his Order III. of Cutaneous Diseases, that it would be deemed superfluous for me to add any thing on the subject.

It is the scarlatina cynanchica with which our boys are chiefly affected. If they complain, or be admitted when first taken ill, an emetic is immediately administered; but if otherwise an aperient is given. As soon as the bowels are emptied, the patient is made to gargle his throat often; and the volatile liniment or a blister, according to the circumstances of the inflammation, is applied externally to the throat,

and an anodyne sudorific draught given him at night; afterwards he takes of common julap, consisting of camphor mixture, and aqua ammoniæ acetatæ, decoction of cinchona, and wine equal parts, two spoonsful every two, three, or four hours, according to the symptoms. By these means the boys very soon recover; unless they have suffered the fever to go on for some days before they complained, when debility and the ulcerated state of the throat are accompanied with much danger in many cases.

In this state the sick are treated as fever patients, with bark, wine, and nutritious diet. None of the boys died of it, nor was it ever suffered to spread in the hospital or school.

## CHAP. VIII.

### *Acute Erysipelas.*

It is managed here after the same manner as acute rheumatism, with the difference only of letting blood much more sparingly, and more in a topical way, than in acute rheumatism.

In erysipelas, the only application or epithem, which I prescribe, is of a mealy kind, composed of the flour of oatmeal, ℥ij; cerusse, ℥i; camphor, ℥ss; opium, ʒij; in powder, rubbed well together, and sprinkled over the inflamed part, which is then covered with a piece of linen.

When there is no acute inflammation, erysipelas is to be treated as an asthenic affection from the first attack, and the system well supported throughout the illness.

## CHAP. IX.

### *On Ulcer.*

THE same remarks may be made, almost, concerning ulcer as those I have already made on rheumatism. For, though it is sometimes extremely difficult to manage it, in hot climates, it is not so frequent as in cold climates.

With respect to the treatment of ulcer, when either of long standing, or very large and foul, as frequently was the case, I never found any application whatever really serviceable in reducing it to a healing condition, until the habit of body was first mended. The amendment was effected by repeated purges, to which calomel was joined; by abstinence from salt provisions and spirits; by keeping the limb in an horizontal posture; and by giving plenty of the bark in substance, to which elixir of vitriol was occasionally added, which were continued until the ulcer was healed. Whether warm digestives; the precipitate dressing; dry lint; or fomentations and cataplasms, with suitable bandages were applied, the ulcer

by these methods soon discharged laudable pus; diminished surprisingly in size; and put on a healing appearance: after which common dressings only were employed; and a bandage well applied.

But it is to be observed, that scorbutic ulcer is not classed with those which I have been speaking of. The proper method of treating them is set forth at large in Dr. Lind's Treatise on Scurvy.

Ulcer is very judiciously written upon by Underwood and others, as an asthenic affection. These writers condemn the old method of fomenting and poulticing, and likewise the keeping the limb in an horizontal position, or until the patient's confinement *after* inflammation is subdued. They depend chiefly for the cure on keeping the ulcer clean, on bandages, on strapping, and on roborants, and on exercise duly persevered in.

## CHAP. X.

*Preliminary Remarks on the Diseases incident to Seamen retired from actual Service.*

THE medical writers on the diseases of seamen, have confined themselves to those that occur amongst them while in active employment. The numerous tribe of chronic diseases which have been induced by wounds, accidents, intemperance, and infirmities in their old age, opened an extensive field for the author's medical observation, which he found his predecessors had left for him as they found it, in a state of nature, when he came to Greenwich Hospital—a field too extensive for any one man to explore fully.—It can only, therefore, be expected of the individual who has first entered it, to form the etching of a plan, which will require the labours of many of his successors to accomplish. But when accomplished, will be found as beneficial to society and the empire, as any plan that has been formed in medical science, having for its object, to obtain a more perfect history of chronic diseases than has been yet furnished—an important object.

In the noble Asylum of Greenwich, singular

beyond example for its royal and opulent endowments, and for the respectability of its corporation, I have studied, and examined with great attention the numerous yet hitherto neglected tribe of diseases incident to the pensioners; and having promised, in the fourth volume of my Observations, to bring forward the subject again, I shall do it, but with diffidence, and with as much brevity as perspicuity will admit; and in doing it I look for the indulgence of those learned medical observers who know how to appreciate labour, and allow for inaccuracies in the composition of an officer, whose attention is incessantly called off from study, to his public duty. See vol. iv.

I will not trouble the reader with any repetition of the heads in the *Preliminary Discourse*, of vol. iv. or in the General Remarks, from 1770 to 1780, to which I beg leave to refer him; if he is desirous to know the establishment, the situation of the hospital, of the infirmary, and of the medical practice.

One material alteration has been obtained in the medical department since the publication of vol. iv.—instead of *young* professional assistants, surgeons of the navy are appointed to the situations of the assistants—which, no doubt, is an advantage to the hospital.

A new arrangement has also taken place in sending down seamen and marines in doubtful

cases on probation—whence it is expected the service will derive benefit; by those men being again restored to the navy, should they recover; or by their being put on the out-pension list, should they become objects thereof. These probation men, being all patients and supernumeraries on our establishment, no doubt occasion additional trouble in the medical department.

This new arrangement, by introducing numbers who have died, not on the establishment, renders the formation of an average of the deaths in the hospital for any period, more impracticable, if possible, than it was before.

It may be reasonably supposed, that in this hospital, most of the diseases incident to mankind, occur. But it is my intention to confine the synopsis to the diseases with which the aged and infirm are chiefly afflicted—having already briefly mentioned most of those diseases to which the young are liable while they are on active service.

I have before lamented the great difficulty we meet with, in obtaining the history of the patient's cases—for while some are very indistinct in their first account, yet afterwards, become extremely querulous, and run on, repeating the tedious history of their complaints, again and again, whenever they are visited. Some are brief, and reply for answers, *they are in the same way*, even after

all the complaints for which they were admitted, are completely removed, which they will frankly acknowledge, after interrogating them closely. Some say "they are torn in pieces;" others say "they are cut to pieces." Some "have not had *a wink* of sleep through the night;" and others say, "they *never* sleep," although it is known they sleep very well. Some will say, "they never eat," who are known to eat sufficiently, or a great deal too much. Some complain "they have nothing to drink," when several sorts of drink are beside them, and when told of it, they pretend they did not know it. Some say "they have nothing to eat." Many more complain of want of appetite. No child upon earth, no hysterical female, nor the most highly pampered miss of eighteen, can outdo some of the pensioners of this hospital, in cravings, whims, and ridiculous fancies. In a word, the character of the pensioner retains very little of the character of the sailor.

To some pensioners it is not possible to state the most simple question so as to obtain a direct or a satisfactory answer from him. He perverts every thing said to him.—*Some*, on the contrary, without a murmur breathe out their last moments in patience and apparent resignation to the Divine Will, even when suffering greatly, and express their gratitude to every one around them, for the assistance they have received.—

Having adverted, in Part I. and II. and in the preceding chapter of Part III. to the genera of the three first, and of the last order of pyrixiæ, which most commonly occur amongst seamen and soldiers, I shall, in the sequel, arrange the other classes, orders, and genera of the diseases, which occur in this hospital, in a manner that, though not strictly nosological, is, perhaps, not unnatural, in my own opinion, at least. First, to mention separately the diseases which affect the general system. Second, the diseases which affect the head, including the different parts of the face, mouth, throat, and ears. Third, the affections of the thorax, and its viscera, not already noticed. Fourth, the diseases of the abdominal viscera, not before considered. And, lastly, the affections of the extremities.

# CHAP. XI.

## ON THE VARIOUS DISEASES WHICH OCCUR IN THIS HOSPITAL.

### SECTION I.

*Observations on the Cases of those who perish suddenly or accidentally.*

INSTANCES daily occur to satisfy the most scrupulous sceptic, that human precaution and foresight are insufficient to guard men against many accidents that befall them. The earthquake, the flash of lightning, and the hurricane, which, in a second, buries cities in ruins, and thousands in the ocean, are beyond our power to avert.

How various and dreadful are the accidents that occur in human life, productive of direful effects, entirely imputable to negligence or carelessness only: What mischiefs arise from a spark from a fire or candle left carelessly; or from a single spark from a flint, falling upon powder, tow, or on the wearing apparel of a female; or from the

oversetting of pleasure boats, carriages, or other vehicles of amusement! how many sudden deaths are thus occasioned!

But the accidental or sudden deaths which happen in this hospital, are almost constantly chargeable to intemperance. And it will therefore be right, as to accidental and sudden deaths, which happen at any other time than in extreme cold, or extreme hot weather, in this hospital, or that cannot be otherwise accounted for, to impute them *generally* to *intemperance à priore*.

Those who have been drowned nigh the hospital, have either fallen into the water from the side of the river, or out of a boat, intoxicated. Those who have been found dead in ditches, were intoxicated, when they fell. Many of the other accidental deaths could be traced to the same cause. Besides those who have been guilty of the voluntary extinction of their life. Nor can we often except those who, in a state of apparent health, have dropt down dead suddenly; as most of them have been known to have been given to drinking.

To preach precaution and temperance, however, to men habituated to intoxication, or to enjoin the necessity of temperance, and other means as preventives from illness, to those who think themselves in high health, is to such labour in vain. Even valetudinarians, too

often, smile with contempt at such lectures. And to guard against sudden death, therefore, generally speaking, is as much out of the power of the physician as to guard against accidents.

## SECTION II.

### *Observations on the Cases of Patients admitted in a dying State.*

Respecting these cases, patients are too often admitted in a state so morbid and debilitated, that it is not only extremely difficult to discern of what disease they are ill; but too frequently it is a matter of indifference, as they are apparently insensible of their situation, and unable to swallow from MORTAL debility—whether their diseases are known, or not, to be of this or that class. But of this description more cases of apoplexy, and phthisis are admitted, and fewer recover from these diseases than from any other. Of phthisis indeed there can never be any doubt as to what disease it is, even when the cure is impracticable. Though many other patients labouring under hæmoptoe, asthma, hepatic affection, dropsy, gout, visceral obstructions, and suppression of urine, are also admitted in a dying state.—However, of late years, the greatest number are those afflicted with phthisis. Whatever the

disease is, when the sick arrive at such a perilous state, it is generally of little importance, I say, as medicines can be swallowed by few of them only, so that every avenue to the hope of administering relief to them, is shut up against us.

However, while there is life, we are never to relax in our endeavours, because, by perseverance in the diligent use of means, I have known instances of resuscitation and recovery, providentially effected, beyond all expectation,—*except in cases of phthisis.*

## SECTION III.

### *On Debility.*

Many patients are admitted in this state without any topical affection whatever. Of whom numbers, in this condition, are sent from the Admiralty—others from hospitals—others from their own miserable dwellings—and numbers from the surgeon's side.

Some of those men's situations are found, on enquiry, to have proceeded from various diseases, on foreign service; from wounds, or from accidents; from syphilis; from mismanagement; but most frequently from their own misconduct, and intemperance. For all of which cases, besides the medicines most suitable to their several situations, tonics, or roborants, with a proper diet,

are prescribed. And of these patients, many are recovered.

## SECTION IV.

### *On Paralysis.*

Of this affection no situation on earth, I believe, contains such numbers of patients, or so great variety of cases. From the slightest to the most violent affection, is found here. Some are entirely *speechless*; some unable to pronounce only *yes, yes*. Some to pronounce only *no*. Some a few *syllables*. Some a *few words*, and so on. Of some the intellects are impaired, and of some one or more of the senses. Some are drivellers. All the varieties between perfect and imperfect hemiphlegia. Yet many of these objects are recovered here—even perfectly.

Numbers of them have been sent to Bath, and returned without having received any benefit—which was perhaps frequently owing to their being irregular. Of the many who have recovered in the hospital all are indebted to purgatives, tonics, roborants, (the air pump vapour bath some have not, and others have, benefited by), and to friction.

## SECTION V.

### *On Gout.*

It would be difficult to enumerate all the authors on this subject. But Sydenham's description of a regular attack of gout stands, I believe, unrivalled. It does not often occur at sea, and therefore, I refer the reader to his works, for the description.

In a paroxysm of gout John Brown conceived the first idea, he says, whence he formed his *Elementa Medicinæ*; but his mode of treatment of the gout will never be very prevalent, no more than Sydenham's, which was innocent compared with Brown's. Besides them many have written, and none of them more scientifically on the subject than Cullen. But of all the modes of treatment of the disease hitherto recommended by individuals the *Eau Medicinale* is fully as much superior (if not more) than others,—as Sydenham's history of the regular paroxysm is superior to any other.—I have prescribed the *Eau Medicinale* in this infirmary, and have seen its immediate (I may say) good effects in relieving the patient of pain, leaving only debility of the parts that were affected behind.

I have taken the eighth part of a bottle eight nights successively, without any remarkable ef-

fects. But in a violent attack of sciatic, by taking one fourth of the full dose or bottle, for three successive nights, the paroxysm was completely relieved—and weakness only of the part remained after the third dose. The effects, I felt, of the third dose, were increased sleep, perspiration, and a copious discharge of urine and fæces. (See Dr. Jones's account of the Eau Medicinale.)

The gout frequently occurs in this hospital, so that many trials of the Eau Medicinale will probably be made here.

## SECTION VI.

### *On Chronic Rheumatism.*

In Chap. III. I have already taken notice of acute rheumatism, which requires very different treatment from what the affection now under consideration does.

The acute is very apt to degenerate into the chronic rheumatism—which is, in many cases, very difficult of cure. The reason of the great difficulty of its being cured in this hospital must be owing to its being too often combined with syphilis; and sometimes also with scorbutic affection. Besides to these may be added intemperance.

Chronic rheumatism, viewed in this complex

state requires more than common attention to manage. After the rheumatic affection is overcome, obvious symptoms of scurvy frequently occur, and require much care. The whole system indeed demands then invigorating means, with antiscorbutics. And during the administration thereof, it comes out frequently that the patient is syphilitic. Here again a new indication points to different management. An alterative mode must be adopted, and suited to each individual patient.

I shall, therefore, suppose first a simple case of chronic rheumatism to fall under the care of the young practitioner. Second, a patient who, besides having chronic rheumatism, is affected with scurvy. Third, another patient who, after having been cured, or while he is under cure, of the two preceding affections, shews evident symptoms of a syphilitic habit.

The first patient, I have no doubt, will be cured, though perhaps not speedily, by moderate purgatives; every second, third, or fourth day; a sudorific of guaiac or turpentine medicine, containing hyosciamus—or opiates—or volatiles, at bed time; the hot bath occasionally; the diligent use of friction of the parts affected, with the *hand* only; by tonics twice a day; and a light but nourishing diet, with moderate exercise, most agreeable to the patient. Blisters sometimes are beneficial—and electricity also.

For the second patient, in addition to the preceding plan, it will be proper to administer the purgatives with great caution, and to allow fresh lemon juice, according to the circumstances of the case, to be made use of freely. When the fresh or preserved lemon juice cannot be obtained, the citric acid is to be administered in suitable doses. In this case blisters will not be found useful—nor hydrargyrus.

In addition to the mode prescribed for the first patient—hydrargyrus, *as an alterative,* not to excite ptyalism, nor soreness of the mouth, must be administered internally, with the decoction of sarsaparilla, for common drink: or rubbed in—with no less precaution—according to circumstances; and to be persevered in until the patient is well.

For a minute history of this disease I refer the reader to Cullen's First Lines.

## SECTION VII.

### *On Scrophula.*

This is a disease very seldom to be met with here, or on service.

Scrophula or struma—is a disease of class cachexia and order impetigines. Swelled lymphatic glands; thick upper lips; obstinate ulcers, opthalmia tarsi; indolent tumours of the joints;

fair complexion; with irritable habits. By some writers it is described

Tumours, which, when benign are moveable, and are of the same colour as the neighbouring parts. But when malign, are of a bluish or sublivid colour, and immoveable. And are thought to arise from acidity of serum.

When they appear externally, the mesentery is primarily affected. They are always hard to be cured—and never, it is thought, after the patient is forty.

When the cure is effected, it is by alteratives, discutients and roborants. Of the former, hydrargyrus in small doses is the principal—assisted with sarsa purges and proper diet—to which cinchona and spongia usta should be joined. Asses milk; and a decoction of coltsfoot leaves are much esteemed by some practitioners in this disease.

This disease, however, is seldom met with among seamen—and then it is chiefly in the knee or elbow joints, as white swelling. For which many applications, besides the internal medicines and regimen before mentioned are recommended —especially tartarized antimony. Sea bathing, and salt water are also recommended; and the sea air more particularly.

In this hospital some cases of struma occur amongst the pensioners; and some of our boys are of that habit—for which, if it appears malign, they are discharged.

## SECTION VIII.

### *On Atrophy.*

Class Cachexiæ, order Marcares. This seldom is observed on board ship, unless it happens after long and severe illness; after fevers, flux, scurvy, large ulcers, or syphilis. But in this hospital it is frequently met with amongst the pensioners, from the preceding causes; and also in old age, when the stomach has not only lost its tone, but is no longer able to perform its functions of receiving or digesting aliment. Besides, I have observed on examining the subjects who have died of atrophy, when the stomach was capable of receiving and digesting food, that the lacteals prima generis were so completely obstructed, or studded with small indurated tumours, that the chyle, not being able to pass them, the system was famished as effectually as if the patient had been starved. This species was no doubt incurable. But in any of the species—that are curable, a well-regulated nutritious regimen is, for the most part better adapted than medicine. Although tonics, and wine also, are often essentially necessary to perform a cure—unless syphilis is the cause, which will require hydrargyrus.

## SECTION IX.

### *On Hypochondriasis.*

The symptoms of this affection are very numerous; and are related by different writers, Sydenham, Whyte, Cullen, and others. On board ship it is very seldom met with; and I shall therefore refer the reader to their works. The reason why I mention it here is, chiefly, because in this hospital it frequently leads to melancholy and suicide, if the patient is not carefully watched to prevent it. Several hypochondriacs, and one hysterical woman, have destroyed themselves under these affections of the mind—which is always attended with corporal debility.

I have further observed of hypochondriac and hysteric patients, that of these affections, they are very seldom *radically* cured: but after being apparently recovered, are liable to relapses. The most effectual means of cure are emetics, purgatives, and the fetid gums and tonics. To which exercise, cheerful society, and travelling by land, or a sea voyage, with nourishing diet, will greatly contribute.

## SECTION X.

### *On Cachexy.*

For this affection of the general state of the body, wherein the mind does not appear, as in hypochondriasis, to be affected, I have given, throughout vol. iv. of my work, the appellation of a disease. In the sense I have used it, it is evident at first sight of the patient, that he is very much diseased, without having any particular local, or topical affection. In this state, however, on strict enquiry, it will be found that the abdominal viscera are more diseased than any other parts of the system; and that prompt attention is required lest obstructions, already forming perhaps, should induce dropsy, icterus, chronic nephritic affections, scurvy, diarrhæa, or hæmorrhage of some part,—*epistaxis*, *hæmatemesis*, *hæmatorrhæa*, or *hæmorrhois*, of which I have seen fatal instances.

Of a cachectic patient the countenance is pale, livid, sallow, or greenish; frequently the whole habit appears bloated and sluggish.

The cure of cachexy is effected by vomits, and cathartics duly persisted in, with sudorifics and diuretics—the hot bath and friction; and

exercise particularly, when it can be obtained, on horseback; and lastly by tonics.

Many cases of this description occur in this hospital, and are discharged recovered; but only continue well, until they return to the same cause which first induced it, as well as most of the chronic affections I have noticed in this chapter. The cause to which I allude is intemperance, and to which I intend to assign the consideration of the next section.

## SECTION XI.

### *On Intemperance.*

Though, strictly speaking, intemperance, being a vice only, and not a disease, it has never obtained the notice and serious attention of nosologists. But in public service, where it is not only the parent of many vices, but also of accidents and diseases, I have thought it right to introduce it here as well as in my former works; from a motive that is commendable. That it has been the parent of many vices I appeal to the testimony of theologists; that it has occasioned innumerable accidents, chirurgical practice will bear ample record; and that diseases without number have been the consequence thereof is not at all

requisite to prove—it being a fact of public notoriety.

But leaving the first of these to the discussion and reprehension of divines, I shall briefly notice the political consequences of the other two evils induced by it.

To intemperance therefore I wish the most reproachful appellation to be attached. Because persons on public service, in that state, are completely unmanned; they are at the mercy of others around them; and are liable to incur the penalty of martial law. Besides being objects of derision to every one that sees them; and at last contemptible in their own eyes, when they recover their reason.

But the baneful effects of intemperance in the public service are experienced on every repetition of the crime, by contusion, fracture, or wounds, and their consequences. In my observations, I have often had occasion to mention with asperity these dismal consequences; but I think it right to add further, though the immediate effects of drunkenness are too obvious to require physical explanation, that, I suspect few of these sufferers, if they were called upon to describe what their situations, feelings, or symptoms were, during their intoxication, would be found equal to the task—so far they are lost to themselves as well as the public.

Intoxicating doses of liquor (like opium), operate on different people very differently. Some are immediately lulled into morbid sleep or lethargy; while others fall into a state of pervigilium for hours. By intoxication one person is rendered cheerful, and another becomes quite sullen. One is as much more elevated than usual, as another is depressed and dejected. One man is mischievous and ill-tempered, while another is good humoured and amorous. The morose and surly miser in this state becomes kind and benevolent. The reserved, and literary, unbend, are facetious and argumentative. Some are so communicative that they reveal their secrets. The wary and cautious become courageous and daring. One affects to be much more sagacious than usual; another becomes more docile than common. While one retains all his faculties, another loses all his senses, tumbles down, and immediately falls asleep. An instance, within my knowledge, occurred of an intoxicated sailor, who lay down so awkwardly on a chest, with his head hanging over it, that he immediately dropt asleep, and was found suffocated. Some are seized with hypochondriasis; some with epilepsy; some with apoplexy; and some with mania, from intoxication.

Sometimes intemperance terminates in febrile symptoms, which continue from twelve to seventy-two hours. Such persons complain

chiefly of head ach, sickness at stomach, vomiting, heat, inquietude, thirst, dry skin, and countenance flushed, which often gradually wears off in the evening after intoxication. But the recovery is materially assisted by cleansing the first passage, and promoting a moist skin in bed, even when the symptomatic fever continued to the third day. If it continues longer it degenerates into fever, though not so frequently as might be expected.

It is melancholy to reflect, that so many healthy men should sacrifice health and their lives to drunkenness. Few, very few, are wounded or hurt on real service, in the army or in the navy, compared to the number that become invalids and perish by the vice of drunkenness. Casuists may refine and expatiate on the subject of cruelty, in punishing seamen for it; but I am fully satisfied that it would be real humanity and benevolence *never* to pardon drunkenness. Was every man to be punished with particular severity in some way or other, to deter them and others from committing this destructive and detestable vice; it would prevent them from accidents and the dangerous consequences of hurts and wounds which they continually receive, either by falling or fighting; and which most certainly follow slowly, if not immediately.

As consequences of hurts by intoxication, besides those before mentioned, may be reckoned,

phthisis pulmonalis, or pulmonary consumption; scurvy and ruptures, which frequently induce fever [symptomatic fever is here understood], with its train of evils. Again, setting the advantages which would redound to the public service from the sobriety of the people entirely aside —and it is obvious these would be many—it is likewise deserving of serious consideration and regret, that in the state of stupor and drunkenness, they are guilty of the infernal practice of applying oil of vitriol to their *sore shins, as they call them*, to render their ulcers incurable, that they may be invalided. Which was often successfully perpetrated in the American war, and oftener than once by some individual wretches.

I have been told, their manner of accomplishing this intention was, as soon as they were discharged, to make it their business to get their ulcers healed or reduced within a narrow compass, and as soon as possible; that they might enter again on board of ships for the large bounties which were then given to seamen; who, owing to their scarcity, were not rejected for a slight sore shin. They no sooner, however, were entered on board, and received all the enormous bounties, than it became their study to maketheir ulcers foul and in this alarming state, by having recourse to the same disgraceful means they had before practised, that they might be sent to the

hospital, and again commit the same base fraud which they had done before. In consequence of which it became necessary in various cases to amputate the leg, and it may be said, perhaps, *a punishment they deserved.*

But this is no satisfaction to the service, nor society, for the loss of a subject, who might have been long useful and valuable, had not a mistaken lenity in the first instance prevented his being severely punished for the first offence of intoxication—to have deterred him from a repetition thereof. Should it idly be advanced, however, that punishment will not prevent some seamen from getting drunk, and that it is cruel to inflict it for such a fault, I must reply, that when punishment is known to be part of the invariable discipline of a ship or regiment, few of the men will be so daring as to incur it; and the idea of its being a cruelty to inflict the punishment for it vanishes, when we reflect on the good that it is intended to effect. Besides, should only half the number of culprits be prevented from this vice, by rigorously inflicting the punishment, especially when the men are newly raised, a very great object will be obtained.

Amongst the consequences that arise from drunkenness, inflammation with its numerous effects may be classed, with many other of the diseases mentioned in the tables. (See vol. iv.)

Particularly the affections which come under the order of phlegmasiæ: and also many of those which are classed under cachexia.

In the late edition of my work, however, I alluded more particularly to external inflammation: as being a more obvious consequence of hurts—whether suppuration followed or not.

So far I have only considered the pernicious effects of drunkenness in a political view. But if considered in a moral view, how much more detestable and criminal is the vice! Very few vices will be found to exceed it in magnitude.

During the fit of intoxication, the individual is perfectly unmanned, and is rendered incapable of performing any duty whatever, even towards himself. In the latter sense he is not able to put in force the first law of nature, felf-defence, be his situation ever so perilous. Nor is he able to flee from danger of instant death, whether threatened by fire or shipwreck. Being past the power of resistance, he is wholly at the mercy of any insolent foe.

How galling, to the thinking generous mind, must it be, even *to suppose* in reflection, that during the short beastly indulgence, by being off his guard and his duty he has left a post unguarded, by which a public or private enemy may have entered and robbed him of his own honour, and insulted that of his country,

which ought to be dearer than life itself to both seamen and soldiers!

When he has returned to reason, and looks back on the precipice he has perhaps very narrowly escaped; when he reflects how grossly he may have offended the Almighty; by taking his name in vain; and by ill-treating his fellow-creatures, his family, and all that is most dear to him, and by even destroying his own health—What must be his sensations!

Much more might be said on the subject; but I hope enough has been said to do away the mistaken lenity of not punishing, in the first instance, for drunkenness in the navy and army.

# CHAP. XII.

## ON THE DISEASES PECULIAR TO THE HEAD.

### SECTION I.

### *General Remark.*

Of these the principal are apoplexy, epilepsy, concussion of the brain, vertigo, or giddiness, peculiar to adults and the aged; head-ach, as peculiar to youth; the diseases of the eyes; of the nose; of the ears; of the mouth and throat; and diseases of the face.

I make choice of this nosological arrangement in stating the topical diseases and affections, as being best suited to the description adopted by anatomists—and as it is an arrangement not altogether unnatural nor destitute of reason. It is also to be remembered, that it was not my intention to follow the footsteps of any of the nosologists, nor of the writers of *a general* practice of physic. But chiefly to relate such of the diseases and affections as have come under my own ob-

servation (yellow fever excepted). I shall therefore proceed to relate them without further preface.

These affections occur amongst the pensioners, nurses, boys, and the officers and their domestics. But the most frequent are apoplexy, vertigo, or head ach in old age, and in youth; and diseases of the mouth and throat.

## SECTION II.

### *On Apoplexy.*

An apoplexy, of class neuroses and order comata, is subdivided by Cullen into twelve species. But I mean to confine my remarks to the disease, as it proceeds either from an effusion of blood; or of serum into the ventricles, or on the surface of the brain. The former may no doubt happen from external injury, and the latter from relaxation or debility of the exhalants and inaction of the absorbents.

Every degree of apoplexy, I verily believe, occurs here, from the instantaneous, *knock down*, mortal stroke, (without an after groan, or any symptoms of life), down to the creeping apoplexy. Between these extremes, many gradations of apoplexy occur, which may all terminate fatally, within the ninety-sixth hour after the

attack. Some, however, I say, are seized so violently, that they die instantly—others live, or shew signs of life, for some minutes. Some live a little longer, yet die before they can be brought into the infirmary; some die very soon after they are brought in, before it is possible to administer relief; and others, as I have said, live longer and longer, until the period above mentioned. But then they become obviously affected with hemiplegia. The symptoms of apoplexy are so fully described by many writers that I shall not trouble the reader with them.

When they are admitted alive, no time is lost in cupping the patients freely as near to the head as possible, nor in shaving the head and covering it with a blister; nor in administering a clyster. Blisters are also applied behind the ears, and to the internal parts of the arms close to the axillæ, and downwards to the elbow. In some cases the cupping and clyster are repeated again and again, and more blisters applied; by which means, *promptly* administered and persevered in, many do recover. Some patients are afterwards affected with more symptoms, and others with fewer, of aparalysis. A few fortunate patients, however, have recovered with little or no sign of paralysis remaining.

Although in one or two cases a copious general bleeding of the patients, (who were young, strong and athletic men) was successful—I have in all

other cases had just reason to repent of such practice, and have, therefore, thus seldom adopted, or countenanced it. Being fully convinced that it is a dangerous practice, while topical bleedings from the head, or as nigh to it as possible,—especially when dexterously and freely made, and occasionally repeated, succeed beyond expectation, with the assistance of clysters (until the patients can swallow), purgatives, and nervous, combined with roborant, medicines, according to circumstances.

*Creeping* apoplexy, supervening an old paralytic affection, is almost equally as mortal as it is under any other appearance; although there is more time in the former state to administer every thing that can be thought of, than there is in the latter. However, in the creeping apoplexy not a moment should be lost, for the progress of the fatal disease increases rapidly from the moment of attack to the mortal period as before-mentioned.

The paralytic, who at first feels pain with heaviness of his head, is in an instant observed to have the speech altered. Though he apparently retains his reason, he loses the use of his limbs; and in a very little time privation of speech and of voluntary motion; which are followed with loss of the senses, distortion of the face, and great inquietude. The patient in the mean time being thus harassed is desirous to get up. The

pupils of the eyes become gradually more and more dilated, until vision is lost; and with all the symptoms of perfect apoplexy supervening, I have seen the patient sink within seventy-two hours.

I think it right before I quit this subject, to remind the reader, that the remarks I have made apply chiefly to old men, or to persons with constitutions that have been destroyed by intemperance—whose cases, when recovered from the jaws of death, generally terminate in hemeplegia —rarely in paraplegia.

That in such cases—if they live to be brought into the infirmary—general bleedings are inadmissible—cupping and leeches are the only ways to be made use of for relieving the patients, if at all practicable, and with clysters, blisters, volatiles, and friction, until the patient can swallow: and then aperients, stimulants, and tonics, may be administered. By which means many patients live for years in health, though more or less paralytic.

But young subjects, who have received injuries or wounds about the head, and are seized with apoplexy after intemperance, require copious general bleedings from the arms, jugulars, or the temporal arteries: and smart repeated purges with calomel, to remove the morbid determination or congestion of the blood from the head. Which

means are to be assisted with rest, low diet, and refrigerents.

I call the disease *apoplexy* when the patient dies instantly, or before any relief can be obtained; or any means be made trial of. But if the patient lives any number of days after he is admitted, I call that state *apoplectic* only—which generally terminates in some degree of paralysis—and from this state few recover perfectly. Numbers are at once in their beds struck speechless, and with hemiplegia.

Of epilepsy we scarcely have one instance, nor of lunacy, unless the patients have formerly been injured about the head, and have been intemperate. Our epileptics and our lunatics, therefore, are intemperate men. No person is kept on board ship that is either an epileptic or a lunatic, and most of them are sent to Hoxton; it being lost labour to try to cure them. Fatuitous patients are not uncommon here.

## SECTION III.

### *On Vertigo and Head-Ach.*

Of adults or aged people in this hospital, as well as in all other places, this affection may proceed from numerous causes; but here it chiefly proceeds from morbid congestion, or accumula-

tion in the capillary vessels, which have now lost their tone, and is most frequently brought on by intemperance. This opinion is supported by the successful means of relief in such cases. Cupping, purging, and blistering, never having failed to relieve the patients effectually, nor to promote their recovery.

The cephalalgia syphilitica, however, is only relieved by hydrargyrus (which terminates sometimes in ulceration of the cranium). But cephalalgia nervosa requires tonics and roborants to remove it. Many other cases of head-ach occur, of which we know not the real cause. To prescribe therefore on such occasions with any certain prospect of success, admitting it was otherwise curable—is not possible.

The head-ach to which our boys are subject, arises from gorging and indigestion, which is effectually relieved by a vomit and purges repeated.

Cupping is an operation that every surgeon should practise with facility.

## SECTION IV.

### *On Phrenitis.*

This disease (of Class I. Order II. and Genus 6, of Cullen), is either primitive or symptomatic—accompanied with strong fever; violent head-

ach; redness of face and eyes; impatience or intolerance of light and noise; watchfulness; and furious delirium or mania; difficult but slow respiration; a quick, hard, full pulse; black and dry tongue; thin and diaphanous urine; and sudden flights or startings out of bed. The delirium comes on suddenly and precedes the fever, in a manner. It happens rarely in cold climates —and in hot climates it is truly but one of the symptoms of the dreadful inflammation improperly called *yellow fever*, which, in fact, is a general inflammation of the whole system.

Phrenitis, therefore, being a violent inflammation of the brain and its meninges, from whatever cause—whether exanthematica, verminosa, aphrodisiaca, hydraphobica, traumatica, or from any other cause, the antiphlogistic treatment must be had recourse to, and persevered in until the patient is effectually relieved. It is therefore impossible to lay down any fixed rules for the practitioner, only to confine his treatment to depletion and perfect quietness in darkness.

I had once a patient who eluded the watchful eye of the nurse attending him, and who ran off above two miles, and got into a low public house, where, after a strict search, he was found drinking—such a house as at any other time he would have been ashamed of going into. The patient notwithstanding recovered perfectly.

Phrenitis on board ship is unlikely to happen,

except from two causes—from accidents, or from intemperance. But when it happens, whatever the cause may be, I say, the antiphlogistic treatment must be fully and promptly followed up. The sensation of a hair on the tongue is complained of by *phrenitics*.

Concussion of the brain, being the consequence of an accident, comes immediately under the care of the surgeon.

## SECTION V.

### *On the Eyes.*

Their affections or diseases amount, according to practical writers, to near fifty in number. But of these, while on actual service, seamen or soldiers are afflicted with few which are most important. Ophthalmia simplex, and ophthalmia syphilitica. Both of which admit of cure. A case of the Egyptian ophthalmia never came under my care. Of that I can therefore say nothing, and the history of the other two, and the method of cure, are so generally known, that I shall refer my readers to the works of those authors who have written expressly on the diseases of the eyes.

Numbers are afflicted with cataract or suffusion, and by the operation some are recovered, while others are only relieved imperfectly. Some cases of gutta serena occur; and of fistula lacrymalis I have seen but one or two instances, in this hospital.

Ophthalmia being a disease of class pyerexiæ and order phlegmasiæ, or a violent inflammation, it is obvious what manner of treatment must be adopted to subdue it.

General and topical bleedings; purges, sudorifics, and lyttæ; with collyria, fomentations, and cataplasms; and if by these necessary means the general system is debilitated, tonics become essentially necessary to recover the patients. *Nyctalopia* also, sometimes occurs here.

## SECTION VI.

### *On the Nose.*

The diseases peculiar to the nose, which have occurred in this hospital, are hæmorrhage, *noli me tangere*, and polypus. Of hæmorrhage, or epistaxis, numbers of cases are brought into the infirmary: but of its causes or incipient symptoms we obtain very imperfect accounts. In every case, however, we observe a quick and hard pulse, dry skin, with pain of the head across the *forehead*, general heat, anxiety and thirst. And the more violent the hæmorrhage is, the more urgent are the symptoms accompanying it. Old men, who are most liable to be afflicted with it, when once infected therewith, though they are cured, are again and again visited with it at dis-

tant periods, until in the end, it destroys them; or until it brings on cachexy and dropsy.

On their first admission, patients under hæmorragia, and some on their second admission, require venesection, with other means of depletion; and allaying the general commotion and irritability of the system; for which purpose refrigerents also are beneficial. Confectio rosæ g. with potassæ nitras made thin with syrup of roses, is a neat and pleasant refrigerent and tonic. So is a decoction of roses with cinchona and nitre, to both of which tincture of hyosciamus may be added, in preference to opium, which seldom fails to constipate the bowels. All the care, however, that can be taken with most of the patients does not prevent many of them from reverting to intemperance, which in the first instance, most probably brought it on.

As to the affection called *noli me tangere*—it being connected with the consequence of syphilis, it comes immediately under the care of the surgeon. The principal remedy consequently is, hydrargyrus as an alterative; hyosciamus and aconium as sedatives; and sarsaparilla and cinchona as tonics and roborants.

Respecting the polypus nasi—the only effectual mode of curing it is by extracting it.

## SECTION VII.

### *On the Ears.*

The pensioners sometimes, though rarely, complain of ear-ach, that is occasioned by inflammation preceded or induced by cold. When it is severe the pain is excruciating, and is only to be relieved by the antiphlogistic method: unless the patient is far advanced in life—and when there is reason to apprehend it proceeds more from nervous affection, or irritability, than from any other cause—in which case sedatives, antispasmodics, and tonics are more proper. For which many applications are recommended by different authors.

For deafness, of which there are, in this hospital, many degrees, professional men are consulted to little purpose; when it depends on a defect of the nerve. But when it proceeds from hardened wax; or from a dryness; or from any foreign matter, or insects, they admit of relief by extracting them, and by suitable applications and injections.

## SECTION VIII.

### *On the Mouth.*

Aphthæ, of class pyrexiæ and order exanthemata, with submission to so great a master as Cullen, I should be inclined to arrange under class cachexiæ, and rather as an incidental symptom of several genera, than as a genus. For, though

It sometimes, indeed, is a very unpleasant symptom incident to fever, it is by no means peculiar thereto. Because an aphthous state of the mouth is also a symptom of phthisis towards its fatal termination; of syphilis; and of scurvy: and sometimes without any obvious disease.

The best application for healing them that I have seen, is borax dissolved in water; and borax mixed in mell rosæ or in mell britan. And these will be found useful in their turns in different cases.

## SECTION IX.

### *On the Throat.*

The throat, amongst our pensioners, is affected with sundry diseases, besides all the species under

genus seven, of order phlegmasiæ, class pyrexiæ, of Cullen. An account of them, more accurate than I can describe from my own experience, will be found in the Morbid Anatomy of the eminent Dr. Baillie.

In this hospital I have seen several instances of ossification of the larynx; and of ulcer within the larynx. And also of stricture of the pharynx and æsophagus. These patients died emaciated, it may be said, for want of nourishment.

The syphilitic ulcer is so generally known, and the method of treatment with hydrargyrus, sarsaparilla, and other roborants, together with nutritive diet, that I need not dwell on the subject.

For the same reason I have declined entering upon the particular treatment of the different species of cynanche. The inflammatory requiring depletion, or the antiphlogistic method; the spasmodic requiring antispasmodics; while the malignæ, whether accompanied, or not, with exanthemata, I consider symptomatic only, will yield to the tonic method prescribed for fever, accompanied with such topical applications as the several cases point to, the necessity of gargles, lotions, liniments, leeches, blisters, fomentations, or cataplasms.

## SECTION X.

### *On the Face.*

The only affection of the face which occurs in this hospital, and demands particular care, is asthenie erysipelas (class pyexiæ, ord. exanthemata) of which many instances happen, and is a disease well known, and so fully described by many writers that I need not dwell on it.

The treatment, however, by young practitioners is a matter of difficulty—from the alarming appearance which it puts on. But when the patient's age, the temperament, way of living; proximate cause of the disease and symptoms, are duly considered, they must be satisfied that the only evacuation admissible is to keep the body gently open, and perhaps to apply a blister to the neck, or behind the ears; administering in the mean time medicines of the tonic class—of which cinchona is the first, with roborant or nutritious diet, and wine, according to circumstances. The sedative that I should prefer in such cases is hyosciamus—as opiates, in which I include the white poppy preparations, are apt to occasion costiveness, which should be obviated.

## CHAP. XIII.

### ON THE DISEASES AND AFFECTIONS OF THE THORACIC VISCERA.

FROM these almost one half the number of deaths in the physician's infirmary proceed. They also form a large portion of all the patients admitted under the care of the physician of this hospital, and require great attention and consideration. They are divided into acute and chronic, of which the most violent, pleuritis and peripneumonia, have been already noticed; indeed, every possible degree of pneumonia, or of acute affections of the thoracic viscera, occur in this hospital, from the most violent to the most insidious *chronic sthenia.* However, the most violent degrees of pleuritis and peripneumonia occur seldom, as may be supposed, from the age and debilitated systems of the great number of the pensioners: but whenever they do occur, it is amongst the young and athletic pensioners, and require the same treatment as they do any where else.

SECTION I.

## *On Cough.*

Of all the genera, or species of pulmonic or thoracic affections, cough, though strictly speaking, only a symptomatic affection, is yet by far the most frequently complained of. It is therefore not surprising that the number of patients admitted into the infirmary, for pulmonic affections very far exceeds any other in the Nosological Monthly Statement of fifteen years (see vol. iv.) —being in numbers as 11904 is to 2050; that is, more than 1-6th of the whole number of infirmary patients. Indeed, there is scarcely an order, genus, or species of thoracic or pulmonic affection, whether acute or chronic, that is not accompanied with less or more cough. It also accompanies certain affections of the stomach, liver, dropsy, larynx, trachea arteria, pharynx, and æsophagus; bronchiæ, and parotis, and bastard pleurisy, or external injuries and affections of the thorax and and abdomen.

Being an adjunct or concomitant symptom of many affections, it has obtained the title of a distinct disease, as indefinitely and improperly as the title of *fever* formerly was, when attached to the general appellation, *fever*, without having any precise meaning annexed to it. But though

fever is now defined a disease *sui generis*, and is known to exist independent of any other disease; I am inclined to believe that cough is only symptomatic, and cannot be effected or exist without some topical stimulus, affection or disease to excite it. An instance, however, of habitual cough, which though very violent in frequent irregular paroxysms for many years, that does not seem to have affected the system longer than the paroxysms continue, I have known; and though these are obviously induced, or aggravated, and are alleviated by change of situation, yet no other mark of disease of the lungs have yet appeared. There is no thoracic or topical affection even in the act or time of the paroxysm: the patient at other times has no dyspnœa; no morbid excreta are brought up, and when the paroxysm is over, he seems to be in perfect health. Uuless when marked exacerbations of unusual cold are induced by the application and irregularity of the general system. Then it is accompanied, as in every other patient, with symptoms of febricula, especially head-ach.

If it is admitted that this person's cough is hereditary, or rather habitual, it must be referred to some mal-conformation or nervous affection of the parts concerned in coughing, which is sufficient to excite cough: and it is certain the morbid part is much affected by endemial situations. These circumstances, though they bring cough nearer to the claim of

being a specific disease, than any other I am acquainted with, yet they militate against the idea of cough being a disease, *sui generis*, and confirm the contrary opinion that it is only symptomatic, in certain situations and diseases.

*Cough* in various other pulmonic affections, is not only a most harassing symptom, but very frequently hastens their fatal termination. As in cases of tubercle, of chronic inflammation of the lungs, of phthisis pulmonalis, and of asthma; and also of patients subject to hæmatemesis, or hæmoptoe, or spitting of blood, by inducing a rupture of some pulmonary blood vessel, and its immediate consequences, fatal hæmoptoe.

*Cough* also accompanies and aggravates carditis, paraphrenitis, empyema, hydrothorax, gastritis hepatitis, peritonitis more or less, and rheumatic affections of the intercostal muscles. Every one of these morbid affections I have known cough to accompany in this hospital. Its being therefore an adjunct or concomitant symptom of so many diseases, may satisfactorily account to the reader, why, at their admission into the infirmary by any person who does not think, the discrimination of diseases, a matter of consequence, so many of the patients' diseases are denominated *cough* on their tickets. It saves much trouble, and the developement or denomination of the disease, is left to the physician afterwards.

SECTION II.

## *On Peripneumonia Notha.*

The limits of a synopsis will not permit me to consider cough in any other view at present, than as the most prominent symptom of peripneumonia, or pleuritis notha, which is the most frequent of any of the pulmonary affections amongst our aged men, and at all times requires prompt relief. The patients not having been admitted into the hospital, or having delayed to complain until the symptoms are extremely aggravated, it is absolutely necessary for obtaining prompt relief, to attend to the several symptoms with care and circumspection. These chiefly are dyspnœa, oppression about the præcordia, incessant cough, heat of the skin after chilliness, or alternate chills and heats, great anxiety and dejection, nausea, loss of appetite, debility, thirst, and tongue most frequently covered with viscid mucus, of different shades of colour, from white to brown, according to the length of time they have been ill; with pulses differing somewhat in every two cases. All these, however, and also the various wandering pains all over them, especially about the head and thorax, that are aggravated by the cough, which brings up more or less expectoration of various

colours and consistence, with different degrees of difficulty and pain, that is increased by every deep inspiration, loss of appetite, and great debility and depression, shew a great degree of irritability, and irregularity of arterial action, which mark the symptoms of the peripneumonia notha —symptoms which, in many cases, have made great progress before the patients come here.

The history of this affection, brought on by cold applied to the surface, and inhaled at every inspiration, which blocks up the pores of the skin as well as the exhalent vessels of the lungs, especially after intemperance and neglect, soon excites a determination to morbid action in these tender organs; a morbid change that is soon imparted to the vascular system of the lungs in a greater or less degree, according to the age, strength and vigour of the patients,—the lungs being chiefly a congeries of blood and air vessels. —This brief history, I say, shows that the principal indication of cure, must be to abate or quiet the irritation or the morbid action; to allay commotion as speedily, and by means, as little debilitating as possible. In the next place, to promote a determination to the skin; to promote a copious and easy expectoration of mucus; and lastly, to strengthen the general system.

The first and second indications are most speedily, gently, and effectually obtained by topical bleedings, according to the age and strength of

the patients; gentle emetics in some cases; aperients almost in every case; and by promoting a determination to the general surface by ipecacuan, or antimonials combined with sedatives, of which I give the preference to the tincture of hyosciamus, as not occasioning costiveness, nor the other unpleasant consequences of opium. Blisters are also to be applied to the thorax, occasionally. Compound powder of fragacanth, or some other demulcent oily mixtures; pectoral, or lubricating medicines, according to circumstances. Spermaceti, tincture of squills, or the wines of ipecacuan and antimony; volatile alkali; the tincture of cantharides, or of digitalis, in vehicles of barley water, or solution of spanish liquorice, or almond milk are ordered, to which mixtures sedatives were occasionally added. Sometimes camphorated tincture of opium, but generally tincture of hyosciamus; and at bed-time a dose of the latter as an anodyne. When blisters were not, Burgundy pitch plasters were, applied to the thorax, or between the shoulders. When the symptoms were perfectly relieved, or when the strength began to decline, which frequently happened when they delayed too long to complain,—though no blood in such cases was taken away,—wine was allowed, or grog, according to circumstances, with tonics, and flannel waistcoats applied next to the skin, to perfect the cure.

The younger patients admitted under similar

circumstances, received immediate relief from blood-letting in the beginning of their illness, and from occasional topical bleedings afterwards, also from purges, sudorifics, blisters, pectorals, digitalis, and other sedatives; by which means many of them soon recover. But some delay so long to complain, that ulceration of the lungs hath already taken place, with all its concomitant symptoms, forming phthisis pulmonalis, and affording a very hopeless presage. Whether antecedent to peripneumonia notha's having been thus induced, former affections, or hereditary conformation of the lungs, or tubercles were formed in them, which directly led to such a termination as phthisis, I am at a loss to say. But in this hospital,

## SECTION III.

### *On Phthisis.*

Phthisis very frequently occurs, though never, that I remember, when the sick complained early after being seized with pulmonic affection. We admit men in every stage of phthisis, however, from every possible situation; as well as from ships, hospitals, sick quarters, private houses, and else-where; and I may add from every possible cause. Accordingly, upon enquiry, I have been informed that some have fallen into a state

of phthisis after fever, some after flux, some after long illness, which they could not describe; some after loss of blood; some after great discharges occasioned by ulcers, or wounds, or by the loss of limbs; and many after syphilis. But from whatever cause it has originated, if, unfortunately, it has not been effectually checked in the beginning, or in the first stage, before the chronic inflammatory state has advanced and occasioned suppuration, followed by purulent expectoration from ulcer, little hopes remain of a cure being effected in such cases, if the patients are under sixty. In patients, far advanced in life, from seventy and upwards, I have seen numbers recover, and live for years after profuse purulent expectoration. But these patients, though extremely emaciated, never became truly hectic. To nothing, specific as a medicine, however, could their recovery be attributed, but to allaying irritation and to strenthening the general system by nutriments, cardiacs, and tonics.—Here we are deprived of change of air and of exercise, which are highly necessary to recovery.

I have never inspected one subject that has died of phthisis pulmonalis under my care, whose lungs have not been more or less ulcerated.

Having tried the different medicines and methods recommended by others, in whose practice they have been said to be successful, I am much inclined to think that, our situation is par-

ticularly unfavourable to phthisis—not one of our patients having recovered.

I have frequently seen phthisis checked in its progress by different means. The chronic inflammatory state was often effectually checked by the repetition of topical bleedings, refrigerants, and blisters; but the patients—whose systems were prone to phthisis, though often relieved by these means from being irregular, or by cold air obstructing perspiration—relapsed again and again into pneumonia, and became victims at last to phthisis.

By metastasis in cases of scrophula, when ulcers have occurred in other parts, the lungs have been sensibly relieved all the time the ulcers were discharging, but no sooner were these healed than the lungs were again affected violently, and the patients were soon carried off. It should likewise be observed, that the emaciation of the body continued with the discharge from the ulcer. The digitalis in several cases also checked the progress of phthisis, but never cured one patient in this hospital.

By the means before mentioned I have been able to check the progress of this dreadful disease here, but never to cure it, after it was confirmed.

Sometimes it is terminated suddenly by the rupture of a blood vessel in the ulcer.

Discharges procured by blisters did not prevent the progress of phthisis.

In every case of phthisis, I am satisfied that the patient, by the impediment to the circulation of the blood and chyle throughout the morbid lungs, may be said to be starved from inanition or privation of nutriment; independent of the great wasting quantity of purulent expectoration.

Colds neglected in the first instance, on board ship or on shore, by the patients themselves—very often lay the foundation of pulmonic diseases. And nothing less than the authority of their superiors will prevail on them to complain and apply for assistance, nor to follow directions until it is too late. But such authority should be speedily exerted and enforced in order to save lives.

It was my intention to have laid my observations on the subject of phthisis more at large before the reader; but as in doing that I should be unavoidably led beyond the limits of a synopsis, I must decline it; and this I yield to with the less reluctancy, as I observe so many treatises on the subject in circulation.

## SECTION IV.

### *On Asthma.*

Genus xlvii. of Class ii. Neuroses, Order Spasmi, as defined by Cullen, difficult respirati n returning at intervals, with a sense of stricture across, *and great oppression on*, the

breast and in the lungs; a wheezing; hard *dry* cough at first, but more free towards the close of every paroxysm, with a discharge of mucus, followed by a remission of a very uncertain duration. For a fit of passion seldom fails to bring on a paroxysm of asthma to the person subject thereto.

Cullen subdivides this disease into three species, and symptomatic two.

The former he denominates, spontaneum, exanthematicum, plethoricum; and the latter into arthriticum, venoreum. Other writers divide it into two species—the dry and humoral—continual or periodical—arising from mal-conformation of the thorax; or consider it symptomatic, proceeding from various causes.

In this hospital asthma is very frequent; and all the varieties and species thereof occur. However, we have more mixed or complex, than simple cases of asthma.

By mixed cases, I mean, that many of the patients' symptoms are so blended with dropsy, local, or universal, that it is impossible to collect information from themselves, to satisfy one, which of the two diseases the patients were first seized with. And the same difficulty, though much less seldom, happens in discriminating between the symptoms of asthma and those of phthisis, as to which of the two diseases the sick at first were attacked with. But it is invariably

observed here, that all asthmatic patients die dropsical in their thighs, legs, feet and hands, which are livid and cold—a state peculiarly favoured by the posture of the sick in their beds, which is sitting constantly towards the termination of their disease, and lives.—

I am sorry to say, that until the end of April, 1807, I never read Doctor Bree's Practical Inquiry into Disordered Respiration : a work replete with medical science and experience, that may be productive of much good to mankind. Doctor Bree's fourth appearance or species of asthma I never distinguished, though I believe it to be well founded. But some may be inclined to consider all the four species, as only four different stages of asthma.

The appearances of asthma in this hospital have been obviously three. First, the spasmodic or convulsive, which very rarely occurs. Secondly, the dry asthma, which is frequent. And thirdly, the humoral, accompanied with profuse expectoration, that is still more frequent than the other two. These are the only distinctions which I have hitherto made in asthma, by which I have added one species more than has been heretofore admitted by authors, excepting Doctor Bree, whose ideas concerning asthma are to me new, especially the fourth. I never could account satisfactorily for the three obvious and distinct appearances of asthma, nor did I ever entertain an

idea of a fourth species. But asthma in all its obvious distinct appearances I attributed to certain affections of the lungs; without imagining that it proceeds from *irritation of the stomach, or some of the abdominal viscera, no more than I entertained an idea that a fourth species depended upon habit, after irritation has been removed from the thoracic, or abdominal viscera.* See Dr. Bree's Work.

Yet, notwithstanding we have differed in opinion, concerning the theories or the different causes of asthma, or seat of the disease, there has been no material difference whatever in the indications of treatment between those in this hospital since I came to it, and Doctor Bree's. As to the management of his fourth species of asthma, of the origin of which I had not formed an idea, the method of emigration, or travelling for obtaining a new association of ideas, which he recommends; although perfectly rational, ingenious, and possibly, the most proper; nay, admitting it absolutely necessary for a perfect cure, it is incompatible with this situation, as will readily occur to every reader, and as I mentioned concerning phthisis.

As to the method of treating asthma in young subjects during the fit, venesection is necessary; but in old and debilitated patients it is inadmissible. Cathartics or clysters (with asafœtida occasionally) should be administered after the bleeding; and blisters applied to the breast, and between the

shoulders. To the purges or clysters opiates may likewise be occasionally joined; and also the warm bath, with a view to relieve the breathing, and to promote perspiration; which is the most effectual way to mitigate and shorten the paroxysm.

The dry or spasmodic asthma brookes no delay whatever, but demands immediate relief. For which purpose, unless bleeding generally or topically be admissible, and instantly performed—antispasmodics in liberal quantities sufficient to excite retching or vomiting should be administered, blisters applied, and the pediluvium or semicupium ordered. Asafœtida combined with purging clysters, to which hyosciamus should be added as a sedative, and a free perspiration promoted. Æther, or Hoffman's anodyne, should be tried.

During the intervals, between the paroxysms the cold bath is very beneficial.

In the humoral, or moist, asthma with which our aged and infirm men are most frequently afflicted; gentle emetics repeated again and again until the bronchiæ are perfectly unloaded; and afterwards occasionally—which method never fails to give the patient much relief; as it aids by promoting a determination through the pores of the skin. Afterwards pectorals, sedatives, aperients, and blisters, and warm bitters, or roborants, restore the old men to their usual state of health.

## SECTION V.

### *On Carditis.*

Carditis, 9th Genus of Order Phlegmasiæ, Class Pyrexiæ of Cullen, is known by pain in the region of the heart; anxiety; dyspnœa; cough; pulse irregular; palpitation; and syncope.

However, inflammation of the heart can exist but a short time before it extends to the pericardium and the neighbouring parts of the pleura; and in whatever part it is situated—supposing it is ascertained—the method of treatment must be the antiphlogistic, most rigidly persevered in until the symptoms of inflammation are subdued.

For the other diseases incident to the heart, I refer the reader to authors on the general practice of physic.

When empyema happens it must be in consequence of previous extensive inflammation of the pleura—and frequently hydrothorax originates from the same source. But amongst our old pensioners hydrothorax generally accompanies universal dropsy—which, too often, is one of the many fatal consequences of intemperance—and baffles all the power of medicine to cure. Hydrargyrus, in such patient's cases, would most probably hasten death.

# CHAP. XIV.

## ON THE DISEASES OF THE ABDOMINAL VISCERA.

Of these affections, or diseases in this hospital, peritonitis, gastritis, hepatitis, enteritis, mesenteritis, nephritis, cystitis, and metritis occur most frequently, especially peritonitis and hepatitis.

### SECTION I.

### *On Peritonitis.*

Peritonitis (and the other inflammatory affections of the abdomen, which are of Class Pyrexia and Order Phlegmasiæ of Cullen) is a disease seldom incident to adults; but occurs frequently amongst boys or girls. I shall therefore briefly notice respecting it, that though at first the inflammation may originate, and be confined to the peritonium—yet, in its duration and progress the mesentery and other abdominal viscera, become affected; and when neglected at first, terminates fatally.

Peritonitis being a membrane within the abdo-

men of the similar extent and utility as the pleura within the thorax—as it not only covers the internal part of the abdomen and pelvis in all directions; but also furnishes the external membrane or covering of every viscus or organ contained in the abdomen. It was for this reason that the great Dr. William Hunter, in his lecture, dwelt and insisted on the importance of this membrane —not only as being the internal lining or covering of the abdomen, and the external or superior membrane of all its contained parts; but as being contiguous, and touching in so many, I may say, innumerable points, as it is in the natural healthy state. Hence the cause of peritonitis being a disease of so much importance, and demanding so much attention; and hence the difficulty of discovering the exact seat of the disease, and of checking and of subduing the inflammation. The symptoms, though in some respects differ little—whatever part thereof is affected, yet are they frequently marked, in some measure, by those peculiar to the organ or viscus connected with or covered by the inflamed part. In one instance I have seen impostumation take place, which by adhesion to the exomphalus discharged itself thereat; and also parts of the excrements for some time; which plainly showed that suppuration of the very intestines had taken place. Yet this patient survived—and is now a healthy young man.

In another instance of a female child, who died under my care, whose case had been too long neglected before I saw her, the stools voided with the utmost difficulty were like lime mortar, gray, dense, and viscid—showing that the liver and its appendages were not only extremely morbid, but that the whole intestinal canal was greatly affected or torpid. And I have no doubt but that the disease originated in peritonitis.

Topical bleedings, purges, blisters, hydrargyrus both internally administered, and externally rubbed well into the abdomen—refrigerant, deobstruents; and at last tonics with a proper diet, are the means by which a recovery can be obtained—unless assistance has been early resorted to, which renders the cure much less difficult.

## SECTION II.

### *On Gastritis.*

Class i. Order ii. Genus ii. of Cullen. This is by no means so frequent a disease here as might be expected. But when it does happen, it sufficiently alarms the practitioner by chilliness or rigors, succeeded by prostration of strength; great anxiety; sense of heat with pain in the epigastrium, increased by touching, or by any thing taken into the stomach; by vomiting; hiccup; and a small quick hard pulse. And by tumifac-

tion and tension of the epigastrium, unless it is speedily relieved; which is to be effected by antiphlogistic means, only. The smaller the bulk of any thing taken into the stomach, is, while the inflammation continues; and the more bland the nutriment is for some time after, it will be the better for the patient.

## SECTION III.

### *On Schirrus or Cancer of the Stomach.*

Class iv. Order vi. Genus 123, 124. Besides inflammation, the stomach is liable to many other diseases and affections, of which cancer is the most dreadful. Of the cancer in the stomach, several instances have occurred to me in this hospital, which I inspected, and related the appearances thereof in vol. iv. as the reader may there see. And I have also communicated my remarks on this subject to my friend Dr. Denman, who is employed in collecting and collating observations on cancer.

The symptoms of this malady are noticed by Dr. Baillie in his Morbid Anatomy. All the men who have died of cancer under my care have been *starved*—the stomach not having been able to retain nutriment.

I have seen ulceration of the stomach sometimes; and in one subject, a very large tumour on

the outside, and anterior to the pylorus, of a schirrus texture.

Respecting the cure of this dreadful disease—when it occurs—and then it can be discerned by the experienced practitioner only—I am not acquainted with any certain means for that purpose. At present we must content ourselves with palliatives, and it will be found an invariable rule, that the less the stomach contains at any one time, the easier the patient is—and *vice versa.* Hyosciamus, as possessing no constipating property, is the most eligible sedative; and milk only for diet. As an aperient, castor oil isthe most suitable perhaps; or clysters may be administered occasionally, nutritive, and purgative.

*At infandum dictu, nihil boni ab illis, neque ab alliis sperandum. Nil vere juvat.*

According to the idea which I have formed of curing cancer—from a case of noli me tangere, that was extremely malignant, and was cured perfectly by sedatives, alteratives, and tonics—I am of opinion that the means employed for curing cancer, generally, must be possessed, in an eminent degree, of these three properties :—1. Of a powerful sedative, without constipating the bowels—2. Of a powerful alterative, without debilitating—and 3. Of tonics—without doubt comprehending nutritives. With a happy combination of these, administered early in the disease, a cure may probably be obtained, provided the patient strictly

conforms himself, and adheres to directions. And in such cases of cancer as require chirurgical assistance, much will also depend on due attention being paid to the applications, and to their being regularly changed, and as often as the case, or discharge may require.

## SECTION IV.

### *On Enteritis, and other Diseases of the Intestines.*

Enteritis, Class Pyrexiæ, Order Phlegmasiæ, and Genus 12, of Cullen, occurs but seldom in this hospital, and when it happens, like various other diseases, is often brought into the infirmary so far advanced, as to be incurable; that is, in a state of sphacelas or gangrene.

As a primitive disease, enteritis is so well known, and the manner of treating it so generally understood to be antiphlogistic, as to require no discussion here. In every *Practice of Physic* it is particularly noticed. See also vol. iv. of the Author's Works.

I have in private practice met with several cases of cancer in the rectum, but never in this hospital.

### *On Chronic Dysentery.*

Respecting acute dysentery, I have in chap-

ter ii. been so copious, that I refer the reader thereto, and shall now offer a few remarks only on the chronic, or habitual flux.

Of chronic flux numerous cases are brought here both from the East and the West Indies. Whatever state such patients may be in when admitted, it soon appears that it is deteriorated by intemperance; from which, very few of the patients that have been addicted thereto, have resolution to refrain. When admitted they may be said, from their leanness, or emaciation, to be in a state of *tabes dysenterica chronica.*

In this hospital, however, numbers of such patients, and one remarkable case of stricture of the pylorus, who rigidly adhered to directions, have been recovered—by purges occasionally repeated; by sedatives, combined with roborant astringents; by the repeated applications of blisters on the abdomen; and by friction with hydrargyrus, continued for a considerable time, as an alterative, with nutritive diet. For the appearance of the intestines of fatal cases, see Dr. Baillie's Morbid Anatomy.

## SECTION V.

### *On Affections of the Liver.*

The diseases of the liver which I have observed in this hospital, after the death of the subject, on inspection, have been strong *adhesions* thereof to

the contiguous parts; which proceeded, no doubt, from previous inflammation of its coats, or from

*Inflammation* of its substance.

Preternatural *enlargement* in every direction—and so great its elongation in one case, as to reach down to the spine, or edge of the right ilium, have been observed.

Preternatural *induration*; and *discolouration*. Its substance studded with various tubercles of different sizes, of different degrees of hardness, and of different colours.

With considerable ulceration of the inferior and posterior, or concave part of the great lobe, that apparently had lain on, or covered the right kidney, which had been so completely wasted, or obliterated, by disease, as not to be traced by the gentlemen who inspected the subject. In this case a considerable quantity of adhesive coagulum cemented the parts so firmly as not to admit of separation without laceration. Besides, a considerable quantity of fluid blood was found about the region of the right kidney; which being suddenly poured out of some considerable vessel, perhaps the right emulgent artery, occasioned his *sudden death*.

Besides these morbid appearances I have seen frequently adhesions of the gall-bladder and ducts; and also gall-stones in them.

The liver has also been found here to be in a schirrous state; and adhering so firmly to the

contiguous parts that it could not be separated, I say, without lacerating its substance.

The symptoms of an inflamed liver depend much upon the part thereof that is inflamed. When the inflammation occupies the superior parts thereof, near to the midriff, especially the convex part, they resemble those of pleuritis, and require the very same sort of treatment.

When the inflammation is deeply seated in its substance, pain is felt by the patient in the right shoulder, and he lies most easily on the side affected, with an icteric appearance of the eyes and skin. This inflammation, being rather of a chronic, than of an active species, is but seldom violent or alarming, and is perhaps the more dangerous; because, unless it is prevented and subdued, suppuration will ensue. From its commencement, therefore, until its termination, it goes on without interruption, accompanied with dry cough—with hiccup sometimes, and sometimes vomiting.

Antiphlogistics, deobstruents, purgatives, diuretics, and diaphoretics, and at last tonics are required to effect the cure.

But besides hepatitis and the various affections I have mentioned, with which the liver is found here to be subject to, I may venture to assert that, although I have not inspected every morbid subject whose liver has been diseased, and the principal cause of the patient's death, every affec-

tion to which it is known to be incident does occur here. And that this viscus is perhaps, except the lungs, more frequently found in a morbid state than any of the other viscera in the thorax or abdomen.

From obstructions of the liver generally proceed dropsy, and icterus always ; and sometimes vomiting and purging of blood, which may be termed hepatic diarrhœa : but whether from the stomach or the liver, sometimes is very difficult to ascertain. When hepatic affection has preceded the vomiting and purging of blood, there is reason to believe it is from the liver. On the other hand, when it is known that the stomach has been in a morbid state before the blood is brought up in a grumous state, it is to be inferred that these discharges proceed from the vessels of the stomach. Hæmoptoe may also happen from wounded blood vessels of the mouth, throat, or œsophagus, or from external injuries. Hæmoptoe from the lungs differs so widely from both, that the experienced practitioner is at no loss to distinguish them. Cachexia also, often proceeds from obstructions of the liver, and fatally undermines the constitution, a consequence which is not surprising when the physiology of this important viscus is considered.

The intestinal canal is also variously affected, and being so intimately connected with the stomach, liver, pancreas, spleen and mesentery,

it often, if not always, suffers by sympathy, from their morbid affections. Its most common affections are, however, either obstructions which terminate sometimes in enteritis, and mortification, though rarely; or in Diarrhœa. Dysentery very seldom happens, but chronic diarrhœa is frequently met with, especially amongst old East and West India pensioners, as has been already noticed, and it is extremely difficult to cure.

## SECTION VI.

### *Nephritic Affections*

Are also frequent here in every different species; between violent nephritis and the minutest chronic affections, between the smallest gravel, and calculi so large as to completely obstruct and lacerate one of the ureters. In a word, I may safely say, that all the diseases to which the human kidney is subject, occur here, and are productive of inexpressible anguish to the suffering patients, for which we have found no specific remedy; being in the dark as to the morbid state of the kidney, and not having been consulted when it first becomes diseased.

On inspecting a female subject, aged about 45, in her climax—a very intemperate liver—after menorrhagia, that was followed by great pains

and tumefaction of the right side; with loss of appetite, constipation of the bowels, and thirst, the right kidney was found dropsical; and in a cyst was contained a very considerable quantity of water.

I have observed various other morbid appearances of the kidneys, (besides the remarkable one mentioned in page 520, vol. iv.). Their substance preternaturally enlarged; preternaturally soft; containing calculi in their pelves.

The spleen and pancreas, I have also frequently seen in so soft and morbid a state, as not to bear examination; and the pancreas to be totally schirrous in some cases, and in others, partly so.

## *Cystitis*

Seldom happens, but the diseases of the bladder are very common and very numerous, of which the following are the most prominent and alarming.

Bloody urine, under which the patient sinks sooner or later.

Suppression of urine from various causes, which sometimes induces paralysis of the bladder. In some of which cases the puncture with a trocar above the pubes has succeeded very well in this infirmary.

Inflammation of the penis and scrotum, in old men, independent of syphilis,—sometimes occasions not only suppression of urine, but terminates in sphacelus and death.

Sometimes the urine is obstructed by a diseased prostrate gland, sometimes by calculi from the kidneys in the bladder. Of stone in the bladder I have never met with an instance on inspecting the dead subject; although I have had patients in the infirmary who had symptoms of stone. But such patients not having died under my care, nor having been sounded, were not inspected after death. Not having met with an instance of stone in the bladder, furnishes a proof that the stone is a disease to which seamen are but seldom subject.

The urinary organs of our pensioners are subject, I have no doubt, to various other affections. One other, and a frequent affection, I ought to have mentioned, viz. purulent urine, cases of which occur, and some of them have been cured, but the disease has again returned.

Not having had an opportunity to inspect the bodies of the patients that have died under this affection, I am unable to state the appearances of their urinary organs, whether the discharge was from an ulcer or from an inflamed surface; whether it was purulent, or only in part so mixed with mucus.

## SECTION VII.

### *Worms.*

The different species of ascaris, rotunda, and tænia, occur amongst our pensioners and boys, though seldom. Calomel, a bitter purgative, and ol. ricin. carried tænia off.

One of our pensioners repeatedly discharged *per anum*, and collected a matter of the *sebaceous* kind, which had the appearance of a yellow bees wax and suet mixed, in pretty large pieces, resembling small pieces of manna. It was inflammable, and very soon consumed in the fire.

## SECTION VIII.

### *Adhesion.*

Adhesion of the different viscera within the cavity of the abdomen, are very common appearances on inspection. See vol. iv. of the Author. A very remarkable case of extravasated blood in the abdomen, is therein related. Page 268.

## SECTION IX.

### *Dropsy.*

Dropsy, considered pathologically, wherever situated, i. e. whether in the head, in the thorax, in the abdomen, or in the adipose membrane, is merely symptomatic; and, consequently, proceeds from some antecedent, or existing, topical or general morbid affection. From some individual viscus, or some viscera being obstructed; from a redundancy of lymph being poured out of the exhalent vessels, that may be in a relaxed state; or from inaction and morbid relaxation of the absorbents; and perhaps from a combination of all these causes. The part of the system affected with dropsy is marked by the name of the disease —as anasarca, ascites, hydro-thorax, hydrocephalus, hydrops ovarij, hydrops renalis, hydrocele, &c. Nosologists, however, notice it as a disease of Class Cachexia and Order Inutmescentia.

Dropsy in this hospital is too often a consequence of obstructed viscera, which have been formerly injured, more frequently by intemperance than by any other cause.

Wherever dropsy is situated, or from whatever cause it has originated, in forming the indication to cure, and while endeavouring to effect

the cure of the patient, neither the situation of the disease, the age and strength of the patient, nor, I say, the original cause of the disease, are to be overlooked, nor lost sight of. So that, while deobstruent purgatives and diuretics are administering with success, care must be taken to support the general strength with roborants, or tonics, and wine, if the pulse admits thereof.

Though dropsy very commonly appears amongst our pensioners in some degree, yet *ascites* rarely occurs by itself, without other symptoms of general dropsy; I therefore classed it with the common affections of the system without pyrexia, under the general term dropsy.

Many of our pensioners have been cured of dropsy; but sooner or later numbers of those who have been cured, bring on, again and again, relapses by their intemperance, which in the end destroys them. In cases of ascites, however, proceeding from, or accompanied with a diseased liver, or other morbid viscera, an effectual cure is hardly to be expected. But palliation is obtained in most cases. Tapping has been so long procrastinated by the pensioners that I have not seen it successful here.

Dropsy rarely occurs amongst the nurses though in general many are not more temperate than the pensioners.

## SECTION X.

### *On the Venereal Disease, or Syphilis.*

Respecting venereal affection, it was never my intention to treat, because this disease is neither endemic nor epidemic, but contracted in all countries and seasons, either by immediate contact with the diseased; or by matter discharged from an infected person being inserted into the wounds or sores of sound people; or by the matter being applied to, or rubbed upon some very fine, or delicate part of a sound person; for no one, I believe, doubts, that by one or other of these ways, healthy people in all places, of every age and sex, may be infected, though not with equal readiness at all times. And indeed because so much has been already said on the subject by various authors, especially by Mr. John Hunter, and the method of curing it by hydrargyrus being every where known, it would be needless to treat of it. Besides, all recent cases admitted into the infirmary come immediately under the care of the surgeon. Though it frequently happens that cases of confirmed syphilis come under the physician's care, and are cured by him: yet it is an optional matter on his part. Numbers in the last stage of syphilitic consumption, with ulcerated bones, are admitted into the hospital, and soon die; but many very bad cases are recovered by alterative and cordial tonics. As coadjutants to hydrargyrus

preparations of sarsaparilla, and decoctions of the woods, are added occasionally. Bougies of various compositions, in the cases of old sufferers, frequently become necessary in the cure to remove strictures.

Some practitioners, with great confidence, recommended compositions to prevent syphilitic infection from libidinous contact; but of such compositions, and of their effects, I acknowledge myself ignorant.

Formerly, seamen on board of his majesty's ships were so desirous to save their fifteen shillings, which then they paid to the surgeon for their cure, that by taking medicines of each others prescription, and from quacks, and by putting off time, three cases out of every four who complained on board the Rainbow were confirmed lues venerea. But, in good habits of body, after having given a single purge (for it is seldom necessary to take away blood), if the patient complained in proper time, and was afterwards temperate in living, I very seldom failed in curing a recent gonorrhœa with the following pill, administered every night, without the assistance of any thing else than demulcent drink, and abstinence from salt meat: hydrargyri submurias, rad: jalap pulv. ā gr. ii. in the form of a pill.

In hot climates it will be proper to administer hydrargyrus with the utmost caution, by uniting camphor therewith, when given as an altera-

tive; or to administer camphor internally when the ointment is rubbed in, to prevent salivation. I have known a salivation brought on in a hot climate, when I was certain the patient had only taken in all five grains of calomel, in two days; —two grains and a half each of the days.

## SECTION XI.

### *On the Affections of the Extremities.*

Unless these affections require chirurgical aid, in the way of operations or of applications, they come under the care of the physician; and even then, in cases of erysipelas, of scurvy, or of gangrene, he is frequently consulted. The most frequent of these affections, however, with which our pensioners are afflicted, are gout and rheumatism, both acute and chronic, which have already been spoken of in chap. iii. and in chap. xi. section vi. Sometimes indeed the lower extremities are much swelled, when no other dropsical appearance is evident. But this affection is generally accompanied by some other symptoms of dropsy, or of scurvy, and in either of these cases it comes under the physician's care, and is treated either as dropsy or scurvy, as it may happen to be symptomatic of. If the former with deobstruents and tonics; and if the latter, with lemon juice and with roborants.

END OF PART III.

# PART IV.

## CHAP. I.

### THE RECAPITULATION OF VOL. I. OF THE SYNOPSIS.

In the First Part of the Synopsis the Author has laid before the reader General Remarks, wherein he states the causes which he thinks have retarded the advancement of the science of Medicine, with those that, in his opinion, would tend to improve it. He then sets forth the fleeting theories on fever—and, in opposition thereto, his own opinions on the subject, founded and deduced from accurate observation and experience for many years, in various regions and climates. On the disease peculiar to hot climates, vulgarly and very improperly called *Yellow Fever*, which attacks strangers—particularly those who are intemperate, young, and of full habits, I judged it of great importance to caution the inexperienced practitioner from being led away with the false theory of writers concerning it; by bringing before him the testimony of many able practitioners, who have lamented the direful effects of the practice built there-

on. At the same time stating, on the opinion of those able practitioners—as well as on their experience, what fully confirmed me in the idea which I have always entertained concerning that fatal disease, *that it is not fever à priore,* but the epidemic of hot climates—arising from an universal inflammatory diathesis which is manifest at once in many parts of the system; and thereby puzzles, or even confounds young practitioners —dissimilar to inflammatory diathesis of cold climates, which seldom appears in more places of the system than one at a time—as in pleurisy. And that if, in the treatment of *this* disease, in a cold climate, the antiphlogistic treatment is required to be exerted as speedily as possible; how much more must it be absolutely necessary in an inflammatory disease which extends over the whole system—and will soon terminate in a general sphacelus, if it is not prevented *in limine?* Therefore, the more early and freely the antiphlogistic treatment is put in practice, the more successful this practice will be. And it may be some encouragement to the young professional person to follow it up—that no practice can be more unsuccessful than the calomel practice has been, except knocking his patients on the head. This is not my opinion only, but the opinion of professional men of respectability, I say, who have witnessed the fatal effects of the calomel practice, as I have already observed.

After a few other remarks and quotations on this important subject the Author proceeds in his synopsis on the theoretic doctrines concerning Fever—which he excuses himself from assenting to—on the ground of finding their inefficiency when applied to practice, and on comparing its success with the success of his own tonic practice.

After which (in Part II.) he states a Synopsis of his own observations and experimental practice, in various regions, climates, and seasons, concerning remittent fever.

He then proceeds to a brief statement of his Remarks on Febrile Infection—from thence to the description of the appearances of Fever in various parts and in various situations in three quarters of the world—before his general description of Fever, which is followed up with important remarks and prognostics. To which are added reflections on the management of Fever, with particular directions for that purpose, after some brief critical remarks on the means employed therein. Having afterwards adverted to the important circumstances connected with the management of Fever, a number of very interesting cases that happened in very different situations and countries, to illustrate the Author's doctrines, are briefly inserted.

To which are added, directions for preventing Fever: and for preparing several modes or forms of cinchona to be administered for that purpose,

viz. In wine, various ways; In a state of fermentation; and In different forms of bread, particularly gingerbread, which, on experiment, is found to cure Fever—and to be retained on the stomach when other forms, wherein cinchona has been administered, was not retained. Several reports from professional gentlemen, confirming the testimony of the efficacy of the gingerbread in curing Fever, are likewise stated, which concludes the first volume, containing no other subject than the important one of Fever, excepting the few remarks on *Yellow Fever, improperly so called.*

THE importance of this subject to mankind can be appreciated only by enlightened and enlarged minds, as its bounds extend to the whole of mankind's inhabited space. On this very important subject, however, I am not conscious of having omitted in the synopsis any feature of Fever in any climate or situation that I have visited, which is necessary to enable the young professional reader to distinguish it from other diseases, or to enable him to manage it successfully, and with safety to himself. And he may be assured, that the more tranquil he appears amongst his patients, and the more firmness he shews in his practice—the more confidence he will find they place in it, and consequently that the more successful it will be.

One circumstance, inseparably connected with fever, should ever be impressed on the minds of young practitioners—which is, that it very frequently happens to appear before they are prepared for the management and treatment of the sick. On the first manning of ships, or on the first embarkation of troops, especially should the weather be so bad as not to admit of opening the ports, and of the new-raised men getting upon deck to air themselves and their clothes; and to get the ship cleaned, or in wet weather swabbing, scraping, sweeping, fumigating, and burning fires should be daily attended to; and, in dry moderate weather, by getting the men's hammacoes and bedding up; and by airing a division of the men's clothes and bedclothes daily; and by getting all the ports haled up, and so on. These regulations are attended to at sea when the ships' companies are regulated; but the greatest necessity for this discipline, is, when the ship is first filled and manned. In the mean time the slightest illness or complaint of *ailing* among the men is to be duly attended to. The questions, to which the answers (as stated in the various descriptions of fever in the Synopsis) will tend to inform the practitioner of the patient's illness, are to be put in a manner perfectly intelligible to him, if possible. And having once obtained information of his case—a moment should not be lost in relieving him—nor in separating him from

the well men—should the practitioner be satisfied that the disease is fever. On such an occasion a judicious administration of the Peruvian bark gingerbread, or of the Peruvian bark in a state of fermentation, or of the Peruvian bark powder mixed in wine, ale, or porter, would be attended with the happiest effects. Although such a mode of prevention might be productive of some expense, yet in the end it would be found not only œconomical, but highly political, as being the means of preserving the lives of many, as it would prevent fever from spreading among the men, or troops. But of all the modes of administering the Peruvian bark as a preventive, the gingerbread form will be found the most prompt for immediate use, the most commodious for dispensing, and the most œconomical for government—besides being palatable to the sick, and agreeable to their stomachs, as all who have made trial of it agree on. The gingerbread form, in a word, is perfectly commodious for being instantly administered on the *most extensive scale*—which is an advantage so highly important as to give it a decided preference to all other forms of administering the Peruvian bark on an expedition, even if it possessed no other superior property.

In Vol. II. Part III. of the preceding Synopsis, I have related the appearances of scurvy (of Cullen, class iii. order ii. genera 79,) as they occurred under the Author's observation on board the Prince of

Orange in 1761, in the the Bay or Channel service, with the method in which it was treated. This brief history of scurvy, the young practitioner will derive assistance from, whenever he happens to be in a situation, and practising under such circumstances as give rise to the disease. In such a situation as I have mentioned the methods pointed out then, and again in 1780, on board the Edgar, (see vol. i. and ii.)—when lemons and oranges, or their juice, cannot be obtained, will be found sufficient to resist the direful effects of scurvy, though perhaps not to cure it perfectly until the men can be landed. But the mode of sea victualling, especially for the sick in the navy, is now so much improved, to what it was at either of the periods, 1761 or 1780, that scurvy very seldom makes its appearance in his Majesty's ships—and if it should appear, I am satisfied that the Peruvian bark gingerbread will be found a powerful antiscorbutic—and perhaps in efficacy the next to fresh fruits and their juice, when these cannot be obtained. If, fortunately, I am supported in this idea by future experience, it will contribute to enhance the merit of the invention of the Peruvian bark gingerbread much more than it first struck me. How far, upon experiments, it is found to be an antiscorbutic, shall be made known, correctly, to the public.

I have then succinctly and clearly stated the ap-

pearances of the dysentery in different situations, from my own observation and experience. And although these histories of dysentery are so briefly stated, yet are the descriptions more full than any I have met with—as they contain, or notice, symptoms not before mentioned in authors; which a very old medical officer in the public service acknowledged, and told me that these symptoms had also occurred to him in his practice in a hot climate.—See vol. i. of the Observations, p. 458,—and vol. ii. from page 228 to 232, and in other parts of the Observations,—where remarks on the disease and method of managing it are pointed out, and directions to the young practitioner to manage it—but more fully from page 6 to page 22 of this second volume.

In as much, therefore, as dysentery is the most loathsome of all the diseases to which seamen and soldiers are subject, the more necessity, it is obvious, there is for every exertion to check it on its first appearance on board of ship or in a camp. And the more diligently it is attended to the more the practitioner will be convinced, that *à priore* it is seldom otherwise than a topical affection—and that the febrile state thereby excited is purely symptomatic. Nevertheless, when the symptoms at the commencement of the patient's illness, were so violent as to shew active inflammation—in such a case it would be right to take away some blood, and as speedily as possible

to subdue the inflammation by every means suitable for that purpose; and then to pursue the method of cure I have pointed out.

After the Synopsis of the dysentery, to which I paid great occasional attention, in my observations, follows brief remarks, with a theoretic pathology of the acute rheumatism—but as to what its essential properties are, or depend on, no attempt is made to explain them, more than of any other disease. But here it is not improper to remark, that the affinity between remittent fever and acute rheumatism appear to be much stronger than between the latter and the gout. Although the rheumatism, without being infectious, partakes more of the sthenic diathesis, as it bears the letting of blood far better than remittent fever, yet they both require purging to be repeated, with sudorifics and the liberal administration of cinchona, to effect a cure.

Remarks on pneumonia, or the inflammatory affections of the thoracic viscera, including pleuritis, follow in the Synopsis, as being those to which seamen and soldiers are most subject; and consequently call upon professional men for their exertion, and most serious as well as most early attention.

Exanthemata are then noticed, as being important affections amongst seamen and soldiers, although not very frequent—and therefore require early careful management to prevent the

infection from spreading. The consideration of which should employ the thoughts of young professional men when the performance of their essential duties will admit.

Among the pensioners erysipilas is the most frequent, and amongst the boys scarlatina ;—but on board ship, and in the army, variolæ and morbilli, which are extremely infectious, and require every possible precaution to prevent any intercourse between the patients and the well people—especially when scarlatina cynanchica is discovered. Because it is by no means confined to young or old : and the same subject is liable to be affected with it at different periods, as well as to infect others ; a circumstance which renders that disease more dangerous, and the more deserving of attention.

In the next chapter are a few remarks on ulcer, not merely because ulcer is *very* common amongst seamen and soldiers, but because I apprehend that it often follows erysipilas, that has been neglected, or proceeds from a scorbutic habit—without either an erysipilatous, or a scorbutic state of the system, ulcer cannot possibly become, what I have been, to my astonishment, told it has become, a general disease amongst ships' companies. —When that unfortunately happens to be the case any where, the attention of the professional officers must be employed, to amend, as far as it is practicable in the present situation, the *general*

*health* of the people, by pointing out to his superior officers what alteration in their diet and drink, and exercise should be adopted, and by administering such preventives as are in his own power. While he is employed at the same time in using the most effectual means to cure his patients—all which must be of the roborant, the tonic, and antiscorbutic classes.

With this head the Synopsis of those diseases, incident to seamen and soldiers, while in actual employ, ends. Not that, it is to be supposed, they are not liable to every other disease incident to natives of every climate—but that those diseases, which have been noticed, occur most commonly amongst them; and therefore claim the greatest attention of the young professional gentlemen. And in whatever light they view the advantages of the education they now have, they ought never to be unmindful that they are, even in this respect, highly indebted to the observations of their predecessors—whence they enjoy those advantages unknown before their appearance. Advantages not inferior to the correct log books; charts, or appearances of different lands; with latitudes and longitudes taken from observation on the spot.

In the next chapter the Synopsis of the diseases incident to seamen retired from actual service commences. These pathological remarks, although of apparent less utility, to them who are

employed on actual service, than the preceding diseases, still they are of no less importance to society. Because they comprehend the diseases peculiar to old age. For, notwithstanding intemperance hurries many of the old pensioners into such diseases, as destroy them; still most of the diseases into which they so precipitate themselves, are of a similar nature to such diseases as carry off (comparatively speaking) temperate men, who live to a more advanced period of life. For, as I have already noticed in the Observations, vol. iv. of the numbers I have seen die, but one man, *John Moore*, died of old age. In a word, intemperance, besides all the other calamities which it induces to human nature, adds the *summum morborum vel malorum* precipitancy into, and fatal period of, old age, as will appear in the subsequent dismal catalogue of the diseases accompanying it. But on the present subject to the effects of intemperance, in many cases, must be added also those induced by wounds, accidents, or former illnesses. These circumstances, in considering longevity and the diseases peculiar to old age, ought, strictly speaking, to be distinguished as far as it is practicable. A task, which the pathological biographist will find extremely difficult —as may be seen in vol. iv. and in the Preliminary Remarks, chap. x. of this volume.

THE first section of chap. xi. is on sudden deaths. Of which many may be truly said to

have been occasioned by intemperance. Which sometimes, however, are casual here, and not to be accounted for more satisfactorily than those which occur in other situations.

Many of the pensioners are also admitted in a dying state, and some even *in articulo mortis.* Indeed instances have happened of some men dying while they were bringing them to the infirmary —so that it cannot be ascertained of what disease they really died—nor is it possible, I believe, to guard against such unpleasant incidents occurring amongst such thoughtless men as the majority of old pensioners are.

Many others are admitted in a state of extreme debility from different quarters; and for very different causes, as already meneioned in p. 61 of this vol. of the Synopsis.

Again the variety of paralytic patients is almost incredible—but of those the diseases of the greatest number is hemiplegia; and of which none recover perfectly. Besides these paralytic patients many cripples are admitted in consequence of wounds and accidents—and of whom numbers recover by care and proper means. It is in such cases that the air pump vapour bath has been found most serviceable; with manual friction, which I prefer to brushes or flannel. And the liniment to which I have given the preference is the oleum animale (neat feet oil)—although other liniments may be occasionally made use of in

such cases. But my principal dependence is on the friction, which must necessarily be employed in using the liniments.

To these I have, in the following section, added a very few remarks on gout: and in section vi.

I have stated briefly my thoughts on chronic rheumatism, which shew, after long experience, the difficulty, and the reason of the difficulty, in distinguishing or discriminating between it and other affections, particularly syphilis, or chronic gout, and scurvy, with the methods to manage each of these affections—well deserving the most serious attention of young medical officers of the navy and army.

Struma, or scrophula, is the next disease on which I have made some remarks; both on the history of the disease and on the *modus medendi.* Numbers of dissertations have been written by different authors; but the general and most approved method of treatment is inserted in this Synopsis.

I have then glanced at atrophy, which is an affection not uncommon in this hospital, though many, if not most, of these cases, are admitted here from various places; and when accompanied with dropsy, or a dropsical habit—especially if the patient is old—admits rarely of a cure.

Hypochondriasis, though one would not look for this disease among seamen, or their wives, is

an affection not uncommon in this hospital: and requires the utmost attention at its commencement lest it should become habitual, and lead to melancholy and despair, which I have seen in several instances.

Cachexy is another affection to which our pensioners are subject; and are frequently admitted with. It is distinguished from hypochondriasis in the Synopsis. But neither of the two will be known or distinguished by the inexperienced.

Intemperance. I have in various parts of my observations reprobated with much asperity this vice; and the more it is considered in a theological, social, or political light, the more detestable and reprehensible it will appear. Having thus animadverted so fully and freely on the subject it would be needless to resume it.

In chap. xii. I have commenced the morbid affections of the head; and in the first section have only noticed them in the manner they were before arranged in the Synopsis.

THAT morbid affection of the head, of the first and greatest importance is, undoubtedly apoplexy. When the young practitioner is called in to a patient in this state, it will be fortunate if he promptly hits on the case, and applies, or administers instant relief—before death terminates the case. And, happy therefore will it be for the practitioner, as well as for the patient, if his previous know-

ledge of the patient, and all other circumstances, should assist him therein. No cause of apoplexy will perhaps be so puzzling or perplexing to him as gouty metastasis, an instance of which I have seen in a *young* subject—wherein the morbific matter, or cause, changed its situation from general affection to the stomach; from the stomach to the lungs, with dyspnœa; from the lungs to the head, under the appearance of apoplexy; whence, by copious bleeding,—arteriotomy,—with hot bathing, sinapesms and other means, the patient was relieved *pro tempore*—but the morbific matter, or gouty hydra, after about forty-eight hours cessation, assumed the appearance of violent pleurisy, for which blood was taken from him three successive afternoons, when the paroxysm returned with violence. Again it seized the stomach and bowels under the appearance of cholera morbus: while the head was sometimes complained of, and sometimes the feet were affected with pain—and he soon after sunk under debility.

I have only mentioned this uncommon case of gouty metastasis as an instance of the difficulty in which a young practitioner may find himself placed in practice; and also of the necessity there is for his learning, if possible, the cause of the disease for his guide to the proper means of relieving the patient.

In apoplexy, if the patient is young, strong, and is known to be passionate, or to be intem-

perate, the sooner blood is taken away freely the better. But most of such cases as occur here will be safely relieved by repeated cupping, or by leeches, applied as soon and as near to the head as possible—or in some cases by opening the jugular veins.—See vol. iv. and also p. 81, 82, 83, of this volume.

I have then mentioned the affections of vertigo and head-ach—which frequently occur amongst our pensioners—which, if not prevented, would soon lead to apoplexy; unless they happen to proceed from syphilis. See p. 85 of this vol. And afterwards I have briefly noticed phrenitis: which I have met with in private practice several times, but neither in this hospital nor on board ship, for which copious bleeding is the best remedy.

I have glanced only at the affections of the eyes, nose, and ears; as the reader may see in the pages following 85 of this volume, and have also only made a brief remark on aphthæ.

The diseases of the throat are also briefly remarked. After these, affections of the face, particularly erysipilas, is adverted to, which very frequently happens, and terminates favourably, under a roborant and tonic plan.

After thus briefly mentioning the affections of the head, I begin those of the thoracic viscera with cough, which I consider chiefly as a symptomatic affection, and not entitled to any specific

rank in nosology.—The *pertussis*, being an infectious disease, most certainly.—Besides, having dwelt so fully on cough in the Synopsis, I think it needless to entertain the reader with repetitions.—Notwithstanding nosologists have arranged it as a species or genus.—

In the Synopsis peripneumonia notha follows cough; and is to old pensioners a most serious affliction, being productive to them of consequences no less serious than pleuritis to young subjects. Nor is this surprising—as I assign to both one and the same situation within the thorax—and consider as the only difference between them, that the inflammation, is more active and violent, in the young subject, than it is in the old pensioner. For I differ with writers in opinion as to the situation, or seat of peripneumonia notha: and am satisfied that it is within the thorax, and not in the intercostal muscles, as is commonly thought—and which I consider only rheumatic affection; although these muscles may be affected in pleuritis no doubt, and in peripneumonia notha, from sympathy, and sometimes from the extent of the inflammation, while the principal affection is truly internal.

Phthisis follows bastard peripneumony in the Synopsis; and is one of the diseases very often admitted into the infirmary from various quarters. The causes of this disease having been so frequent

in the navy, and sent here of late years, appear to be chiefly two, if the patients are to be credited, viz. Cough, or rather neglected colds; and neglected venereal infection; and both of these chiefly proceeding from their own neglect—and their braving both one and the other at their commencement—until it is too late: then they come here only to add to the number of deaths in this hospital.—For an hospital is, of all others, the most improper situation for phthisis. So fully indeed am I convinced in this opinion, after more than twenty years residence here, that I will venture to say, unless some new mode of treating phthisis is discovered, no person will be cured thereof in this hospital, or in any other hospital.

There are some symptoms accompanying phthisis, however, that seem peculiar to it. One is—notwithstanding the extreme emaciation of the general system, that the cutis or skin is not loose in any place, but seems to adhere as closely to every part of the subject as if it was braced on—as we see a pair of tight gloves, or other parts of tight dresses. Another is, the attitude which numbers of them find out, as the easiest for themselves to sleep in—for instance, in *a sitting* position, with their heads bent downwards between their knees; and some other symptoms.

Respecting asthma, which follows phthisis in the Synopsis, I have left nothing that I wish to

add on the subject. And the reader will easily conceive, that amongst our old pensioners it is a very common and afflicting, as well as a very dangerous, disease; and admits very seldom of radical cure. As the very same cause which induced it before will again and again induce it—even when the subject is apparently in good health, and does not expect it.

The remarks on the diseases of the viscera within the thorax terminate with carditis, which is an affection that never occurred to me—by itself—but in conjunction with other inflamed parts.

I have then proceeded to the affections of the abdominal viscera—beginning with peritonitis (chap. xiv.) and ending with cystitis. But, besides the inflammatory affections there mentioned, several other and very important affections are noticed afterwards, e. g. Hæmaturia, purulent urine, and schirrus in recto; and others also of less importance.

Some of the chronic affections are undoubtedly of serious consequence—especially those of the stomach and liver, which lead to dropsy or other dangerous diseases, that carry off numbers of our pensioners. But to have considered and enlarged upon them in a manner commensurate with their importance, would have formed numbers of volumes, and carried me beyond the limits of a

Synopsis. I must therefore refer the reader to systematic writers on the practice of physic for a more minute history of chronic diseases.

To assist the young practitioner I shall now insert the *Formulæ*, numerically, as they are commonly referred to in the Synopsis; to which it was my intention to have added further reports of the efficacy of the Peruvian-bark gingerbread, but on more mature consideration have deferred doing so, until I have obtained reports of its efficacy sufficient to establish its reputation in various quarters.

# THE FORMULÆ,

## REFERRED TO IN THE SYNOPSIS,

### ALPHABETICALLY ARRANGED.

No. I.

℞ Pulv. rad. ipecacuanhæ gr. i—x
Aq. simplic. ℥ iij—℥ iſs
M. fiat haustus emeticus

II.

℞ Pulv. rad. ipecacuanhæ gr. i—xv
Aquæ ferven. coch. i—iv
In vase clauso per minutas viginti macera, et cola, pro haustu emetico

III.

℞ Pulv. rad. ipecacuan. gr. i—x
Conserv. cynosbast. (P L confec. rosæ caninæ.)
Fiat bolus emeticus

IV.

℞ Vin. ipecacuan. ʒ j—℥ ſs
Pro haustu emetico ex quovis vehiculo

No. V.

℞ Antimon. tartarizat. gr. i—iv (olim. tartar. emet.)
Aquæ simp. ℥viij
Fiat emetica solutio;
Cujus cochlearia parva duo; vel cochleare unum largum, dimidia quaque hora, usque ad vomitionem æger vel ægra hauriat

VI.

℞ Sal. cathart. amar ℥iv. (P L magnesiæ sulphas.*)
Aq. fervent ℔ſs. fiat solutio.
Cochleare unum capiat, et dimidia quaque hora repetat, donec alvi bis terve respondeant

*Mistura Cathartica Chamœmel.*

℞ Aquæ distill. ℔i
Fol. senn. ℥ſs
Sal. cath. am. ℥ii (P L magnes. sulphas.)
Flor. chamœmel. m. i (P L anthemidis flores,)
Sem. coriand. contus ʒii coque paulisper et cola; adhibenda eodem modo ut No. VI.

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* Although the name of this medicine is given in the list of articles in the Materia Medica, and New Nomenclature of the last P. L.; yet they have not given the preparation itself; nor is it to be found in the general index to that book.

VII.

℞ Infusi sennæ simp. ℥fs—℥ii (P L infusum sennæ)
Natron. vitriol. ℥fs—℥ii (P L sodæ sulphas. olim. sal. cath. glaub.); vel
——— tartarizat. ℥fs—℥i (P L soda tartarizata, olim. sal. rupell.)
Mannæ ʒiii.—vi
Fiat haustus catharticus

VIII.

℞ Calomel gr. i—xii (P L hydrargyri submurias)
Conserv. rosar. (P L confectio rosæ gallicæ)
Fiat bolus purgans. vel
℞ Pilul. colocynth. C. gr. xv—ʒfs (P L ext. colcynth. comp.)
Calomel gr. i.—iv (P L hydrargyri submurias)
M. pro dose una

IX.

℞ Pulv. rhei.
Nitri. vitriolat.* ā ℈ i—ʒi (PL potassæ sulphas†)
Fiat pulvis catharticus vel

X.

℞ Pulv. rad. jalap
Sal. nitri ā gr. x—ʒi (P L potassæ nitras)

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* Olim. sal. polychrest.—The preparation of this salt is not given in the last new Lond. Phar. as in its medical effects and exhibition it agrees with

† Sulphate of potass, which is exhibited in its room.

Tinct. jalap ʒi—ſs
Aq. menth. pip. ℥ſs—℥ii m.
Pro haustu purganti vel

XI.

℞ Gummi guaiac. gr. x—ʒſs
Pil. gamboge c. * vel
—— aloes cum myrrh gr. x—℈i
Syr. de cort. aurant. ʒi—ʒii (P L. syr. aurantii)
Fiat bolus catharticus vel

XII.

℞ Tinct. sennæ ʒii—℥i vel
——— rhei vel
Vin. rhei ℥ſs—℥ii
Pro haustu aperiente

XIII.

℞ Solutionis (No. VI.) ℥ii
Pulv. rad. ipecacuanhæ gr. v—x m.
Fiat emetico—catharticum

XIV.

℞ Haustus (No. VII.) vel
Tincturæ sennæ ℥ſs—℥ii
Vini ipecacuanhæ ʒiii—℥ſs m.
Pro emetico—cathartico

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* Pil. aromat. exploded, and no analogous preparation in either the Lond. Dub. or Edin. Pharmacopœias.

XV.

℞ Solutionis (No. V.) ℥ſs—℥iſs
Spirit. cinnam. ʒi—vi (olim. aq. cinnam. spt.)
Tinct. opii. gr. vii—xl. (olim. tinct. thebaic.)
M. fiat haustus sudorificus

XVI.

℞ Aquæ ammoniæ acetatæ ʒi—ʒvi (P L liquor ammonæ acetatis olim. sp. mindereri)
Syrupi papaver alb. ʒi—xvi
Sp. lav. comp. ʒſs—ʒii
Aq. cinnamon ℥i m.
Pro haustu diaphoretico ; et anodyn.

XVII.

℞ Spirit. æther nitrici ʒſs—ʒii (olim. spt. nitri dulc.)
Liquor vol. c. c. ʒſs—ʒii (olim. spt. c. cervi.*)
Tinctur. opii ā gtt. x.—xl
Vini alb. ʒii—℥ii m.
Fiat haustus sudorificus stimulaus

XVIII.

℞ Sal. corn. cerv. † gr. i—℈i (P L ammoniæ carbonas)

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* Exploded ; as, in its medical effects and exhibition, it agrees with the liquor ammoniæ carbonatis of the new Lond. Pharmacopœia.

† Exploded for the same reason as the liquor vol. c. c. being the same salt as the ammoniæ carbonas of the present Pharmacopœia.

Opii pur. gr. ½—ad. gr. ii.
Conserv. cynosbast. q. s. (P L con. rosæ caninæ.)
Fiat bolus sudorificus

XIX.

℞ Pulv. cort. peruv. op. ℥ii (P L cinchonæ lancifoliæ)
Aq. simplic. ℔ifs fiat mistura
Dosis ʒiii—℥ii

XX.

℞ Pulv. cort. peruv. opt. ℥iii (P L cinchon. lancifoliæ)
Aq. frigidæ (vel ferventis. ut visum) ℥xxx
Macera, per horas duas, in vase clauso, mistura subinde agitata; dein cola
Dosis ʒii—℥ii

XXI.

℞ Pulv. cort. peruv. ℥iii (P L cinchon. lancifoliæ)
Aq. simp. ℔iifs
Coque, in vase clanso, per minutas deum, et cola
Dosis ʒii—℥ii et
Dosi primæ No. XIX. XX. vel XXImi
(Si visum sit,) unam vel plures medicinarum sequentium adde
Sal. cathart. amar. ℥fs—℥i (P L magnesiæ sulphes)

Natron. preparat. gr. x—ʒvi (P L sodæ subcarbonas)
——— tartarizat. ʒii— ℥i (P L sodæ tartarizat.)
——— Vitriolat. ʒii—℥i (P L sodæ sulphas)
Kali tartarizat. ʒii—℥i (P L potass. tartras, olim. tart. solubil)
Nitri vitriolat. ʒi—ʒii (P L potass. sulphas)
Mannæ ℥ſs—℥ii
Pulv. rhæi gr. x—ʒi
—— jalap. gr. x—ʒi
Sp. æther nitrici ʒi—ʒii
——— vitriolici comp. ʒi—ʒii (PL spt. ætheris comp. olim. liq. Hoffman et spt. vit. dulc.)
Sp. ammoniæ comp. ʒi—ʒii (P L spt. ammoniæ aromat. olim. spt. volatil. aromat.)
Sp. ætherii gr. x—xxx (P L. spt. ammon. aromat. olim. spt. volatil. aromat.)
—— ætherii gr. x—xxx (————————)
Tinctur. opii gr. xx—ʒiſs
Pulv. ipecac. comp. gr. x—℈ii (olim. pulv. Doveri)
Antimonii tartarizat. gr. ¼—ad. gr. iv (olim. tart. emet.)
Pulv. contrayerva gr. x—xxx
—— cort. cascarill gr. x—ʒi
—— sal. ammon. crud. gr. v—ʒſs (P L ammoniæ murias)
—— rad. calumb. gr. x—ʒi
—— cort. st. Luciæ gr. x—xxx
—— rad. serpentar, gr. x—ʒſs

Elix. vitriol.* ; vel spirit. sal. (acidum muriaticum) ; vel acid. nitric ad gratum saporem

XXII.

℞ Pulv. cort. peruv. ℥ii (P L cinchon. lancifoliæ)
Syrup croci q. s.
Fiat electuarium
Dosis cochleare parvum ;
Cui, ut visum, unam vel plures
Medcinarum sequentium adde sing. dos.
Rasur. ferri recent. ℈ſs—ʒiſs
Rubigo ferri, dosis gr. vi—ʒſs (P L ferri carbonas)
Ferri vitriolat gr. i—gr. vi (P L ferri sulphas olim .sal. martis)
Confect. opiat. gr. x—ʒſs
Pulv. aromat. gr. v—gr. x (P L cinnamomi compositus)

XXIII.

℞ Pulv. cort. peruv. gr. v—ʒii (cinchon. lancifoliæ)
Aq. cinnamomi
Vini alb. ā ʒii—℥i
Fiat haustus

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* The elix. vitriol. acid. and the elix. vitr. aromat. have been omitted from the present and last editions of the Lond. Phar. and the acid. sulphuric. dilut. is the only form in which that medicine is retained.

XXIV.

℞ Pulv. cort. peruv. gr. v—ʒii (cinchon. lancifol.)
Vini alb. ʒii—℥ii
M. pro haustus

XXV.

℞ Pulv. cort. peruv. ℥ii (cinchon. lancifol.)
Spt. arden. ℥ii—℥vi
Spt. lavend. comp. ʒii
Aq. menth. ℥xviii—xxii
Fiat mistura;
Dosis coch. i—cochlear. iv.

XXVI.

℞ Pulv. cort. peruv. gr. x—ʒſs (cinchon. lancifol).
Sal. corn. cervi. v. gr. ii—xx (ammoniæ carbonas)
Opii pur gr. ſs—ii
Syr. crori
Fiat bolus
Cui pro re nata, adde, ut visum
Camphor. gr. iii ad. ℈ſs
Mosch. gr. ii — xx
Alumin. gr. v — ʒſs
Myrrh gr. x — ʒi
Gum Guaiac ʒſs — ʒi

XXVII.

℞ Tinctur. opii gtt. v—xl
Vin. alb. ʒiii—℥iſs

Syr. croci ʒii
Fiat haustus

XXVIII.

℞ Tincturæ cort. peruv. comp. ʒi—vi (tinct. cinchon. comp.)
———— opii gtt. v—xl
Sp. lavend. comp. ʒi
Aq. menth. piperitid. ℥ſs—℥iſs
M. pro haustus nocrtuno

XXIX.

℞ Spirit. nucis moschat ʒi—℥ſs (spirit. myristicæ)
Tinct. cort. peruv. comp. ā ʒi—℥ſs (tinct. cinchon. comp.)
—— opii gtt. v—xl
Syr. croci ʒii
Aq. menth. ℥ſs—iſs
Fiat haustus

XXX

℞ Tinct. cinnamom ʒi—℥ſs
—— opii gtt. v—L
Hyosciam gtt. v—L
Aq. cinnamom ℥i—℥iv
M. pro haustu

XXXI.

℞ Kali ppt. gr. x—ʒſs (potassæ subcarbonas. olim. sal. absinth.)

Tinctur. opii gtt. v—L
Hyosciamus gtt. v—L
Aq. cinnamom ʒi—℥i
Fiat haustus; cui, ut visum, adde
Succi limon. recent. cochleare unum; pro haustu, in actu effervescentiæ deglutiendo

XXXII.

℞ Pulv. cort. peruv. ʒi—℥i (cinchon. lancifoliæ)
Juscul. vervecin. ℥ii—x
M. fiat clysma

XXXIII

℞ Pulv. cort. peruv. ℥ſs—℥iv
Vin. (vel
Spirit arden. vel
Acet. vel
Jusculi) q. s.
M. fiant cataplasmata

XXXIV.

℞ Pulv. cort. peruv. ℥i—iv (cinchon. lancifoliæ)
Aq. simp. (vel
Sp. arden. et aq. simp. ā ℔i—℔ii vel
Vini) ℔ii—iv
Coque, in vase clauso, per minutas decem pro folu; et coletur (si visum) decoctum

XXXV.

℞ Pulv. cort. peruv. ℥iv—xvi
Aquæ simp. cong. ii—viii

Coque (ut in No. XXXIV.) pro balneo
Decoctum coletur; et si visum addantur
Vini lb. i—iv vel
Spirit. arden. lb. ſs—lb. ii

XXXVI.

℞ Tinct. opii—vel
Hyosciam.
Spt. ætheris vitriol. comp. (spt. ætheris comp. olim. liqr. anodyn. Hoffman)
—— ammoniæ comp. ā gtt. v—L (spt. ammoniæ aromat.)
Tinctur. Cinnamom. ℥ſs—ʒiſs; vel
Haustus (No. XXI.), vel
Mistur. (No. XXII), ℥ſs—ʒii
M. pro haustu. sedativ et stimulante

XXXVII.

℞ Mistur. (No. XVI), vel
Infus. (No. XVII.), vel
Decoct. (No. XVIII.),
Aëre fixibili impregnetur, bis, terve, quaterve; et in phialis bene obturatis servetur
Dosis ʒſs—ʒii

XXXVIII.

℞ Pulv. cort. peruv. ʒii (cinchon. lancifoliæ)
Vini lb. iſs
Fiat mistma, aëre fixibili (ut No. XXXIV.) impregnata et eodem modo
Etiamque dosis idem ut No. XXXIV.

XXXIX.

℞ Infusi cort. (No. XVII.) ʒiii—℥iii
Tinctur. opii camphor. gtt. x—lxxx (tinct. camphor. comp.)
——— cantharidum gtt. v—xxxv (tinct. lyttæ)
Syr. altheæ ʒii
Fiat haustus; cui, ut visum, adde
Kali tartarizat gr. x—ʒiii (potassæ tartras, olim. tart. solubil.)

XL.

℞ Mistur (No. XVI.) ʒiii—℥ii
Tinctur. aloes c. dosis ʒſs—ʒii (olim. elix. aloes)
Lixivii sapon gtt. iii—xxx (liquor potassæ)
Spirit. nucis moschat ʒi (spt. myristicæ)
Fiat haustus

XLI.

℞ Electuar. (No. XIX.) cochlear parvum
Aloes socotrin. gr. v—xxx (aloes spicātæ extractum)
Calomel pp. gr. i (hydrarg. submurias)
M. fiat bolus

XLII.

℞ Decoct. cort. (No. XVIII.) ℥ſs—℥ii
Pulv. alumin gr. v—℈i
Infus. (olim. tinctur.) rosæ, ad. gratum saporem
M. Fiat haustus

HAD I confined myself strictly to method, all the means proposed or pointed out for the prevention of Fever at the end of volume i. of the Synopsis, should have immediately preceded, or followed the Formulæ: but in following this method I must have taken from the important subject of Fever a link indispensibly necessary for the completion of that great chain.

These means, comprehend the method, I first adopted to prevent Fever on the coast of Africa in 1772, 3, and 4; the invention of fermenting, and administering, the Peruvian bark in a fermenting state, published in 1799; and also the invention of administering the Peruvian bark in different forms of bread, but particularly in a gingerbread form, in May, June, and July, 1810.

But although to those cases already stated in vol. i. of the Synopsis, in which successful trials of Peruvian bark gingerbread were made, to cure fever, I might have added a number more reports of its efficacy now in my posssession, I shall for the present, defer inserting them, or the further enlarging on the subject, until I have collected a sufficient number of trials to establish the doctrine.

## CONCLUSION.

In the preceding Synopsis I have concisely stated, for the information of young practitioners, the appearances of, and manner of treating, the diseases which seamen are most generally afflicted with.

In doing this it was not my intention to deliver a formal treatise on any of them; several of these, particularly scurvy and dysentery, having been described at length in my former works.

To have touched even briefly upon all the diseases with which seamen may be, or have been attacked, it would have been necessary to have furnished a general praxis of physic, because seamen undoubtedly are liable to be afflicted at sea with the same diseases as other men—I have thought it sufficient, therefore to confine my attention in the work, to the diseases, which not only are the most common among, but have been found most destructive to, seamen. What has been delivered throughout the work, though neither studied nor embellished, is accompanied with plain facts—the most valuable ornaments of history—through a series of uninterrupted observa-

tions, for upwards of fifty years. The only merit, however, that I can lay claim to, is, perhaps, that I have adhered strictly to truth in my statements, nor ever descended to a servile imitation of any of the greatest of my predecessors. Some merit will probably be allowed to me for my unwearied perseverance in forming a track never before marked out, and in a continued chain of observations for such a series of years on the diseases of seamen, who had served in various climates, and been in active employment from youth down to the natural termination of their lives, at very advanced ages, in this national asylum.

NOR has my attention been entirely confined to medical observations and practice, during this long servitude—seeing the necessity thereof, I have also exerted myself, and (thank God) with success, to improve naval medical practice; and to raise in the public estimation both the medical profession, and the medical professors, to a degree before unknown in the navy. My exertions in this respect have not sprung from selfish or interested considerations—they have proceeded from a more laudable, exalted, extensive, and beneficent source; from an earnest desire to benefit the empire at large, and to advance the prosperity of his Majesty's service (without considering my own interest,) by inducing parents to educate their sons liberally in medical science,

and by encouraging such professional men, duly qualified, to serve in the navy in every quarter of the globe; and, under Providence, to oppose and subdue in future the torrent of pestilential diseases, which has hitherto occasionally devastated both the army and navy, especially in time of war. Hence originated the plan which I submitted to the liberal-minded patriot, Lord Melville, at that time first lord of the admiralty, and which he readily countenanced, and adopted in His Majesty's Order in Council, 23d January, 1805.

Such as the preceding work is, with all its imperfections, I have executed with an upright intention,—and to Him alone, who knows the heart, I humbly look for my reward.

# APPENDIX;

CONTAINING

THE AUTHOR'S ATTEMPTS TO BENEFIT THE EMPIRE

BY

IMPROVING

THE MEDICAL DEPARTMENT.

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My *different efforts* to improve the medical department of the navy, commenced (after an experience of nine years in the service, of the great and ruinous defects thereof) in the year 1770, [see vol. iii. of my Observations, p. 205.] by the several letters which I addressed to the then Sick and Wounded Board, and to a society of naval surgeons, upon this subject, after my first voyage to the coast of Africa.

In 1772 (as appears in vol. i. of my Observations) I entered into a correspondence with Capt. Collingwood, on the best mode of administering Peruvian bark as a preventive of Fever on the coast of Africa.

My ideas were represented by that humane officer to the Lords Commissioners of the Admiralty, on our return to England in 1774, who were pleased to approve of the plan I recommended, and ordered it thereafter to be acted upon on that particular service. At the same time I represented the urgent necessity there was, (a necessity which the whole course of my practice had tended to evince), of supplying surgeons employed on foreign service with Peruvian bark at the expense of Government. My representation was not, however, at that time attended to.

I made no other effort till I was appointed, in 1779, to the Edgar, of 74 guns, with a complement of 600 men, a circumstance which I considered as favorable to my views; and accordingly, after a period of nearly three years in that ship, I again turned my thoughts towards rendering the indigent establishment of navy surgeons an object of political consideration and attention; and being now furnished with sufficient materials, I drew up a plan, and submitted it to the consideration of those who I thought, had not only the power but the inclination to bring it forward—nevertheless it lay dormant till 1795-6, when I was ordered by the First Lord of the Admiralty, to consult respecting it, with the Comptroller of the Navy and one of the Commissioners for sick and wounded Seamen. They were now con-

vinced of the necessity of the plan I had proposed, and it was in consequence thereof ordered to be *partly* adopted.

DRAFT OF THE PLAN.

In submitting the indigent establishment of the Navy Surgeons, as a political subject of consideration, I thought it needless to urge, that absolute necessity rendered such a class of men co-existent with the navy; or that pay and perquisites were established as early for them as for the other classes and seamen of the navy.

Their pay, so far as I knew, had undergone no alteration, though some of their perquisites had frequently been altered, from their first establishment to that period.

In the reign of Queen Ann, a bounty, or free gift, according to the rate of each ship, was granted by her Majesty to naval surgeons, to enable them to purchase medicines and instruments —hence it was called *Queen Ann's Bounty*.

Lately, Queen Ann's bounty was augmented one-half, in time of war. No other alteration of their perquisites had come within my knowledge (in 1783), except that

The sum allowed for venereal cures was reduced from thirty to fifteen shillings, which has been since entirely abolished. And that

Their half-pay had likewise been frequently altered. For, the number to whom it was first granted, I understand, was only twenty-five; to twenty-five more it was afterwards granted; and a few years before, Lord Sandwich (being then First Lord Commissioner of the Admiralty) added fifty more to the half-pay list. So that, in 1783, there were fifty on half-a-crown, and fifty on two shillings, per diem: and I heard it was then in contemplation to augment the half pay of a certain number of the senior surgeons. Afterwards, 12*l.* a year have been added to Queen Ann's bounty; and twenty-five more surgeons, at 2*s.* per diem, were added to the half-pay list.—The Queen Ann's bounty for a third rate was now about 43*l.* 7*s.* a year, in time of war only, and less in peace.

Before I proceeded further, I thought it proper to give the reader a perfect idea of the establishment on which surgeons were at that time in the navy; and for that purpose I made choice of a third rate, whose complement was six hundred men—a ship just launched, and manned from different guard-ships and other places—in every point of view an unexceptionable example, I imagined—the Edgar, to which ship the author was appointed in May, 1779.

The Queen Ann's bounty, already mentioned —and the fifteen shillings for every venereal cure —these, with a servant at the rate of seventeen

shillings and sixpence per month, of which forty shillings at least were paid yearly to the servant—making up all the perquisites: for which they were to

Supply the ship with medicines, instruments, and certain necessaries, according to the rule or custom of the navy. That is to say, they must take medicines, from Apothecaries' Hall, to a certain amount, according to the rate of the ship, and provide themselves with instruments, &c. at their own expense. To ascertain this satisfactorily, they must obtain the Captain's certificate, otherwise they could receive neither pay nor perquisites. But, for the reason before stated, I did not confine myself to the quantities of medicines ordered, nor to the very medicines prescribed by the instructions, diminishing some, or adding others. And

It was a circumstance deserving particular attention, that, had the ship been paid off a week after the medicines were received on board, it was optional with the company of apothecaries, *who are merchants*, whether they should take them back, from the surgeon, even as a matter of favour, though they might charge him with what discount they please; or if they should then leave them entirely on his hands.

The surgeon's expense for medicines, instruments, and certain necessaries, on board his Majesty's ship Edgar, from the 24th of May 1779, to the 11th January 1781, was for

| | £. | s. | d. |
|---|---|---|---|
| Medicines from Apothecaries' Hall - | 64 | 2 | 5 |
| And from different people - - - - | 30 | 8 | 4 |
| For acid, fruit, vegetables, &c. - - | 7 | 9 | 0 |
| And for instruments - - - - - - | 17 | 0 | 6 |
| | £119 | 0 | 3 |

| | | | |
|---|---|---|---|
| For two other supplies of medicines, &c. afterwards, one in August 1780, and the other in January 1781, and for other necessaries within that time, amounting to - | 29 | 15 | 7½ |
| Total expense - | £148 | 15 | 10½ |

His Peruvian bark alone, of which he had 93lb. 12oz. within the period above mentioned, cost 39*l.* 6*s.* nearly one-third of the 119*l.* 0*s.* 3*d.* On the 31st July 1780, however, there remained only about 10lb. of the bark. To be correct, he always weighed or saw his bark weighed out, and he never spared any out of the ship, but to one patient, who had 4 oz. During

that time, the ship may be said to have been on Channel service; as she only went to Gibraltar, where she staid about three months.

The surgeon's pay and perquisites, during that period were,

| | £. | s. | d. |
|---|---|---|---|
| For pay (fees and agency deducted) | 102 | 10 | 3 |
| For his servant's pay (fees and wages deducted) - - - - - - - - - - | 14 | 17 | 1 |
| For all his perquisites - - - - - - | 185 | 5 | 1½ |
| | £302 | 12 | 5½ |

on the 11th of January, when the balance was struck; but these items were not all paid up to him for many days after, as appears in the following statements.

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The precariousness of the surgeon's receiving his reimbursements then, deserved serious attention; for his agents, on the 11th of January 1781, informed him that he had received, and placed to his credit for the ship only, by

| | | | | £. | s. | d. |
|---|---|---|---|---|---|---|
| 1780, June 29th.—Pay for one year (fees and agency deducted) - - | | | | 60 | 19 | 0 |
| Sep. 25th. By twopences, from May 24th 1799 to 31st Jan. 1780 - - | 26 | 3 | 0 | | | |
| For different perquisites | 18 | 0 | 0 | | | |
| | 44 | 3 | 0 | | | |
| Deduct agency and casting fees - - - - - - - | 1 | 11 | 6 | | | |
| | | | | 42 | 11 | 6 |
| For his servant's pay for the same time - - | 7 | 7 | 6 | | | |
| Deduct agency *3s. 6d.* and paid the servant 1*l.* 6*s.* 6*d.* - - - - - | 1 | 10 | 2 | | | |
| | | | | 5 | 17 | 4 |
| Total reimbursements - - | | | | 109 | 7 | 10 |
| Short of his disbursements - | | | | 39 | 8 | 0½ |
| His total disbursements being | | | | 148 | 15 | 10½ |

N. B. His disbursements would have been far greater, had the ship been employed abroad: and he would have received only one year's pay, in that case, and none of the perquisites:

| | | | |
|---|---|---|---|
| The balance due to him on the ship's books was - - - - - - - - | 193 | 4 | 7½ |
| And what he received was - - - | 109 | 7 | 10 |
| Which shew the total of pay and perquisites that were due to him on the 11th Jan. 1781 - - - - | £302 | 12 | 5½ |

But all his reimbursements fell 39*l.* 8*s.* 0½*d.* short of his disbursements, after having been nearly twenty months in the ship; and if to this deficit expence is added his expences for his mess, his clothes, and necessary contingencies on board, and the interest of the amount, where is the balance that will remain in his favour?—to say nothing of continual labour of body and mind, of the peril from infection, &c.

Notwithstanding (the author is now writing in 1781-2) it would bear still harder on the surgeons, while they are on their present establishment, it nevertheless would have been highly proper that there should be no discrimination between channel and foreign service, in supplying ships with medicines, particularly in time of war; as ships are often no sooner fitted for the channel service, than provisions and stores for foreign service are unexpectedly hurried on board, and the ships, without the necessary supply of medicines, immediately sent to sea. From exigencies of State, ships have been, and may often be dispatched on foreign service without its being possible for the surgeon to supply himself from the Western squadron, which is a sufficient reason for the measure I hinted at, being adopted.—Though, surgeons even then might on a very short notice have got an additional supply of necessary medicines, which when the orders to fit for foreign service were made known, as the Com-

pany of Apothecaries kept in time of war an agent at the different ports, with a stock of medicines for that purpose. But, from the indigent establishment of the surgeons, which I have faithfully stated, was it a matter of wonder, if, instead of demanding such additional supplies, many of them should think themselves happy in the prospect of getting out of the reach of Apothecaries' Hall—where the company could not use means to oblige them to take more medicines—and that they should endeavour to make their first supply for channel service last them years, especially if medicines could not be purchased abroad without exorbitant expence—and where, perhaps, no hospital is established? If there was an hospital where the ship was sent to, it was a happy circumstance for the men, when they became sickly. But to proceed,

The facts which I have now stated, point clearly out, that, from the commencement of the navy, until the period, (I was then writing) an adequate provision had not been made for the surgeons, although it may be supposed that they had repeatedly made their indigence known, and prayed relief, with all their energy.

In doing this, however, they unfortunately dwelt always on the *smallness of their income and profits*, (which was never considered a national object) instead of representing the fatal consequences which daily arose to the service from their indigence.

Had this circumstance been pointed out, as it ought to have been their study to do, they might have easily furnished many similar cases to the preceding, to demonstrate that it was not in a surgeon's power, while on the present establishment, to do his patients justice, when the ship became sickly, unless he involved himself in debt; particularly when the ship was first put into commission; because then the ship was generally most sickly, and the surgeon was least able to bear the expence. One can hardly suppose that if such a momentous representation had been duly or repeatedly made, that it would have failed of success to be regarded; or that an evil of such a magnitude required more to get it remedied than to point it fairly out.

To impress the argument, of the dangerous effects of the indigence of naval surgeons, more strongly, I might have illustrated the case now stated, as in fact I did in my original pamphlet, by showing that the first third part of the lives of medical men must be necessarily spent, to qualify them for their profession—That numbers were obliged, for want of interest, to serve, in the subordinate situation of mate, *eight* years, as in fact was my own case; and that I was a surgeon of more than ten years standing on the list, when appointed to the ship, in time of war, which furnishes the preceding example; and that besides having a competent knowledge

of my profession, I had experience to inform me what medicines would most probably be wanted immediately, in any climate whereto the ship might have been sent; and humanity to guide me in the discharge of an important duty, the most amiable of all the qualities a surgeon can possess.

Complaints existed, no doubt, against numbers of naval medical gentlemen, then, for their not supplying the ships sufficiently with medicines, &c.—and against the professional knowledge of some of them. But it is more to be wondered at, that professional men, of any qualification, entered at that time into the service.

Under the circumstances before mentioned, I then ventured to propose the outlines of a plan to remedy the fatal consequences of the indigent establishment of the navy surgeons.

The better and more effectually to encourage young surgeons who have been liberally educated, and regularly grounded in their profession, to enter into his Majesty's navy, in future, be it enacted by—&c. &c. &c.

ARTICLE I.

THAT all professional vacancies at the Sick and Wounded Board; or in hospitals, at home or abroad; in dockyards; in the marine divisions; or in sick quarters; or on board of hospital, prison, slop, or receiving ships, shall be filled

up from the list of the navy surgeons, and by such of them only as have served their time for half-pay, or five years, at least, in actual service.

II.

Physicians, and Surgeons General to the Fleet, and to Hospitals, &c. shall in like manner be selected from such of the surgeons as, by their service, are entitled to half-pay.—See Articles V. and XIII.

And as further encouragement to such young surgeons to enter in future into his Majesty's navy, the following articles, setting forth at large the establishment on which surgeons of the navy are now placed, are drawn up and ordered to be published.

III.

That all persons appointed to examine candidates, to serve as surgeons, or surgeon's mates of the navy, will be instructed to perform that duty without favour or affection, without partiality, or prejudice for, or against, the parties to be examined, and will certify their qualifications accordingly. But the examiners will not be countenanced in granting certificates, even of the lowest denomination, unless the candidates are found qualified for the situation they are desirous to obtain.

IV.

Every candidate appearing a second time for examination, to produce to the examiners a certificate, from the surgeon or surgeons under whom he served since his last examination; which certificate shall set forth his general conduct, especially respecting his duty, and his professional qualifications as far as they have had opportunities to judge. And the same certificate will be laid before the physician who examines them touching the physical part.

V.

No person will be entered on the list of navy surgeons, until he has served as a mate, *or has acted by order as a surgeon* three years, in actual employ on board the fleet.

VI.

The medicines, instruments, and all necessaries whatever, for the use of the sick, will henceforth be supplied to his Majesty's ships and vessels at the expence of his Majesty; but the inspecting Physician will comptrol the supplies and demands of the surgeons.

VII.

The surgeons, assisted by their mates, are to keep a just and regular expence of the medicines, instruments, and necessaries: and these expences,

with affidavits, *if required*, of their justness, together with the surgeons' journals, are to be regularly transmitted, annually, to the Commissioners for Sick and Wounded, otherwise, the pay of both shall be withheld.

VIII.

When his Majesty's ships are paid off at the different ports, the medicines, instruments, and necessaries, are to be carefully returned to the persons appointed by the Navy Boards to receive them, who shall take a faithful inventory thereof, before the respective surgeons and mates, and deliver receipts for the same to the parties, which receipts are to be transmitted with their final accounts, and an exact journal of all their expences and of their practice, together with their own and their mates' affidavits, as enjoined by the preceding article. In failure of which, they are to forfeit their pay and claim to future employment or promotion in the service: besides being liable to be prosecuted for the same. The mates as well as the surgeons are therefore to have each of them a key on the medicines, instruments, and necessaries, as they will be equally responsible for the same.

IX.

Surgeons' first mates of any of the ships of the line, not under a fourth rate, to receive three shillings and sixpence; the first mates of

the other rates three shillings; the second mates after the rate of two shillings and sixpence; and the other mates after the rate of two shillings *per diem*, annually, whether employed at home or abroad.

X.

Surgeons will have a servant allowed, as formerly.

XI.

The perquisites, viz. two-pences, Queen Ann's bounty, and venereal cures, will henceforth be applied to a fund for defraying the expence of the medicines, instruments, and necessaries of every description for the pay of the surgeons, and mates.

XII.

The pay of the surgeons will hereafter be regulated as follows:

1, Surgeons employed in any of his Majesty's ships of the sixth rate, including sloops, yachts, store-ships, or armed ships, will be paid at the rate of five shillings and sixpence per diem.

2, Surgeons serving on board of fifth rates, will be paid after the rate of seven shillings and sixpence per diem.

3, Those employed on board of fourth rates, will be paid eight shillings per diem.

4, When they serve on board of third rates,

they will receive nine shillings and sixpence per diem.

5, They who are employed in second rates are to be paid ten shillings per diem, and

6, Those who are employed on board of first rates, shall receive after the rate of eleven shillings and sixpence per diem.

7, They will be paid annually, as soon as their accounts are passed.

XIII.

To entitle surgeons to half-pay, they are to fulfil article V. besides serving five years as surgeons in actual employ; and those who are now on the list, that have not fulfilled the third article, will not be entitled thereto, until they serve in actual employ so much longer than their five years as will make up the full time enjoined them to serve by the third article, which together, make eight years service in actual employ, to entitle them to the following half-pay.

1, The senior thirty-five on the list will be allowed after the rate of six shillings and sixpence.

2, The next thirty-five after the rate of five shillings and sixpence.

3, The next thirty-five in seniority, five shillings.

4, The thirty-five next in seniority, four shillings and sixpence.

5, The next twenty-five in seniority, after the rate of four shillings.

6, The twenty-five next in seniority, three shillings and sixpence: and all

7, The rest who have served their time for half-pay, and are unemployed, will be allowed after the rate of three shillings per diem; which he or they will forfeit, upon refusing to serve when they are called upon.

XIV.

To entitle surgeons to superannuation, besides their having served agreeably to the first and last part of the preamble of the foregoing article, they are to serve in the following manner:

1, To entitle the surgeons to the lowest rate of superannuation, of five shillings per diem, he or they are to serve eight years in actual employ, as surgeons of his Majesty's navy; which will be eleven years in all.

2, To obtain six shillings and threepence per diem, the second rate of superannuation, they are to serve ten years in actual employ; which in all will be thirteen years service.

3, For the highest rate of superannuation—seven shillings and sixpence per diem—they are to serve twelve years in actual employ; which will be fifteen years service in all.

[The author has fixed on the sums for the pay, half-pay, and superannuation, which, *in his opi-*

*nion*, will fully answer the purposes for which he humbly recommends this new establishment; and it is for the same reason that he wishes it may be extended to physicians and surgeons of hospitals, in the following manner, (in the year 1781-2.)]

4, The persons appointed to examine the surgeons applying for superannuation, because of old age, diseases and infirmities, are to confer that claim after the manner prescribed in Article III. And are not on any account to grant certificates to any person, but to proper objects, whatever term of years they may have served; nor will certificates be withheld from those who have served their full time, and are proper objects.

XV.

Physicians in actual employ at home or abroad, to receive at the rate of one pound per diem; [at that time this would have been considered sufficient pay, and would have rendered them independent of private practice; of which the consequence may be of their leaving the hospitals, to follow it, are sufficiently evident.] And when they are not employed, after the rate of ten shillings per diem; which they will forfeit if they refuse to serve when called upon.

XVI.

Surgeons of hospitals, at home or abroad, in

actual employ, are to be paid at the rate of fifteen shillings per diem, while they do duty as surgeons of hospitals; and when they are out of employ, at the rate of ten shillings and sixpence per diem, which they will forfeit, should they refuse to serve again when called upon. If they quit their employments abroad, without having such reasons for doing so, as shall be satisfactory to the Lords Commissioners of the Admiralty, and Commissioners for the sick and Wounded, shall be liable to be dismissed the service.

XVIII.

The superannuation of physicians shall be at the rate of fifteen shillings per diem; and the superannuation of surgeons of hospitals, after the rate of ten shillings per diem. But neither physicians nor surgeons of hospitals, unless wounds, infirmities, or bad health should render it absolutely requisite, will be superannuated until they are sixty years of age at least.

XIX.

No physician, surgeon, or surgeon's mate, shall hold two employments in the navy at one time, unless the public service absolutely requires it. And in such cases the person or persons so employed, shall be paid pro tempore for both employments; and it shall solely rest with the Sick and Wounded Board, to make such further compensation to him or them, as they think just and proper.

XX.

Surgeons who were superannuated before the adoption of this plan, will not derive any benefit therefrom.

XXI.

Surgeons enjoying half-pay shall, in time of war, serve whenever they are summoned for that purpose; and in time of peace by roaster, to be faithfully kept at the Navy-office, without regard to any interest whatever. And any surgeon refusing to serve when duly summoned, either in war or peace, will forfeit his half-pay, and be dismissed from the service if it is war; and likewise in peace, unless they find a surgeon on the list to serve in his stead; and unless in cases of real sickness or accidents; of which they shall transmit, as soon as possible, or cause to be transmitted to the Commissioners of the Navy, affidavits, stating their respective cases; and they shall likewise inform the Commissioners when they recover, that they are ready to serve, and to bring up their tours of duty, on pain of forfeiting their half-pay. But such surgeons as are summoned to serve in peace or war, being on half-pay, shall not, unless by choice, be employed in ships or vessels, yachts excepted, commanded by masters and commanders; and a tour of duty on channel service shall not exceed three years, unless they choose.

THE author is aware that objections would be raised against many of the articles of the preceding plan; but he submits it as a matter of serious consideration to those before whom it is laid, with all deference; whether the inexpressible advantages that, obviously, would redound to the service by adopting *some such plan*, will not far outweigh all the objections which can possibly be made against it.—While they deliberate to determine for or against *either*, he begs leave to remind them that private interest and convenience, farther than they become involved by securing both the present and future service of able and experienced surgeons to Government, are entirely out of the question;—that, in the one scale therefore, they are only to view a very few thousand pounds a-year expence, poised against the bulwark of the empire—the preservation of the healths and lives of thousands of seamen, in peace as well as in war, who by *the present indigent establishment of the navy surgeons* are demonstrably lost!

I have copied here the outlines of the plan which I framed in 1781-2, and printed without my name, as it was intended only to benefit the service by furnishing Administration with hints to form a plan by—after showing them the political necessity there was at that time for improving the indigent establishment of the navy-surgeons.

The plan as it was newly arranged, under the sanction of the noble Lord who then presided at the Admiralty Board, (about the year 1796-7) was immediately entered upon. A plan considered in the aggregate, much less favourable to the Naval Medical Department than the one I had framed fourteen years before, as they, who have the original printed copy in their possession, can see by comparing them. But although the one adopted was very inferior, I say, to the plan I proposed so long before, it was nevertheless a great improvement on the old establishment. An improvement, however, by no means adequate to the circumstances of the times; the advance on the prices of every article of life; and also on every branch of education, especially those branches which were necessary for instructing and qualifying youth for the medical profession; or the depreciation of money; nor to the great encouragement, soon after this, held out in the army, "To induce well-educated persons to enter into and continue in that service," which was again greatly augmented and confirmed by an order of the King in council, 23d May 1804—all these circumstances concurred to render the noble Lord's medical arrangement inadequate tothe purposes for which it was intended.

I firmly believe had the plan I proposed in 1781-2, or even a more liberal one, better calculated for the period of 1796, been represented to his Lord-

ship by the parties he consulted on the business, as absolutely necessary for the good of the service, that his Lordship would have readily adopted it—so well disposed did his Lordship appear to be to promote the service.

My public situation having furnished me with frequent opportunities of *observing*, to my great mortification, the happy effects which this new encouragement was productive of, in the army—by encouraging young professional well-educated gentlemen to enter into it, whilst hardly any were then offering for the navy, which, I well knew was owing entirely to the great disparity of the encouragement held out in both services—I at length, after considering and re-considering, with great uneasiness and vexation to myself, saw the absolute necessity there was for some strong measure being immediately adopted, to encourage young well-educated gentlemen of the profession to enter, and to continue in, the navy. With this view, therefore, I determined to form a plan for that purpose as like to the new regulations lately ordered, by the King in council, for the army, as the difference between the two services would admit. And this plan I preferred, not only because I judged it would be most efficient, but because by that means I should avoid all competition and comparison with the officers of the navy, and not incur their resentment, or opposition. But I expected to rouse their pride in my favour by en-

deavouring *to place a seaman on an equal footing with a soldier*, by procuring medical help at all times as able and respectable as soldiers could enjoy—which was only to be effected by giving to the professional men of both services equal encouragement—without interfering with the military in either service. And I am sorry to say, that I succeeded in this plan, only in part.

My fourth effort was proposed in 1804 in the following manner, which was approved and carried into effect by the Noble Lord, who at that time presided at the Admiralty Board—entitled,

THE DRAFT OF THE PLAN FOR INCREASING THE ADVANTAGES AND IMPROVING THE SITUATION OF THE MEDICAL OFFICERS OF THE NAVY.

*Preliminary Discourse.*

WHEN a plan of great improvement or innovation, in any department of the public service, is proposed, it becomes necessary to show the absolute necessity to adopt such a plan; especially when it is probable that expence will attend it.

To shew the absolute necessity of adopting such a plan as the following, I need only to mention—That not one-half of the surgeons' mates, that are positively wanted for his Majesty's ships and vessels, can be found to supply them, or to enter into the navy.

That many of the naval surgeons of abilities

leave the service, and enter into the army medical employ; or very soon retire on shore. Of which the reason is,

The comparative great encouragement held out to medical gentlemen of abilities to enter into the army—and the want of sufficient encouragement to induce medical gentlemen of abilities to continue in the naval service, or to enter into it.

The want of sufficient encouragement for this purpose, I *considered was* neither known to the King, nor to the Legislature, nor to Administration, otherwise, no doubt could be entertained but it would have been immediately remedied. But the cause of the evil complained of is not confined to the difference between the full pay and the half-pay of the army, and the full pay and the half-pay of the navy, alone.

The rank wisely granted to the medical department of the army was not only *the principal inducement* with young medical gentlemen for giving that service the preference, at first; but it becomes *their principal inducement* for their continuing in that service.

The rank thus wisely conferred on the medical gentlemen of the army confers no power to command; it only confers the respect due to that rank, and, perhaps, occasionally, some little advantage. Was similar rank to be granted therefore to the medical gentlemen of the navy, it would not confer on them the power to inter-

fere with the command of the ship or the ship's company, nor would it alter their situation in the ship, as to their apartments or prize-money; but would confer on them the same respect that is conferred on the medical gentlemen of the army, in all situations.

Why the medical gentlemen of the navy should not be placed, in every respect, upon a footing with those of the army, I am of opinion that the greatest bigot to the customs in either service cannot adduce one good reason. Provided, therefore, care is taken in future, that medical gentlemen shall not be admitted into the one service, that are not qualified to serve in the other, in the same rank, no reasonable objection can be made against the plan.—And

If it is alleged, that at present there are in the navy, medical gentlemen unworthy of such rank, and of such full pay and half pay, as the plan proposes—I would answer the objection by declaring *this* to be the very strongest reason or plea which I would urge for the necessity there is to adopt the proposed plan—as this would gradually cure the evil, and prevent it from happening in future. Therefore, henceforth, let it be a peremptory instruction to the Court of Examiners of the College of Surgeons,

That, *bona fide*, there shall no longer be kept up by the Court, in their examination of mates for the navy, and mates for the army, any distinction

whatever, but that their examination of gentlemen for both services being equally strict, the Court shall not certify that any gentleman is qualified to serve as a mate, as an hospital assistant, or as a surgeon in the navy—who is not in their opinion equally qualified to serve in the same situations in the army—and *vice versa*—

Because, henceforth it is intended,

There shall be no mate, or mates, or assistants admitted into the navy, who are not qualified to serve as a first mate of any rate; (I suggested this rule *verbally*, at a meeting on the subject, and it was literally adopted;) and that the old plan of qualifying mates by examination down to the sixth mate in the navy should cease—and that they should be all equally qualified for assistants or first mates, who are to be admitted into the service—and that their difference on board ship should take place only as with lieutenants according to their first warrants, in future. And I further proposed the following regulation, as to the number of the assistants to be employed on board of the different rates in future—on board of first and second rates, three assistants only—on board of third and fourth rates, two assistants only; and on board of all other rates, one assistant only—intending that the deficiency in numbers, according to the old establishment, should be amply compensated by the efficiency of the few now to be employed; and that

Hospital ships should be allowed three assistants.

*The order of the King in Council, founded on the plan I proposed.*

BY THE KING IN COUNCIL,
&c. &c. &c.

WHEREAS we have approved of an arrangement for increasing the advantages, and improving the situation of the Medical Officers of the Navy; with the view of encouraging able and well-educated persons to enter into and continue in that line of the service, Our will and pleasure is,

I.

That Hospital Mates shall have the full pay of six shillings and sixpence a-day net, when employed at home; and of seven shillings and sixpence a day nett, while employed on foreign stations, with half-pay, on reduction, at the rate of three shillings a day; and further, they are to be allowed Lodging-money at the rate of ten shillings and sixpence per week, when not accommodated within the Hospital.

II.

The widows of such as shall have served as hospital mates abroad, and shall die on full pay, shall be allowed the pension of sixteen pounds a year. The children of such hospital mates to be allowed such pensions as the Lords Commissioners of the Admiralty, from a consideration of the circumstances of the case, shall think fit to grant; and the widows and children of those who shall die on half-pay shall be eligible to such allowances as their Lordships shall think fit to grant.

III.

Hospital mates appointed for temporary and local service, shall not receive more than six shillings a day, while they are employed.

No distinction to be made between the mates, whether employed in the dispensary or under the surgeon, at home or abroad.

IV.

Assistant surgeons, or surgeons' mates of the navy, without distinction, shall receive six shillings and sixpence a day, besides the ship's provisions—with half-pay, when reduced, at the rate of three shillings a day, after having actually served three years.

V.

All surgeons of the navy who may not have served as mates and surgeons six years; the dispensers of hospitals at home or abroad; the surgeons employed on board slop-ships; or receiving ships; or prison ships; shall receive ten shillings a day full pay, and five shillings a day half-pay—or such other rate of half-pay as the length of their service may entitle them to.

VI.

The pay of surgeons on actual service in the Channel, or abroad, after having served three years as a mate; and three years as a surgeon; or in the whole six years on actual employment in hospitals, in harbours, or elsewhere, *bona fide*, shall receive eleven shillings a-day, full-pay, and six shillings a day half-pay.

[By this I meant that no distinction should be made in serving on board ships or in hospitals, by mates or surgeons, in dock-yards, or in the marines, in reckoning their service.]

VII.

After having served ten years in actual employ, including his service of mate for three years, the surgeon's full pay shall be augmented to fourteen shillings a day—his half-pay to continue at six shillings a day.

VIII.

Every surgeon of the navy, after twenty years actual service at home or abroad in the whole on full pay, shall have his pay augmented to eighteen shillings a day net, and shall then have a claim to retire on half-pay of six shillings a day. But if the cause of his retirement be ill-health, contracted in the service; and shall be certified by the medical department—the rate of his half-pay on retiring after twenty years service, shall be ten shillings a day.

IX.

Every surgeon of the navy after thirty years service in actual employ in the whole, on full pay, shall have the unqualified right on retiring on half pay, at the rate of twenty shillings a-day.

The widows of naval surgeons permitted to retire after twenty years service, shall not be precluded from the pension, on account of the retirement of their husbands.

Surgeons of hospitals, when not provided with a residence within the hospital, to be allowed fifteen shillings per week lodging money.

In all cases, the time served as surgeons, or assistant surgeons, or mates, in hospitals, shall be considered as so much time served on board ship

[Both this explanation and the one marked X which follow, only illustrate the meaning of VI.]

X.

The surgeons of naval hospitals, or of hospital ships, actually employed at home or abroad; the surgeons of dock-yards, and of marines, from completing the respective terms of twenty and thirty years service, shall derive the same advantages as surgeons on full pay in actual employment, as above specified.

XI.

No person shall be appointed physician to a fleet or naval hospital, who shall not have served five years as a surgeon; and the full pay of a physician who shall have so served, shall be one guinea a day; and his half-pay half-a-guinea a day; —whether he is employed in the fleet; or in an hospital.

XII.

A physician's daily pay, after having served three years as a physician to the fleet, or in an hospital—in actual employ, shall be one guinea and an half—and his half-pay fifteen shillings a day.

XIII.

The full-pay of a physician, who has served in actual employment *as such*, in a fleet or in an hospital, more than ten years, shall be two guineas a day; and his half-pay one guinea a day.

XIV.

The full pay of a physician who shall have served, *bona fide*, thirty years in the fleet or naval hospitals, shall be three guineas a day, and his half-pay two guineas a day—of which thirty years service, not more than five of surgeon's service shall be allowed.

[The XIVth article was suppressed by the clerk when my draft was fairly copied out for his Lordship.]

XV.

Physicians, when a residence is not provided for them, are to be allowed one guinea per week lodging money.

XVI.

The widows of physicians and surgeons to be allowed such pensions as the Lords Commissioners of the Admiralty shall think right, in proportion to their husband's service.

XVII.

All the perquisites which the naval surgeons now enjoy, and also the pay and provisions of the fourth, fifth, and sixth mates, will necessarily be applied towards defraying the expense of the preceding plan, and of the medicines, which will be entirely supplied by government.

XVIII.

Surgeons' mates of hospitals, and surgeons' assistants of the navy, to take rank according to the date of their first appointments, in the same manner as lieutenants do—that is to say, they will stand according to the date of their warrants on the ships' books, first, second, and third assistants, taken from the date of their first standing on the roll at the Sick and Wounded Office.

XIX.

None of the officers before described, who shall retire from their employment, with the approbation of the Medical Board, shall be allowed to receive any half-pay.

Royal Hospital, Greenwich, 9th April, 1804.

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The alteration of this plan, so far as it extends to the increase of the salary of the surgeons of hospitals and dock-yards, is much approved by the Author; and he sincerely wishes the increase had been extended further to some other classes, without diminishing the physicians' salaries, which were *then* inferior to those of medical officers of the army.

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THE END.

EMURY, Printer, Berwick-Street, Soho, London.