

**Essays on the origin, progress and treatment of dysentery and erysipelas :
to which is added an enquiry into the nature, causes and treatment of
pseudo buboes / by James Bankier.**

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ESSAYS
ON THE
ORIGIN, PROGRESS AND TREATMENT
OF
DYSENTERY,
AND
ERYSIPELAS;
TO WHICH IS ADDED,
AN
ENQUIRY
INTO THE
NATURE, CAUSES AND TREATMENT
OF
PSEUDO BUBOES.

BY
JAMES BANKIER, M. D.
OF THE ROYAL NAVY.

*Multum egerunt qui ante nos fuerunt ;
Multum etiam adhuc restat operis,
Multum restabit ; nec ulli nato post mille
Secula præcluditur occasio aliquid adjiciendi.*

SENECA, EPIST. 64.

MADRAS :
PRINTED AND PUBLISHED BY J. B. PHAROAH,
AT THE ATHENÆUM PRESS.

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To
SIR WILLIAM BURNETT, *Kt.* M. D.—K. C. H.
PHYSICIAN GENERAL OF THE ROYAL NAVY,
&c. &c. &c.

THE
FOLLOWING WORK,
IS RESPECTFULLY
INSCRIBED,
BY
HIS OBEDIENT, HUMBLE SERVANT,
THE AUTHOR.

In dedicating this Volume to you SIR WILLIAM, it must be stated that I have no sanction for so doing. Various accidents occurred between its announcement to the Indian Public, and its publication which prevented any thing like communication. Ascribe, therefore, this mark of respect to the only motives which at any time could actuate my conduct—the sincere and fervent wishes for the welfare of the MEDICAL OFFICERS of the SERVICE in which you occupy such an eminent and deservedly useful situation.

To

SIR WILLIAM BRUNNEN, M.D.—F.R.C.S.

PHYSICIAN GENERAL OF THE ROYAL ARMY

&c. &c. &c.

THE

FOLLOWING WORK

IS RESPECTFULLY

PRESENTED

TO HIS EXCELLENCY, THE GOVERNOR-GENERAL

THE AUTHOR.

It is with deep regret that I have to say that the volume is not so
large as I have no occasion for so doing. Various accidents re-
sulted from the arrangement of the Indian Public, and the pub-
lication which prevented any thing like communication. As a
result, this mark of respect to the only master which is any
less could secure my constant—the above and several others for
the welfare of the Medical Officers of the Service in which
you occupy such an eminent and distinctly useful position.

P R E F A C E.

In presenting this volume of Essays to the judgment of the MEDICAL World, it may be superfluous to state that the grand object has been a clear, and comprehensive elucidation of the nature and treatment of the diseases to which they relate. In addition to the tenable opinions of the most celebrated authors, I have added many of my own, and trust they will be found worthy the notice of the judicious, candid, and reflecting. In particular I would direct the reader's attention to the *modus operandi* of the several medicines generally used in the treatment of DYSENTERY; none have hitherto so fully entered into these difficult points: such too of the highest importance to be known, for from negligence in this respect we will find ourselves not unfrequently foiled. It is fondly hoped that on practical application, the best test of an author's experience and abilities, they will not only be found good, but what may be depended on, either for the amelioration, or successful issue of the cases entrusted to our care, where, under the circumstance of climate, medicine and diet, can be expected to prove of any utility.

The Essay on ERYSIPELAS, perhaps, contains opinions of that malady entirely new, and differing from almost all, if not all, who have favoured the profession with their views on this interesting subject—these will form its value, or prove its condemnation.

During the period this volume has been in the press, an enquiry has been added into the character of PSEUDO BUBOES of warm climates, which may prove of some ad-

vantage to those who have not been in the habit of looking keenly into the business.

The AUTHOR is solicitous that none will be apt to censure or condemn this attempt at extending our knowledge on diseases, which many may imagine already sufficiently well illustrated by more distinguished Physicians, having greater opportunities of research than himself, merely from the consideration of the very disadvantageous circumstances under which they have been produced. I, therefore, approach the tribunal of the Public, not without awe and dread; but I do not servilely do so, and rely on the judgment of the discriminating portion of the MEDICAL PROFESSION. I trust that the distorter, or amender of ideas will recollect that *candour*, and not distortion, or the querulous jargon of prejudice ought to be his aim—let them recollect that the merest dabblers in medicine can cut and maim as well as the most discriminating. In committing these ESSAYS to publication, I have only their merits to rely on for their success, and avail myself of the present opportunity of returning heartfelt thanks for the liberal support the volume on CHOLERA has already met with. A sea life may serve to explain some inaccuracies to be met with, and the Author feels sensible that some allowances will be made by every indulgent and lenient Judge.

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INTRODUCTION.

IN reference to the subject of Dysentery, as to most other subjects of Medical importance, there is one circumstance which is apt to beset the inquiries, and embarrass the efforts of the novitiate, or inexperienced Practitioner, and that is the very different practice, which names of the first celebrity may be adduced to support. Such, indeed, seems, in some instances, to be the nature of Medical dispute,—such the tenacity with which views and opinions the most opposite, are asserted, and maintained,—and such, especially, the strength of averment, with regard to the positive nature, and ample variety of the facts held forth, at once to establish and refute the same practical position, that not only is the young Surgeon apt to be staggered, as to what mode of treatment he should regard as preferable, but to fear, in some instances, the consequence of attempting to act or operate at all.

Uncertainty, however, attaches itself to most subjects of human investigation, and it is the business, as it should have been the education of the Medical practitioner, not to

hope for an escape from perplexity, to which the most eminent, perhaps, were in some degree at first subjected, but rather, by a vigorous and persevering application of his talents, and acquirements, to reduce, within the smallest possible range, those difficulties with which he may have to contend.

In the first place then (theory and speculation apart,) consulting for the safety, or even the life of his patients, and a true and adequate sense, at once of the duty, and dignity of his profession, will require of him that he depend mainly on what he has seen with his own eyes, wherever the sphere of his observation has been sufficient, to attend to the whole facts, and circumstances of any particular case; while he will never forget that a different class, or change of the same circumstances may require some modification, or even the reverse of treatment proposed. And here, what may be designated medical good sense, will have its best and most efficient employment.—In the second place, when his knowledge is limited, as he will soon find and feel it to be, where interfering with the living will awaken a responsibility, and present a thing something totally different from that of acting on the dead; and where the information of others must supply the lack of pre-

sent, or form the basis of his own future observation and experience, the acquisition of which however infers that uncertainty and hesitation, which the difference of opinion to which we have adverted, and the weight of names can hardly fail to induce. His great object now should be to scan, with perfect distinctness, the grounds and reasons on which such difference of opinion proceeds, and the best energies of his mind should be directed to clear away at least the difficulties which may possibly originate more in some infelicity the disputants have in comprehending each other, than really attach to the subject itself.

Those intending to visit intertropical regions will do well to make themselves thoroughly acquainted with every minutiae which may affect the human frame: for it is here they will meet with disease, either for virulency, or eccentric malignancy not to be equalled in any other region of the globe, and requiring from him such ready and decisive measures, which if not employed at the proper time, a few hours or days may seal the fate of his patients.

In the following pages it shall be my business to clear away, as much as possible, that dark cloud which has so long obscured our faculties. I shall endeavour to lay down

such rules as may be applicable to cases of Dysentery, whether depending on a sporadic, endemic, or epidemic cause. In the prosecution of this I may illustrate the modes of practice had recourse to by some of the most celebrated Practitioners of the past, or present day, and point out that which seems the preferable ; I shall also attend to the principal facts which require to be known when causes are present to warrant our interference. It is not intended to swell these pages to an unnecessary length by a detail of cases—a thing most easy for me to do : such a mode of procedure is looked on as in some degree blameable.

CHAP. I.

DEFINITION AND SYMPTOMS OF DYSENTERY.

This disease Dr. Cullen defines, *pyrexia contagiosa, dejectiones frequentes, mucosa vel sanguinolenta, re-tentis plerumque fæcibus alvinis, tormina tenesmus.*

It is not intended to follow out the different definitions of Nosologists, I shall rest contented with the present, as it is the one the most frequently met with, and following the others might be an unnecessary expenditure of time: I shall thereby escape the imputation of being prolix on this point. Although as great an admirer of Cullen as any one can be, yet it may with truth be said that his definition is inaccurate in some points. It would have been more to the purpose had the term *sæpe* qualified the *pyrexia contagiosa*, since we will find that the disease exists without either fever or contagion, and it will be shewn that the state of the complaint, which was thought to be contagious, is not at all so, but that it depends on a something else; but leaving this point to its proper place we may now attend to the Symptoms.

In the enumeration of the causes, and sequelæ of dysentery, we will meet with much to instruct and surprise us. In observing the efforts of nature, or the powers of the system to throw out morbid and offending matter, we will sometimes see these efforts crowned with success, but generally she is totally inadequate for the

accomplishing such a desirable object, then is the time for our aid, but even with timely interference, we may observe her coming to the rallying point, and then suddenly sinking below par, so that all the medicines in our pharmacopeia cannot restore the injured power of the body, nor even bring them partially into play. Now at a low ebb she may go on for some days but at length irretrievably sinks—thus she sinks from the shock of diminution. We will meet with cases which will excite our astonishment in the vitality being kept up so long, nay, may after a time completely recover, this, however, seldom in a hot climate, particularly where there is considerable variation of temperature. How often has she been observed puzzled in other diseases: let those speak who have seen many cases of Cholera, or syphilis, where in the former, instances may be met with, of patients to all appearance dead, nay, put in their coffins, at length recovering; and in the latter disease we see at times that the undermining destructive work goes on, in defiance of all our remedies, until the destruction of an eye, nose, or some other important object is accomplished, then and not till then, will she condescend to stop her mutilating career, and at length allow us to aid her, with either general or local remedies, or both.

Dysentery sometimes commences with depraved appetite, nausea, and vomiting, but more frequently with all the appearances of simple purging, accompanied with occasional griping pain, and followed by tenesmus. Authors have described the stools as commonly copious and excrementitious at first, and on the second day, or shortly after, they become small, watery, and slimy, attended with tenesmus. Now in such instances as these the disease is as yet only a local complaint. By the term local disease is here meant that it is not settled on the parts, but merely depends on excitation of them, or

this excitation may end in irritation, and yet be a local affection; but let this excitation and irritation proceed a step farther, and then we have inflammation; now the affection may be properly enough considered constitutional, although, even in the primary stage of this, I only in some measure regard it as a local disease. In short then, there must surely be some cause which produces the inflammation; the inflamed state of the alimentary canal then is not the cause of the disease but the consequence, in a vast majority of instances at least. The appearances on dissection are deceptive and vague, since they only shew us the cause producing death, not that inducing the attack, for that may have gone, and now there is a new state induced, but more of this in the sequel. The patient, after a little time, complains of an imaginary load which occasions frequent calls to stool, while by violent straining he can evacuate but a very small quantity of matter—this perhaps chiefly mucus mixed or unmixed with blood. If formed *fæces* do appear, says Sir John Pringle, they are generally in the hard, or indurated state called *scybalæ*.

This discharge by violent straining so far from giving relief, frequently brings on a *prolapsus* or *procedentia ani*, a circumstance very distressing, as it is at times apt to give rise to some other disorder about the gut. As to the appearances of the stools, these are various, the most common being of a slimy mucus, mixed with blood. In some instances pure blood, in others the appearance of matter in which raw flesh had been washed, form the prominent characteristics. In some cases the stools contain (as in Dr. Latham's description of that disease which may be looked on as scorbutic dysentery) what has the appearance of pieces of flesh. In others they exhibit a commixture of slime and mucus. Others have observed that in the milder forms or stages, the evacua-

tions generally consist of mucus of different degrees of tenacity, opacity, or transparency, or of this substance mixed with a small quantity of serous fluid, which is streaked or tinged with blood. In cases, however, of greater severity, the evacuations generally consist of thin mucus serum, with the addition sometimes of bile ; while, in other cases, they approach much nearer the resemblance of water, than to any thing else to which they can be compared. Such differences shew what parts are chiefly furnishing the secretions : this is easily accounted for by the villi and other parts producing the watery portion, and the glands, the mucus, or the muco-purulent, which last also indicates a modification of the attack differing from the others. These points fall to be considered more fully in the sequel. Such briefly stated are the general appearances of the evacuations in dysentery ; nor, where strict variety obtains, does it seem necessary, or even important, to pursue the enumeration ; for I cannot perceive any advantage to be derived from taking the *specific gravity* of them, and it is to be hoped that, although the subject is highly interesting, it is not of sufficient importance that we should have every dejection examined. I have heard some give lectures over the dejections with the pot in their hands, such a subject however is not pleasant to dwell on ;—suffice it to say, that those practitioners who attend to these utmost minutiae, are not by any means the most successful in treatment. It shall therefore only be added that the stools in point of colour, are to be observed from the darkest inky texture, to the different shades of green and yellow, exhibiting often a frothy appearance, with a peculiar sourness of smell.

When the dejections are more of a deeper black, or when a redness of colour, resembling coffee-grounds, forms the characteristic, and when the evacuations in this state

are accompanied with violent pain and tension of the abdomen, dysentery more generally ends in tropical inflammation, and its sequelæ mortification of the intestines. In fact before this discharge can take place, the patient is much reduced, the parts having taken on at least the first action. The blackness of the stools, in the majority of instances, may be rationally accounted for in the following manner. There must be either erosion or rupture of some of the smaller blood vessels of the intestinal tube, or a weakness of their coats; with a thin and altered state of the blood, it may thus come to ooze through them and by mixing with the other matter, assume the particular colour above referred to. This condition of the system, of peculiarity of appearances met with, has been described by Nosologists as the *morbus niger*, or *melæna*. Such a discharge we meet with in the black vomit, and it may with propriety be ascribed to a similar state of the vessels. Secretions of a foetid nature no doubt take place, but they do not bear an exact resemblance to the above, and it is therefore believed that these, in the great majority of instances, depend on the causes just pointed out. Every one I think will admit that, for a due performance of the secretions, there should be a quantum of action in the parts commensurate to this task, and that also for the same purpose there must be a due degree of nervous power, not only in the part, but also in the general system. Now a part which is over-excited has its actions increased, and so will the secretions, the part that has a weak action or low vitality will necessarily have few secretions, or a part having its nervous system destroyed for the time being cannot secrete, and whatever vessels are in the neighbourhood, become turgid from venous congestion, and they may part with some quota of their contents. In taking a survey of all the actions of the body, it is suspected that we will no where

meet with phenomena sufficient to change the statement advanced. Now let me ask from whence comes this black substance, or the atra materies. It cannot be from an increase of the secretions, for the system under such circumstances, is possessed of such low vitality as to be totally incapable of secreting it. These dejections, at least in so far as regards the quantity, could not be furnished in the same time as secretions, even in a comparatively healthy man, with an over-excited state of the alimentary canal. It is astonishing that medical authors should persist in calling this a secretion, either arising from the stomach or bowels, and to such an extent, and in such constitutions and under such states of the system, since we do not observe any secretion that is going on under such circumstances, but we do find that they are all in a diminished state:—no, no, when the body was incapable of doing so, before all its powers were overcome, is it not preposterous to believe that such can be the case when the vital flame is nearly extinguished? I have purposely overlooked the vitiated state of the bile, as a cause, for this cannot furnish the vast quantities that are thrown out of the body. I have said that such must therefore come from the blood, and from the vessels of the diseased structure, and that this fluid is forced by the *vis a tergo* of the languid circulation, either through the thin or abraded coats, into the intestinal canal, or that it escapes by infiltration into the diseased tissue, and from thence is given out into the canal. We may also now perceive the reason why death should be so frequent an attendant on the black vomit, or in the cases in which such ominous dejections occur, resembling coffee-grounds, since the system must be in a state of semi-dissolution, and that the blood is but little able of supporting the vital powers, being so thin as to escape, in many instances, through the coats of the

blood-vessels without rupture. Now the blood is not so thick as some may imagine; any one having seen a musquito drawing blood from the back of his hand, can easily see with what facility it fills itself, although the apparatus through which it passes, is all but imperceptible, being, in many instances, finer than one of the human hairs. The clearest proof of the matter is, that such atra materies is often found in the vessels themselves, and can be forced out by pressure. Now the cases furnishing the above must be dangerous in the highest degree, since the alimentary canal is either highly inflamed, or gangrenous, or in some way or other disorganized.

Having noticed the most frequent manner in which dysentery assails the inhabitants of colder climates, it is now incumbent on me to state in what consists the difference, between it, and that occurring in the tropical regions. Here, however, I am afraid little else can be adduced than that it is more sudden in its attacks, and runs with more rapidity to its ultimate termination, this from peculiarity of constitution produced from a residence in these climates. The disease at times gives no notice of its approach, but commences immediately after a copious draught of cold water, when the body is hot,—instances like these I have witnessed. The stools from the first were strictly dysenteric, consequently no time for the occurrence of fever. Such attacks as these take place from a sudden failure of the bodily powers, and, if not checked in time, they speedily do irreparable damage, fever soon takes place and the complaint becomes fixed on the intestinal canal, which very quickly wears out the patient. In some again there is a slight diarrhæa of a day or so,—then it becomes speedily dysenteric,—then we may have a few natural stools, and then again the characteristics of the disease; such are often very troublesome to manage, and, at times, among the worst cases for

treatment. Formed *fæces*, or *scybala*, seldom or ever occur in tropical dysentery, when such takes place, the attack is often at once overcome by emptying the bowels with a mild purgative, such as castor oil, but as this is apt to slip through in many of such instances unchanged, we would do well to have recourse to some more effective ones. The peculiarity of the discharges are much the same as those already noticed, but with more mucus perhaps; as they assume the true character more quickly, they of course contain a greater abundance of watery materials. From the circumstance of peculiarity of climate and atmosphere, producing irritability of constitution, which tells powerfully on the alimentary canal, the disease from the first assumes a more determined character, runs its course with astonishing rapidity at times, so that we meet with portions of the internal coat of the intestines in the discharges, as well as that albuminous sort of membrane which is formed in croup.

We may now turn our attention to other peculiarities met with in either climate. The abdomen is sometimes partially, and at other times universally distended, with flatus. In others, the reverse of this takes place, the belly being collapsed and drawn towards the spine. Again the converse of both these symptoms is to be witnessed, the belly appearing perfectly natural through every stage. Pain in the abdomen is not to be regarded as an universal symptom, though a frequent concomitant of dysentery. If not naturally present, however, or felt, it can in general be excited by pressure, at all events there is most frequently a tenderness of the bowels, and as it is perhaps always there, either before or after the discharge, it may be received as one general characteristic of the complaint. Care, however, is to be taken, not to ascribe this too hastily to inflammation, for it very frequently depends only on nervous irritation.

There sometimes occurs a painful and overpowering sensation at the pit of the stomach as if "animal life were hurt and lessened." In fine, there is pain more or less, either around the navel or in the region of the liver, bladder, &c. as a general symptom of the disease. Such pains subsiding in some instances, but returning again in paroxysms following the course of the lumbar nerves, shooting through to the back and loins, shewing that the pain in very many cases does not depend on inflammation, but merely on nervous irritation. I am the more particular on this point since we may gain much in our treatment, by attending to the above distinction.

Inflammation, which is a general, and almost certain consequence, of long continued pain in any part of the system, and particularly in the viscera of the abdomen, should remind the practical Surgeon of the necessity of his best efforts to remove it. The practical effects in the case of cramp in the stomach, laborious and difficult parturition, cholic, &c. sufficiently illustrate the importance of the speediest and best remedies being attempted, in order to avoid the consequences of pain being allowed to remain till inflammation is induced, as it will to a certainty occur if not relieved, and demand from the practitioner the utmost solicitude for its alleviation, especially when it occurs in any obstinate degree within the abdomen. The reason why we should be so anxious for the removal of pain may be stated in a few words. It prevents the parts from being brought to a low state of action, or running on to a high one, and thus producing inflammation in either state of the body, as shall be afterwards shewn, by keeping up an undue stimulus. Now if pain operated generally in one way, we should always have an inflammatory action induced, but it does not do so, for it also frequently exhausts the vitality of the parts without producing the former; it is, therefore, of the ut-

most consequence to have it removed, for exhaustion may proceed to such a length as to destroy the parts completely, and the system, coming to participate in this, very often suffers in consequence. This, however, is not all, for supposing inflammation induced from some other cause, after the bowels have been long harrassed, then we have it attacking a weak part, which is now but ill calculated to withstand many of the consequences that may ensue. Dr. J. Burns observes “ in one sense “ pain may be considered in the same light as those “ causes which act directly on a part, such as heat, “ acrid substances, &c. and even when occasioned by “ the abstraction of a stimulus as for example, by cold, “ it is quite competent to derange action, and produce “ inflammation. If this view be correct, I need scarcely “ add, that in all cases of great pain affecting vital or- “ gans, we cannot be too anxious to have it relieved “ and that without any regard to comfort, or to rapid “ exhaustion, but even if we confined our consideration “ to the secondary effect ; it must also in all cases of “ wounds and after operations be of the utmost impor- “ tance to allay pain.”

It has been remarked, that when pain arises from any of the small intestines, it is more acute, than when the larger viscera form the subject of the disorder. I do not know that this is exactly correct in a practical point of view, but from a consideration of the parts, we might certainly expect it to be so. Pain, when felt around the umbilicus, is said to indicate the affection of the small intestines, and that when these are disordered the stools and gripings do not instantly succeed, while in this state if there be any evacuation, it is extremely fætid and with blood ; this may, and may not hold true as regards tropical dysentery.

In respect of the larger intestines, it is also said that

stools quickly appear after the griping pains, and with scarcely any mixture of blood. These are, however, minute distinctions, which are not introduced from any idea of their practical importance, farther than to enforce the necessity of removing by all practical means, the continuance of pain within the abdomen, in order either to avert exhaustion, or inflammation of these parts. As the disease advances, if no relief is afforded, and even after the most skilful applications, if the pains and tenesmus become extremely severe, the intestines greatly distended with flatus, these add much to the sufferings of the patient. The tongue at this time may be covered with a black or brownish crust. *Apthæ* not unfrequently ensue, with severe convulsions, and *subul-tus tendinum*, such are more likely to occur in cases of considerable duration, and when attended by fever, especially of the low typhoid sort, or when the disease has been too soon attacked by astringent remedies, the pulse becomes exceedingly weak, frequent and intermitting. The countenance contracted, or the *fæces Hippocratica*, an appearance more palpable to the eye of the observer than can be conveyed in language. This Hippocratic countenance attends sooner or later all severe disease of the alimentary canal, according to the intensity, and duration of the attack. The pain of the abdomen, when it suddenly abates or ceases, is rather a bad omen, as it in all likelihood indicates gangrene of the intestines, or the parts affected. *Singultus*, a cold clammy sweat pervading the system, coldness of the extremities, *fæces* black, or of the chocolate appearance, formerly alluded to under the description of the black vomit, with a very fætid odour, the urine and stools passed involuntary are bad, very bad attendants, and shew speedy dissolution. As to the state of the tongue, during the continuance of dysentery, little more need be

said. In the early stages it varies from a colour of red polish, shading sometimes into a white tenacious mucus, and towards the close it assumes the colour, as above described, with the fauces not unfrequently covered with apthæ. The former of these symptoms, however, more generally characterises the tongue through the whole progress of the attack. When it is clean and moist, and of its natural colour, or when again it is more red than it ought to be, and loaded at the same time with mucus, these appearances may be regarded as rather anomalous.

As to the state of the pulse, much has been said, and much to little purpose ; there are some who do nothing in this disease or any other, without paying the most rigid attention to its beating, nay so fond are they, that they will dispute a pulsation or two, and in the mean time but little attention is paid, to what ought to be the more immediate object of our inquiry ; thus betwixt the pulse and stools they have enough for their satisfaction. Others, again ; do not bestow any thing like the same attention upon it. Much depends on the character of the complaint, since, at times, especially in tropical climates, we find the disease proceeding rapidly, and yet the pulse indicates nothing of the actual amount of disturbance, or even any thing of an inflammatory action going on, so that unless the lancet, or some other remedial measure of bleeding be used, we lose the patient. In some cases the pulse is not materially affected, in others it is frequent, weak, and intermitting, such depending, in a great degree, on the constitutions of our patients, as well as the nature of the attack. As to the merits of venesection in dysentery, these will be afterwards closely examined.

An immoderate degree of thirst sometimes takes place, the patient complaining of a bitterness in his mouth, and fauces, loathing of food, the urine small in quantity, and acrid in quality, with considerable pain in avoiding it,

accompanied at times with a most severe and distressing stranguary. From the severity of the attacks in hot regions, the affection of the urinary organs is very frequently to be met with, and it proves tormenting ; when I was attacked with dysentery, not only at the Mauritius, but also more than once in the East Indies, the stranguary was highly distressing,—forming a considerable item in my sufferings. Worms sometimes make their appearance in this complaint ; I have only met with a couple of cases, which might be said to be clearly dependent on this as a cause of production, at all events they contributed to the protracted nature of the complaint when it was once in being. One of the cases was that in which a large tenia, of from three and a half to four yards in length, was passed after the administration of a couple of scruple doses of calomel. This patient, an invalid, had suffered severely, and for a long time, from dysentery contracted on the coast of Africa, it did not appear that he had ever been effectually under the influence of this medicine, at all events his mouth was not touched when he was received on board for a passage to England, after being a day or so here, one scruple was given, and in a few hours another, when the worm was passed, of which not the least idea was entertained, and the dysenteric symptoms very soon after easily yielded, and he became stout, ere our arrival in England. I have but little doubt that these worms might have been more frequently met with in former times amongst our seamen and soldiers, considering the difference of diet and other comforts which they now enjoy, from those to which they must necessarily have been subjected, during a long war. When they do make their appearance, I believe we may justly consider their presence as depending on debility, and not to be regarded as a cause, or symptom of dysentery, which runs counter to the opinion of the cele-

brated Linnæus, who regarded the disease as produced almost solely by a small worm inhabiting stagnant pools, or other bad water. Worms, when present, often increase the symptoms, and, when got rid of, the irritation almost entirely subsides, and the other items of the complaint soon cease. In the warmer latitudes, they may certainly add greatly to the irritation of the bowels, where they are so much exposed to this from other causes. The great nidus for these reptiles seems to be the mucus of the intestines, and of this there is frequently an abundance during the progress of the disease, and we must presume upon debility as arising from the complaint itself, as we seldom find worms in the alimentary canal of the strong and vigorous, but frequently in the weak and debilitated, or in children before they reach any considerable strength. I am rather disposed to regard such debility, and the existence of the mucus, as the cause of their existence, or remaining in the intestines, than to admit their presence to be a cause of dysentery. From the foregoing reasoning, if correct, it seems to follow that unless we can expell the mucus, and at the same time restore the patient's strength, with proper applications, it will be impracticable entirely to get rid of these worms infesting the alimentary canal.

Medical men have cavilled not a little on the subject of a fever attending dysentery. It may afford some instruction to look into this point. Some authors of repute affirm that febrile symptoms with contagion are inseparable concomitants, and suppose, that the fever is the exciting cause of all the symptoms, and that alone, by which we can distinguish between this and all other disorders of the alimentary canal, attended with profuse evacuations. But others of undoubted authority assert that fever, at least in the primary stages, is not always present, and hence a difference prevails among au-

thors, as to the mode of description. I am inclined to side with the latter ; since too violent cases of the disease have been noticed as arising from the drinking of cold water, when the body was drenched with perspiration, and yet unattended by fever. If necessary, many authors could be quoted as to the disease occurring without a febrile attack ; for, as Sydenham has observed, the attack begins oftener with gripes, without any feverish sensations, than by rigours succeeded by heat. Dr. Latham affirms that he has seen cases of a most *malignant nature*, without any feverish symptom, the pulse beating not more than sixty, and many others could be quoted as to fever not being a primary and diagnostic symptom. Supposing, however, that each has marked with justice, what came before him, it follows that both circumstances may occur ; and this will be shewn to be strictly correct when I come to treat of the inflammatory nature of the attack. It is an indisputable fact that, in the bulk of cases, particularly as the disease gains upon the constitution, it is attended by fever as might have been expected ; this we are told along with other diagnostic symptoms, is to be considered as the distinguishing feature between dysentery and cholera. Every practical Surgeon, who has seen many cases of either disease, can form his own conclusions as to the correctness of the above ; few would be apt to mistake cholera for dysentery, for, in the latter, there is none of that severe sinking of the animal powers, which we meet with in the former. The valuable information, which we have obtained from the researches of many, concerning the inflammation of the mucous membrane of the alimentary canal, it may be said, throws some light on this subject, where it is present, we may consider fever to be decidedly a dysenteric symptom. Dr. Latham observes “ that many poor wretches afflicted with this “ *inflammation* were given up for lost, and were just

“ ready to perish at the time, when recourse was had to
 “ mercury. They lay in bed without fever, without pain,
 “ without excitement of pulse, but with a turbid water
 “ continually running from their bowels. Their com-
 “ plaints (as long as they did complain) was of that
 “ dreadful sinking pain at pit of stomach, but now their
 “ complaint had ceased, being roused, they looked up for
 “ a moment but made no lamentation and then laid
 “ their hands down again in despair. It was too
 “ dismal an office to watch over their tardy disso-
 “ lution, and witness the frustration of every ex-
 “ pectant for their relief.” The above has been quoted
 in order to ask if this was cholera or a disease allied
 to it thus early in England? The description, al-
 though giving a good view of scorbutic dysentery, yet
 appears to answer in many points to many cases of
 cholera as met with every where. Thus we may have
 a certain state of the body induced, by a cause operating
 quickly, or the same may take place from diseases affect-
 ing the bowels for an indefinite time. There is another
 point of some moment to be noticed, and that is as to
 the inflammation mentioned : I believe that no such
 state was in existence, for it had either ceased to be in-
 flammation, or that it proceeded from nervous irritation,
 from an excitement of the parts, either through the me-
 dium of the general system, or of the nervous extremi-
 ties of the parts themselves being irritated. We know
 that when these secreting parts are excited, only a
 watery and fluid mucus is the product ; but give the
 parts more action, and induce inflammation, and we have
 a different secretion. We would have been well had
 these “ poor wretches” been possessed of stamina
 enough so as to have been capable of taking on inflam-
 matory action, as many more would in all probability have
 been saved. I am strongly inclined to believe that the

cause producing the above disease in the Milbank Penitentiary, was something analogous to that which produces cholera, and although operating more slowly, yet as certain of its victims. If it is allowed to be dysentery, then it evidently appears that those authors who insist on fever being an inseparable symptom, have not attended in all cases to the peculiar and important aspect of the disease, while the undoubted authority, to which I have referred, sufficiently proves the fact that dysentery may exist without fever. What is fever, or more properly the invariable symptoms attending such a state of the body? My answer is that it is an acceleration of the pulse, with an increase of the temperature of the body. These two symptoms may be said to be constant attendants in all those diseases named febrile, and they are produced by a vast variety of causes; so much so as to preclude the possibility of my entering on them in this place;—amends, however, shall be made for this, by introducing a very long quotation from Dr. Burns.

“ There are two kinds of fever attended by local disease. First, in which the local disease has acted as a cause exciting the origin of the nerves. Second—those in which the excitement was more immediately and directly produced or engendered in the origin, and this may produce improper action in the extremities of the nerves, or disease in the part supplied by them. And the general fever may exceed all proportion to the local disease, still more frequently in this, than in the first division. Now applying this division to inflammation, we do not find that in some instances the immediate exciting cause, does first manifest itself by the production of fever, and then the local disease takes place, whilst in others the local inflammation exists for a short time before the fever appears. There

“ is also a third class of cases, where they are so nearly
 “ simultaneous, that it is impossible to say which has
 “ the precedence. Let any one keep an accurate ac-
 “ count of the history of his cases of pleurisy for in-
 “ stance and he shall find, that in many of these his pa-
 “ tients after being exposed to cold, wet, and fatigue
 “ had a shivering fit, went to bed, were restless and
 “ burning hot all night, next day felt uncomfortable
 “ about the chest, began to cough, and in the course of
 “ that day, or of the next night had for the first time
 “ pain in his side. Now I am quite aware that it might
 “ be said, that both general and local disease began at
 “ one and the same time, and from the same cause, but
 “ that only an excited, not an inflamed state of the
 “ pleura at first existed. But I am entitled to ask the
 “ proof of the existence of local disease, before local
 “ symptoms manifested themselves, and at liberty till
 “ satisfied on this point to adhere to my own opinion.
 “ Now what every practical man must have seen often
 “ in pleurisy, he may also have observed in inflamma-
 “ tion of the brain or bowels. We know that there is
 “ no acute inflammation of the brain or peritoneum
 “ without pain, which is one of the first symptoms. We
 “ know also that causes acting on the stomach, &c. may
 “ not produce immediate local inflammation, but first
 “ of all fever, and then inflammation. Thus a person
 “ greatly heated may imprudently drink cold water, and
 “ have severe pain like cramp produced and die speedi-
 “ ly. But we also know that the first effect may be a
 “ shivering, followed by fever, and no pain may take
 “ place in the abdomen for some hours, although the
 “ progress of the disease, and dissection after death
 “ establish the production and existence of inflamma-
 “ tion. Could we be always apprised of the illness, or
 “ on our guard as to the possible result, when we are

“ consulted how many fatal inflammations might be
 “ prevented by venesection, &c. after the fever fairly
 “ begins, but before the local disease takes place, and
 “ whilst the origin of the nerves is alone, or at least
 “ powerfully affected. It may also happen that a fever
 “ thus produced by cold or other cause may not pro-
 “ duce inflammation of any of the viscera, but may so
 “ affect some of them as to cause by their sympathe-
 “ tic influence on a third place an inflammation there.
 “ The influence of the Chylopætic viscera on the skin
 “ is notorious and cutaneous inflammation is often pro-
 “ duced in many modifications by that influence, both
 “ in children and adults. Now whether the fever pro-
 “ duce the state of any of these viscera, which leads to
 “ cutaneous disease, or whether this state first of all
 “ produces fever, and then cutaneous disease we know
 “ it to be a matter of fact that erysipelas is often pre-
 “ ceded for a day or for two or three days by very
 “ smart fever.

Having now gone over all the more important items
 of the symptoms, it might be expected that I would
 attempt a classification according as they are to be
 met with in the different cases, as proceeding from
 different causes. This, however, it is unnecessary to
 do, since all of them assume very nearly the same
 characteristic features, from whatever cause produced,
 and also that few can mistake the disease when they
 first meet with it, and I believe that they would find no
 material damage to arise from treating some cases of
 diarrhæa on the same principles, for both, when they
 are so nearly allied, may admit only of one mode of pro-
 cedure, in so far as regards putting a period to the purg-
 ing.

CHAP. II.

SECTION I.

THE CAUSES OF DYSENTERY.

Galen says that the cause of a disease is that, during the presence of which, we are ill, and which being removed the disorders cease.

These may be divided into predisposing and exciting. Many predisposing causes, says Cullen, have been assigned, although it may be said that few are satisfactorily known. It has been asserted that the following may be held as predisposing causes of dysentery—such as bad and indigestible food,—bad water,—disease of the liver,—acrimony of the blood,—bile,—vitiating secretions of the fluids of the body. To these more may be enumerated, during the prosecution of the enquiry into each cause separately. I may ask is there frequently existing in the system a latent disposition to the disease, ere any of the above causes can produce it? this I strongly suspect, for if not so, the same causes should produce it at all periods of the year, but we know that they do not do so, what this may be will appear in the sequel. I now observe that dysentery is more prevalent after arid seasons, succeeded by moist, damp, foggy weather. This is distinctly enough manifested to those who are well acquainted with a seaman's life. Those who have been long at sea may have observed that, in the transition from different latitudes, the men are at times particularly susceptible of bowel complaints—especially when the weather has been for sometime moist or wet, and the diet consisting of salt provisions. It is not surprising that such should be the case, when we reflect that a month or two months living on this sort of food predisposes to disease, by rendering the bodily powers weak;

hence any cause, as that arising from the altered state of the weather will to a certainty be liable to assail constitutions under these circumstances, and as the bowels have the most extensive supply of nerves, and are, on this account, more under the influence of the wet, they will be attacked;—the extent to which the disorder may proceed depends greatly on many points. This is more likely to be the case as this salt *injesta* is not of the most proper kind for affording nourishment—at all events for a length of time, thus when any acrid substance exists in the alimentary canal it is, under such a state of things, very apt to be excited by the smallest cause, thus then an irritated state of the canal is produced,—a purging ensues, and may continue until the cause producing this be expelled either by the efforts of nature or medicine, but as yet there is no inflammation; for I say that this purging is produced by nervous irritation. Now what happens to seamen is also liable to occur to people on shore, who, although not living on salt diet, yet are as liable to be affected by changes in the state of the atmosphere, and by some alteration in their diet at this time, as the class referred to: thus then all ages, and habits, and different constitutions are subject to the attacks of dysentery, but some more particularly than others. Those, however, who exist on bad and indigestible food, particularly under these circumstances—those weakened by previous disease, or those who have been long exposed to the debilitating effects of an inter-tropical climate, for here as the nerves are that power through which the heat of the human body is produced, such states of the atmosphere, especially when cold also, calls them too powerfully into operation; this ends in nervous irritation of the alimentary canal, and a purging is the consequence; in short then those to whom the

necessaries of life have been denied, or but scantily supplied, are more liable to its assaults, than those placed under different and opposite circumstances. Did these remarks require any support, such could be easily and satisfactorily given. I shall introduce, for this purpose, as well as for another, the following statement of Dr. Cheyne “ I have analysed ninety-eight cases of dysentery which were carefully noted and I find that thirty-three of these arose during the recovery from fever, fifteen while the fever was in progress, fifteen from cold, or cold and wet: four from indigestion. The rest were doubtful: but many had been exposed to febrile contagion, and nine in close communication with patients labouring under dysentery: four had been nurses in wards where the disease had occurred: four had slept with dysenteric patients, of whom one had used the same night chair.”

I am much inclined to agree with the venerable Sydenham in his opinion, that the bloody flux was in some seasons only, the fever turned in upon the bowels, and “ put off in that way,” and that the “ morbid cause” was thus thrown off by stool. It has been stated that men are more subject to this complaint than women, but this, it is presumed, will only hold true in camps, ships, and other places of male confinement. However, they may, under certain circumstances of bodily fatigue, and atmospheric exposure, be more subject to this disorder than the other sex. Some are of opinion that the disease is induced by an accumulation of putrid matter in the intestines, or from a defective secretion of bile, others again, that it originates from eating an undue quantity of rich fruits, but this last assertion is to be admitted with some caution, or limitation, as regards our own climate; as it must be evident to every one that this can only be admitted as a cause, when they are to be procured, and

this will not serve to account for the presence of the disease, when it is of an endemic or epidemic nature. The summer fruits (and of these I am now speaking) are for the most part found to be of an excellent mild laxative quality, if, however, taken in immoderate quantities, especially if unripe, they may produce irritation or excitement of the nerves, and thus irritation of the alimentary canal; whatever then is capable of inducing this state may produce either diarrhæa or dysentery, for I view the one as being only a milder form of attack, than the other. At all events, in many cases, it may be observed in this place that excitement can exist without irritation, they differ in this that mere excitement will not, in the generality of cases, if ever, produce inflammation, whereas the other is only one step removed from it, and it is apprehended is necessarily present before the latter affection can take place. A person unaccustomed to take snuff, will have the mucous membrane of the nostril at times excited by strong snuff so powerfully as almost, at once, to call forth the secretions from the otherwise parched parts, and it will drop from the nostrils, this also happens to those who are in the habit of using this article, such then may be an instance of excitation producing an increased discharge, this without irritation which would have been the case had the former action not worn off. Such then may be of great moment to bear in mind, not only as regards the treatment of bowel complaints, but also of many more which assail the constitution. The cases, however, that arise from the eating of fruits are not numerous, and are more properly sporadic, when they do occur, they may be rendered more mild from the gentle purgative property of the cause, to which dysentery, in this instance, has been ascribed. There is a difference, however, in this respect in the colder regions, and as regards the more tropical ones, for, although in the former,

we may do such with comparative impunity in many instances, yet, in the latter, where the constitution from the degree of action it has to keep up, especially on our first arrival, and the irritability to which it is thereby exposed, should render us circumspect in our conduct—at least for a season or two. Tropical dysentery is not unfrequently produced by the undue or unlimited indulgence of fruits of whatever description, but more particularly the acid ones. Much care is therefore required, on the part of those who have newly arrived in the country, that they be not constantly drinking lemon juice with water and sugar. I am positive that I have seen many cases attributable to this cause alone, and these by no means slight.

As to bad water being a cause of dysentery, I have only one thought on the subject, and it is that it does, not only this, but it produces bowel affections in general. I may mention that by the term bad water is implied, such as is procured from marshy situations, at particular seasons of the year, when perhaps it has been long stagnant, or when procured after rains, when we will find it not unfrequently mixed with many foreign particles. Many Naval surgeons, it is believed, can bear me out in this assertion, and that they, as well as myself, have seen many instances of dysentery, in consequence of using such, and those acquainted with the Mauritius, and many places down in the straits about Malacca, will have few scruples in giving an affirmative. It may be mentioned that at the first named Island there is bad water of this description at the Powder Mills, which sometimes produces, as I have been informed from good authority, bloody urine, when taken for some time. When our men were stationed there on the taking of the Island, many were the cases of bowel complaints; so much so, indeed, that it was suspected that the water had been poisoned. This

was a mistaken notion, as it was found that the rivulet received its supply from the waters of a low marshy land in the immediate vicinity. I have been told that in the present day it will produce bloody urine. I also recollect well a singular appearance which the water that was procured from the town jetty had, shortly after it was brought on board—it became thick and transparent, approaching to the consistence of thick starch water. Dr. Bower, Surgeon of H. M. S. *Tweed*, sent some of this to one of the chemists of the town to be analysed, he, however could not discover what it was owing to, and it was believed, to get rid of the difficulty, denied its existence, in toto. Such an occurrence in the state of this water, was perfectly evident to all the Officers on board, for when poured out of the goglets, into the wash-hand basins, it would run from their mouths as if it had been very thick oil, and also was thickish to the feel. I poured some into tumblers, then added some rum, which floated like oil on water; when stirred, it would in some instances mix with it, as if it had been a thin jelly, at other times, the rum would soon dissolve the water, then it was by no any means unpleasant. This is a curious fact, and I have seen the same appearance in 1828, 1829, and 1830. Along the coast of Madagascar, the bowel complaints and fevers are very prevalent, equalling in severity those to be met with on the west coast of Africa, at certain seasons of the year, the former disease the Europeans and Creoles ascribe to the badness of the water, which, in certain months, they never drink without qualifying it with some spirits. Many know that at Bombay, about May and June, the water from being bad is none the worse of being seasoned in the same manner, as without some addition of this kind it would not be safe to taste it. Most of the water obtained, in the dry season, is brackish, as the tanks are below the level of

the sea. It ought to be a rule, with all Masters of Vessels not to allow water of the above description, to be drank by their men, until it has been on board for at least two or three days, so that the foreign materials may subside :—I have met with cases of dysentery produced from this cause alone. If we grant to marsh miasm the power of producing certain diseases, and, in particular, that it acts by deranging the nervous system, for such an opinion I can see no solid reason to object to, it is not to be wondered at then, that the water procured from such places should be impregnated with a portion of these properties whatever they may be, especially when there has been much rain, after a long continuance of dry weather.

With regard, in the next place, to diseased liver having any thing to do as a predisposing cause of dysentery, few of the present day will be inclined to give a decided affirmative. For, when we recollect how prone the liver is to disease, especially in hot climates, we can account for the existence of the complaint, along with diseased liver, in a more satisfactory way, than by tracing it to this cause. Indeed I am inclined to hazard the opinion that disease of the liver is rather an effect, than a cause, since, it is clearly proved from dissections, that in a plurality of fatal cases of dysentery, no morbid appearances of this viscus were to be observed, and it seems superfluous to add, that a multitude of cases of diseased liver have been known perfectly unconnected with dysentery. We will sometimes meet with both complaints in the same patient, this more frequently in hot countries, and I have little hesitation in asserting that the one may be a predisposing cause of the other, just as gout is so much more apt in the retrocedent species, to infest a weak part, which is either the stomach or brain. We are now pretty well aware that, in whatever part of the body a

viscus, from some peculiarity of constitution, or other cause, being frequently excited, becomes weak in its powers, that a disordered state of any other and distant portion of the system, will be very apt, under certain circumstances, to draw into diseased action, the weakened part and now both may act reciprocally, the one on the other, then we have most serious disturbance with perhaps high fever,—just so then the bowels with the liver. This may be explained in somewhat the following manner. There is no part of the body whatever degree of vitality it may be endowed with, but draws part of its support from those portions in its immediate vicinity, thus it is enabled to resist disease longer, or when attacked will hold out against remedial measures, according as it may be in good or bad company, or parts possessed of low or high degrees of resistance. So the intestines and liver, portions of the body in possession of the highest life, from their being placed in a manner in the very centre of the circle of actions, when either the one or the other is attacked, it is no wonder if it should endeavour to transfer part of the onus on the other, especially when they have more to contend with than they can well manage. The manner in which this change takes place appears to be something of the following sort, the extremities of the nerves, in either case, becoming excited and irritated, from thence they transmit a morbid impression to their origins, from this again, through the medium of other nerves it is sent forth to disturb the actions of the parts they supply, and we shall have disease produced according to the state of the patient, the constitution of the atmosphere, and the nature of the prevailing disease. Now such things are by no means of unfrequent occurrence, as any medical man can testify who gives strict attention to other diseases besides dysentery and hepatitis:—an elderly gentleman falls from

his horse, sprains the ankle severely, but being of a gouty diathesis has the gout produced, and it goes through its course, such examples must be familiar to many, it is superfluous therefore to enlarge on this subject, such cases of double action, if I am allowed the term, are very often extremely difficult to manage, since they are so liable to go wrong from the highest variation of diet, or atmospherical changes, and when they become chronic, the sooner a change of climate is effected, the better for the patient. Mr. Marshall in his *Topography of Ceylon* says "there does not seem to be much difference, in the fatal progress of dysentery, when complicated with diseased liver, from its course when apparently uncombined." It may be observed, however, that the liver attacks in such cases are very often insidious in their nature, and proceed rapidly in some cases to abscess, at all events they do not admit of the same facility of treatment as when uncombined.

The acrid state of the bile has also been alleged as a predisposing cause of the disease, and there is no doubt but that at times it does disturb the economy of the alimentary canal. But as to its being admitted as a general predisposing cause, especially in the colder regions, seems rather improbable. If, however, the bile be acrid, and this added to the other causes operates externally, and at times when it passes over an inflamed, or irritable and sensible membrane, like that of the intestine, it will either tend powerfully towards the production of dysentery, or increase the severity of the symptoms, when it has already laid hold of the constitution. I am at liberty to ask, how it happens that the smaller intestines, through which it first passes, are so much more seldom the seat of dysenteric attacks, for we know that they are much less frequently the seat of the disease, and are not by any means so frequently found

ulcerated as the larger, and until satisfied on this point I keep to the opinion, that it is a cause the operation of which is more frequent than many would lead us to suppose. Perhaps the reason of the above may be that the bile passes through the smaller more quickly, and that the larger are not only the reservoir for this, in all probability now much changed, but also for every other secretion poured out into the tube: hence, from the retention of these acrid and fœtid substances, they are more prone to the ulcerative action from the continual excitation and irritation that necessarily exist. From the above, it seems to follow that much good may at times be derived from keeping the rectum free of these substances if such can be accomplished with safety. That bile, whether acrid are not, does add much to the torments of our patients, in hot countries, there can be no doubt, since we very frequently meet with cases in which the passing of the dejections is compared to "melted lead" running through the bowels.

As to putrid substances, and the odour arising from them, being an occasional predisposing cause of dysentery, I have no hesitation in admitting. On this subject there is not exactly a concurrence of opinion amongst medical writers: a brief sketch of the state of Ireland during the prevalence of this disease, in many parts of the country, from 1818 to 1821, may go far to illustrate a point, which is perhaps already abundantly obvious. Dr. Preston's supplementary paper to Dr. Cheyne's excellent account of that disease, during the period referred to, contains the following summary, "Dysentery was very prevalent amongst the inhabitants of Limerick during the summer months attacking all classes, but the poor who lived in the confined narrow filthy lanes, and streets were the chief sufferers and numbers died. Numbers of cases originated in the neighbourhood of the large slaughter houses,

“ after an immensity of offal had been thrown out and
 “ exposed to the action of the atmosphere, several of
 “ the soldiers” he goes on to state “ were seized while
 “ on guard during the night in the neighbourhood of the
 “ Jail, where there is generally a great accumulation of
 “ all kinds of dirt and filth.” Cheyne himself corroborates these statements, and amply confirms what Preston has said as to the pernicious effects of putridity in producing dysentery in the city of Dublin. Where sufficient attention is not paid to cleanliness, in every respect, in the tropical regions, how much more powerful must this cause act on the human constitution, where every animal and vegetable substance runs so hurriedly to putrefaction. How does this cause act on the body?

In regard to the acrimony of the blood, and that of other vitiated secretions of the body, such are either induced by the disease itself, or occur as a consequence of other complaints, such as scurvy; in these cases we have very bad dysenteries to treat; before such can be cured we must rectify the condition of the system inducing the dysenteric purgings.

SECTION II.

I now come to treat of what may be called the exciting causes of dysentery. These may be comprised under the following heads, cold, especially when joined with moisture, or this last with heat, marsh miasmata, contagion, &c.

Either cold or heat, under certain conditions of the body, will, when long continued, produce debility, as, for example, when applied to an inflamed part; this it may also do, although but for a short time applied, under other and opposite states. These act in two ways, either by raising the parts much above their natural standard of action, or by depressing them; no notice at present is taken of the salutary effects, which they produce in other instances, it therefore behoves us to be careful in our local remedies to inflamed parts, that they should always

prove agreeable to the feelings of the patient ; for what does not give relief, will most frequently do great harm. Heat, or cold, purely such, it has been supposed, will not occasion dysentery in any man, but for this purpose they must be in combination with a something else. I cannot see why either the one or the other, by producing certain changes in the whole system, may not occasionally give rise to the disease ; but we seldom meet with cases arising from either of these causes, and if disease is induced by them it is generally of another sort. To produce dysentery, these, as causes, must generally be combined with a moist state of the atmosphere, which we, in general, find at the period when the distemper is raging, but exposure to a dry current of cold air, when the temperature of the atmosphere is moderately warm, or if the body be perspiring, will at times produce a catarrh, then, if it can produce such, I can see no reason why, in other constitutions, it may not induce a purging. The disease induced depends on many circumstances—such as the predisposition of the patient to either the one or the other, there are many other very important points, connected with this part of the subject, which will fall to be considered. What takes place from the application of cold or heat to an inflamed part, may be occasionally productive of serious damage to the general system, when under a more universal exposure ; we, therefore, meet with many diseases arising from each of these causes : every man is not therefore adapted for a change of climate. Thus we may observe a man in a warm climate becoming fretful, depressed in mind, and at length debilitated, yet all this time there may be no actual disease, but at length it shews itself either in the shape of dysentery, or some other harrassing complaint, and now he either soon falls a victim to the exposure, or saves his life by a change of climate, or perchance the constitution becomes through time better enabled to withstand the change. All such

attacks are, as might have been expected, extremely difficult to manage, for here we have not only to remedy the evil arising from the climate, but also that from the disease, a thing often very troublesome to do; this proceeds from the one acting on the disease, and this again on the constitution. The manner in which cold, or heat in combination, acts on the human constitution may, I think, be satisfactorily explained in the following manner. The nerves, being the medium through which all sensations or impressions exist in, or are transmitted to the general system, must surely be that through which every cause operating from without can gain admittance, and it is to little purpose whether this be through the blood, or not, since this also acts on the same powers before any disturbance can take place. The skin, or surface of the body, being thus acted on by the cold moist air, through its nervous influence, will transmit these unpleasant impressions to their origins, from hence again they may be sent forth to other parts, or produce disease in the brain itself; but as this part is more capable of resistance than other portions of the nervous system, hence they will come to be assailed in proportion to their debilitated condition, and as those of the intestines are generally more liable to be excited than other parts, the disease settles upon them. Now the nerves of the lungs may also be the medium through which these impressions are transmitted to the sensorium commune. In this manner, then we are enabled to account for many phenomena, which have hitherto remained inexplicable. Independent of the above, however, dysentery may take place in another manner, and without producing such a general commotion of the whole body. The skin has a powerful influence over the viscera, and vice versa, as we all know, explain it in what manner we choose, and derangement of the one often produces serious disturbances in the other; we

are also well aware that such occurrences may take place in any constitution, but such chiefly among those who have their bodies enervated by repeated debauches, by debility from whatever cause arising, whether from disease, fatigue, mental depression, or from long residence in a hot climate. The above then renders the skin extremely liable to be acted on by any sudden change of the weather. The alimentary canal, from the causes above enumerated, is but ill able to resist, hence by a transfer of action it must come to suffer, and this without inducing general disturbance,—consequently there is no fever. Under these circumstances, then, when the purging takes place, does this proceed from an inflamed state of the parts?—I am inclined to give the negative to this question, and that in such instances we must be careful not to treat the disease, on too general principles, by the abstraction of blood, for here we have no profusion of the vital fluid; it becomes us, therefore, to allay the excited state of the intestinal tube by other means than the use of the lancet. The presence of the dysenteric attack, in such constitutions, and even in others, may be accounted for in the following manner, when the patients have been exposed to heat or cold with or without moisture. We are well aware that cold acts most powerfully on the surface, it checks or lessens perspiration, constringing the exhalant vessels of the skin; thus the perspiration is thrown back into the general system, and obtains a ready outlet by the bowels, from the well known sympathy that exists between these two parts, the skin and bowels; in this way a common purging is often produced. But as the alimentary canal does not always afford a speedy exit to this acrid, and I may say offensive matter, from accumulation, it produces a higher degree of excitation, or irritation on the nervous extremities of these parts, as well as the smaller vessels themselves, hence we have

the commencement of the purging, or of other serious distempers, as fever, inflammation, &c. The checked and offending perspiration, acting, by its constant presence, as a foreign ingredient, and also in conjunction with the previously excited state of the tribe, produces, in all probability, the spasmodic constrictions of the intestines---these Dr. Cullen supposed to be the proximate cause of the dysenteric complaint, and all its attending symptoms. What happens in a climate, such as our own, from cold, is experienced, to a still higher degree, in the tropical ones, and this is pre-eminently the case, where any sudden transition takes place, from a more ardent heat, to a more severe cold. From the above principles it not unfrequently happens that men who are seen regaling themselves during the day, are assailed with dysentery at night, or when the effect of their debauch begins to wear off.

As to the subject of repeated debauches, little need be said; medical men are fully aware of the great risks such people run; if this is so much the case at home, how much more destructive must it prove abroad, where there are so many other causes in operation. The baneful effects of spirituous liquors, such as are to be met with in India, and elsewhere, under the circumstances of cheapness, strength, and impurity, are but too well known to those who have been there, and had an opportunity of observing. I have witnessed, amongst seamen, some of the most dreadful cases of intoxication that could be possibly seen. Shortly after their arrival, there appeared liver complaints, with not a few cases of enteritis, as also dysentery. This last, was of more frequent occurrence at the Mauritius. These diseases are of no uncommon occurrence; it is therefore incumbent on every medical officer to take as much care as possible that the men do not suffer from this cause. In every case of intoxication, when the cause of excitement is nearly worn

off, the body becomes languid and inactive; now is the period when it is most easily assailed by the causes which operate towards the production of endemics and epidemics. A seaman's life, be it recollected, is not by any means one of indolence and ease. We are perfectly aware that he is necessarily exposed to all the vicissitudes of climate, we ought, on this account, to be well acquainted with what is most likely to prove detrimental to him. This month, for example, he may be in a climate where he requires all the warm clothing he can procure, while in a few days or perhaps a couple of weeks after, he will be scarcely enabled to endure even the lightest. Dr. Trotter observes "the early entrance on ship board, "whether in His Majesty's service or that of the merchant, before education has been completed to regulate the moral conduct; the bad example of others "and the abominable practice of grog drinking, lay the "first foundation for this pernicious practice: To all "these may be added, those merry makings and "gusts of joy which the thoughtless sailor plunges "himself into, when he returns from a long voyage, "and with plenty of money in his pockets." Frequent debauches, especially in hot climates, are peculiarly injurious, since here we have two stimuli acting on the body, both tending to depress. These, then, must produce such a degree of over-action in the body, and a consequent debility, as to render it particularly susceptible of disease, even in a stout man, and there is by frequent repetition a species of indirect debility produced. This occurs somewhat in the following way; after dinner we perhaps take an extra glass of wine, we then feel languid and drowsy, we repeat this for some time till at length we always long for the dinner hour, and the siesta. It is in such cases that it shews itself by drowsiness, and an inaptitude for exercise, we are obliged to lie down and sleep it off, the system during this period is weak,

and it is here the term *indirect debility* is more properly applied. In a cold climate, such a mode of proceeding may be tolerated, since here we can work its effects out of the body. Exercise in, the former, would be as pernicious, as it would be to want it in the latter, so would light clothing, in winter, be as injurious as woollen would be superfluous in the middle of summer in India. Dr. Gardiner says "immediately on the arrival of strangers within the tropics, their circulation becomes quicker, their respiration freer, a lassitude or debility takes place, partly perhaps from the particular stimulus of the heat itself, but chiefly from the uncommon expense of the powers of action, in preserving the standard powers of heat. Their system comes to be endued with a preternatural irritability, which appears more evident in the course of diseases, especially those that are known to originate from the climate, for every medical practitioner in those countries remarks, that the sick do not bear above half the dose of stimulating remedies that can be given in Europe to people of similar constitutions." Another writer, who was a considerable time in India, observes "that he has frequently seen those soldiers addicted to liquors and other substances that more or less affect the constitution, sure to be attacked with fluxes or dysentery, while others more temperate and exposed to the same exciting cause were subject to fevers." Thus, then, having detailed a few of the bad consequences attending an irregular life, we may conclude the paragraph by reverting again to the operation of cold, and heat with moisture, in the production of dysentery. Cold, by stopping the perspiration, forces it to seek for some other outlet, and as this is more readily obtained through the alimentary canal, weakened as it must be from the various causes stated,

this part of the system immediately becomes the seat of the increased action, and consequently of the disease. Although the perspiration be restored, yet the purging may not cease, for we know that when the cause is removed, yet the disease may continue, from the excited state of the nerves. I have also, in some measure, explained the reason why dysentery happens more frequently in hot, than in more temperate climates. For, in the former, the body is more relaxed, and more irritable, consequently more prone to disease. There the heat of the day, and the coldness of the night, are relatively more in the extreme at certain periods than elsewhere, and the greater frequency of the disease may just arise, of course, from the greater degree, or more frequent occurrence, of the same exciting cause. Hence, too, it might be inferred, that dysentery will more likely prevail in summer and autumn, even in more temperate climates, than during the other periods of the year, but still combined with other causes, and, according to the peculiar vicissitudes of the time, will exert its influence even during these periods.

In the prosecution of this enquiry I have shewn that heat of climate has some specific action on the system, as much so, perhaps, as cold in our own more northern countries, and as the latter has been regarded by some as the chief cause of phthisis, so the former may be considered, as tending, in a powerful manner, to the production of hepatitis, and bowel complaints. There may be a certain range of temperature, as regards the atmosphere, in which the healthy actions of the skin can go on. But if this temperature sinks below, or rises above this standard or range imagined, then there will be disease. If it be high, the necessary consequences of this must be an increase of the perspiration, and if long continued in, a consequent debility of the vessels performing this process, and therefore more prone to disease. If this be low, on the other hand, and perspiration checked or unheed-

ed, disease of an opposite tendency will be induced, according as the climate may be influential in producing such. If a cold one, then we have the lungs generally assailed, if a warm one, the bowels, and other hepatic organs. Care, therefore, must be had to proper clothing, and this adapted according to the country. If we have a fever, and the skin be dry, we gain much relief to the patient, under certain circumstances, by inducing a flow of perspiration, which will of itself, frequently throw it off entirely, and our patient gets speedily well. So that we see it is of the utmost importance, at all times, to pay the strictest attention to the state of the surface, which is more apt to be deranged during a debauch than at other times.

MARSH MIASMATA.—Our knowledge of this, as an exciting cause of dysentery, many may say, is too limited, and, as yet, in embryo to admit of much being said with certainty on the subject. However, like an embryo, we are positive of its existence, and we have reasons for concluding that it does at times grow up to a gigantic monster, and of many headed powers, laying every thing, possessed of vitality, more or less under contribution, and that it acts as a cause in the production of this disease, few I think will dispute. If we see dysentery prevailing, at certain seasons, in hot climates, and these seasons be about the time, we may expect much of the miasm to be present, independent of other causes, we can have no hesitation in ascribing the complaint to the presence of the miasmatic poisonous particles. That it should claim a place then, among the exciting causes of dysentery, is therefore beyond dispute. But its *modus operandi* may, as yet, be said to be in a great measure hid from our view. Its importance as a *fact* is not, however, diminished by that circumstance, and when we consider the influence it has in producing endemic and epidemic diseases, amongst

which I would reckon dysentery, when prevalent, at the particular periods alluded to, we need have little hesitation to admit it as a cause, and a powerful one too, under the circumstances stated : at such periods, the dysenteric patients require a something in addition to the prescribing of medicines, for we will find that a change of residence is of the utmost importance, even although that be but for a few miles. Mr. Marshall says that " the same causes which excite fever likewise " occasion dysentery. Great fatigue, much exposure to " variable weather, numerous privations in regard to " food and rest, &c. increase the prevalence of both fever " and dysentery and aggravate their malignity." Now, as these observations were made on the spot, and are given with candour, and without wishing to support any hypothesis, we see that whatever tends to injure the bodily powers in intertropical regions predisposes powerfully to the operation of certain causes, which do operate in the production of this or that attack. Some of the present day imagine that miasm acts on the nervous system,—is the action direct or indirect, or in other words does it act on the nerves at once which ramify on the surface, or does it require to be introduced into the system ? To this I answer that it certainly seems to act in both ways in different cases. Sir G. Blane long ago observed that besides climate and season other circumstances are to be noted as giving origin to the disease, such as difference in the constitution of different patients, for, in some ships, it happens that dysentery and fever prevail equally, though all the men are using the same diet, and breathing the same air : and in another place he expresses his astonishment that the disease first introduced should not predominate ; this he need not have done had he only known a small point of distinction which he himself has somewhat explained, as to difference of constitution, for in some, according to the

power of resistance in the nervous system, we will have a certain change or modification of disease, which to me, at least, explains the difference completely, for, at one and the same time, we may have dysentery, cholera, diarrhæa, intermittent, and bilious remittent fevers, all these depending on the same cause, for their presence; but each disease, at the time, prevails in intensity, according to the susceptibility of the patient for imbibing these impressions made on his body, and through this on the nervous power. He, however, substantiates the fact, to which I have already alluded, that dysentery assails the debilitated, and those recovering from fevers, rather than the more robust and healthy. A dysentery, he states, is more likely to arise from irregularity in eating and drinking,—a fever from being exposed to marsh effluvia. He, however, does not seem to admit that both may be produced from the same cause, of which it is believed that every practical man in hot climates can have no doubt. I have already adverted to the checked perspiration, as an exciting cause of the complaint, and hinted that this secretion may be changed in quality. Let us examine the point a little further, and see if there is nothing else likely to be introduced by it into the body. We know well that this secretion, when it appears on the skin, is not, by any means, and at all times, a bland secretion, but it is saltish, and not unfrequently acrid to the taste. When so, it must of course when thrown back, carry with it the germs of disease; hence we see why certain substances may gain admittance, and also why certain articles may act as emetics, when applied to the surface, this latter action may be propagated by the nerves of the surface, sympathising with those of the internal organs. Thus then may very subtile and æriform fluids gain access to the body, independent of the lungs. It is of but little importance to us whether men contend that these substances act primarily on the nervous power, or whether

they be taken into the system, and act in this way secondarily on the nerves, for we may rest satisfied that many substances, of a very injurious tendency, enter the body, and it is but reasonable to conclude that they do operate on those parts, capable of receiving impressions, and that such depends on the nervous system cannot with propriety be denied. We need not advert to the disputed point of absorption from the skin, since there are advocates on both sides, few, of the present day will deny that, where friction is applied, it undoubtedly occurs. Take a person, whose body has been exposed to marsh miasm, surrounded as he must be under certain circumstances by the noxious exhalations, these resting on the surface of the body, this in a state of moisture, what is to prevent the effluvium from lodging amongst the perspirable matter, and secondly what is to prevent this from being taken into the system, when perchance the body is chilled, the perspiration checked, and now thrown back. This is one manner in which I think that miasm, or other deliterious æriform particles, may gain admittance. The second is, that if the patient be walking much about in such places, what is to prevent the friction, produced by his clothes, from throwing it into the more internal parts. Mercurial ointment spread on flannel and worn next the skin for a few days, will soon salivate some. I do not, however, overlook the absorption from the lungs, as a third cause of admission; but I also believe that such may operate in a fourth way by merely giving deranged action to the extremities of the nerves; thus then, in many ways, may substances of a very subtile and noxious quality gain access, and the above may in some measure serve to explain the reason why sedentary people, as women, suffer less than the men. It has also been stated how extensive the influence of the skin is over every organ in the body. Cullen, I believe, states, when speak-

ing of dropsy, that the skin may be changed from a perspiring, to an *imbibing* state, and this, in particular, when the circulation of the blood is languid on the surface. If we allow that the effluvium from marshes, or from other sources, as from an excess of vegetation, be capable of exciting the nervous system when introduced by the lungs; we are not I should think forbidden from conceiving that the same may take place on the surface; as here we may as reasonably conclude that the nerves at their extremities are as sensible of this impression, as those of the lungs. It may be asserted that this cannot occur since the skin protects them. To this it may be answered that the atmosphere permeates every substance, solid, or otherwise, according to its porosity, and that it will do so to the skin, and other parts of the body, need not astonish us, when we take into account its great weight, and consequent pressure. Thus then it may be said that it enters every pore of the body and keeps up a sort of external respiration, something in the same way that plants are nourished. In this way, then, there may be little difficulty to account for the manner by which the nerves of the surface become affected; and it is easy to see that a transfer of action has only to take place the moment it gains access to the tabernacle—this too without giving any cause of excitement to the skin. When the matter gets introduced, either through this medium, or by absorption, I cannot answer, what may be the amount of general, or local disturbance, that may occur, and this too, perchance, from a very small particle of the gaseous fluid, such depends on a variety of circumstances already in some measure noticed. Dr. Trotter observes, that
 “ in infectious disorders the quantity of matter capable
 “ of producing diseases, similar to those they took their
 “ origin, is inconsiderably small, but the products of them
 “ in the course of the disease are exceedingly great.”

Another point, of some importance, may be touched on in this place. Are the secreting vessels of any part, and more particularly those of the intestinal tube, when once stimulated into inordinate action, able to maintain such when once established, even although the exciting cause which first produced this has been expelled?—or are the same vessels, when once diseased, able to keep up that disease, and propagate it to other parts, no matter whether in the immediate vicinity, or at a greater distance?—it is imagined that those who have seen much of disease will answer in the affirmative. It may be only necessary to remark that the absorbents from a diseased mamma will excite a cancerous action in other glands at a considerable distance, or in the sphere of their action. We are also pretty well aware that this disease, at first, is only a local affection, and can, with safety and advantage, be extirpated when so, but if not so the moment the tumour has assumed its true character, then it becomes constitutional, and the patient is unsafe by our delay, as by this we give a chance for its being more firmly fixed, and then it shews itself constitutionally. A question arises here, whether this action, in many instances, be not caused by the continual irritation in the part, in consequence of which something of a deliterious nature may be engendered in the tumour itself, which, in the end, poisons the body. This may be merely speculative, it, at all events, is worthy of being enquired into, for we know but little of the nature of the products of most tumours.

Again, look at chancres, which many believe to be a local disease at first; these, if not speedily cured, how quickly do they lay the patient under the constitutional form of the disease, and there may be some difference between this, occurring through the medium of a swelled gland and its immediate absorption. This also is in some degree speculative, but it at all events shews that the vessels of a part are capable of transmitting diseased action

of a similar tendency, to other parts of the body,—the matter perhaps undergoing some modification in its passage, along an inflamed absorbent, or gland, or there may be a difference in its being directly carried into the body. Let us look to another point, an abscess of considerable magnitude, for example, in any place, here we will find the vessels secreting pus healthy or the reverse, according to the state of the constitution, all of which examples it is thought, shew that vessels, when once inordinately excited, can give origin to a disease in another part, and at length keep it up when once established, until some remedy, or counter action be produced, sufficient to throw off the disease now in being. We may, from the above remarks, deduce the *modus operandi* of other substances, no matter whether generated by the system, or introduced by the lungs, &c. such substances, being foreign to the parts where they lodge, will certainly prove exciters or irritants, and thus the action is changed, hence the nature of the secretions from the intestinal tube are altered, and when so, the disease will continue until thrown out of the system, either by its own powers or those of medicine, which may not be accomplished until a change of residence or climate be effected. The above may appear to many out of place, and in no way connected with dysentery, but when we fully consider the nature of many cases, especially those of a chronic form, we will see the strict propriety of attending minutely to the constitutions of our patients, and be enabled to save many lives, by a proper adaptation of means to ends.

Before leaving the subject of marsh miasm, it may not be improper to state, as concisely as possible, the views which I have, for a long time past, entertained, as to its propagation, as well as that of other noxious substances. It has been stated, that all our endeavours to trace the true or primary action of such substances, as the gaseous and other vapours, on the living body, must, in general,

be out of our reach, on this account, that we have no fundamental data to go on, but only those of its supposed effects on the living body. It may be observed that the real causes of some diseases, and the manner in which they act, may, I am afraid, remain as secrets, for ever hid from our ken. That the action of these substances is on the nervous system, I have no doubt; and this may be seen in a very remarkable manner in cases of malignant cholera, where the animal powers are rapidly and excessively oppressed. To the Essay on Cholera, I refer my reader for a more full enumeration, than it is intended here to give. For the benefit of those who have not seen that Essay, I will here introduce a very short detail of these opinions. With regard to the positive insalubrity of the atmosphere, at particular places and seasons of the year, many seem fully impressed with the idea. Mr. Marshall says that “the insalubrity of the flats and particularly the flats on the east side of the Island, (Ceylon) much may be attributed to the unwholesomeness of the atmosphere, aggravated no doubt by predisposing and exciting causes. The deplorable mortality which happened among the men stationed in the district of Vellore, proves how destructive to human life the atmosphere of these woody flats is in some seasons.” In order to prove, in some measure, that it is those who are chiefly exposed to such causes that do suffer, not only in this disease, but in many others such as cholera, intermittent fever, &c., I may add, from the same author, that “the commissioned officers of the Army being much less liable to dysentery than the privates, it may be inferred that atmospherical vicissitudes in regard to food and drink, &c. contribute greatly to occasion the disease.”

We are aware that intermittent fevers, with other disorders, have occurred on rocks, and other places, where there were no marshes or, other sources capable of gene-

rating miasm, or in fact near it, for many, very many miles. How, then, could such fevers arise, since it has been noted, that they do so from this cause alone. I put out of the question all idea as to the substances capable of producing such complaints being carried about with the person, and likewise their contagious character. There is another manner in which this miasm can gain access to these islands ; but, as this has not been pointed out by any, I require to be circumspect, and a little diffident in the statement. In hot countries, or elsewhere, in hot seasons, the dew that arises in the mornings, and also the constant evaporation from fenny countries during the heat of the day, as a matter of course, ascend into the atmosphere, carrying with them the effluvia from the surfaces of such swamps, the putrid and decayed vegetable or other matter, which will mix with the atmosphere, meets with clouds, and may thus be conveyed to a vast distance : these clouds, again dissolving into rain, will consequently let loose the substances they are charged with, and these falling on rocks or Islands, &c. may, according to the susceptibility of the people thereon, render them obnoxious to disease, such as fevers, dysenteries, cholera, or any of the other epidemics that arise from such causes. It will be asked, I have no doubt, how such can be, when Islands are to be met with out of the sphere of such winds, or monsoons, or in other words how this can take place, in direct opposition to the winds, since such cannot proceed in the "wind's eye : " many will think this sufficient to overturn the whole of the above. It is easily solved, however, when we consider for a moment that there are two prevailing currents of winds in general in the atmosphere, the one low down, and the other high up, and that it is this counter current, which is almost always blowing, to which I would ascribe the miasm being carried about. Thus the æriform noxious

gases are transmitted, in direct opposition to the prevailing wind, near the surface of the globe. Every one who has been at sea for any length of time may have observed this counter current, the higher clouds going in a quite contrary direction to those nearer us. Is there any thing to prevent the morbid materials in a quiet state of the atmosphere, or a very light breeze from gaining access to the upper stratum of clouds, as may be often seen in a very fine day which succeeds a rainy and cloudy morning—the remaining clouds are dissipated to another part of the atmosphere, from the one formerly occupied. Thus, then, it is that these clouds come into a different current of air, and being carried along with it, may be attracted by hills, &c. in their passage, and either let loose in the shape of damps, vapours, or rain; in this manner, then, will the miasm gain access to the very places, where the presence of it could not have been suspected. This is one cause of the spread of Cholera with other endemic and epidemic diseases. How does it happen that ships at sea formerly healthy meet with these complaints? This I believe to have witnessed when cruising along a part of the coast of Madagascar, a place pretty well known for its fevers and dysenteries. So much so indeed that the French naval force in 1830, suffered ten times more from this cause, than from the hostile nature of the inhabitants. If the above be admitted as a mode of propagation for the noxious effluvium from such places, (and I can see no reasonable objection to the contrary,) we may be enabled to explain many unsolved problems, with respect to the propagation of what has been termed contagious and infectious disease, no matter how great soever the distance or the direction of the wind towards the surface of the globe. In short, I can see no reason why damps, or morning vapours may not contain this substance, and why, again, such may not be mixed with other materials,

or undergo some change when mixing with the atmosphere, as it rises in it, or even be sufficient of itself to form clouds, and thus be conveyed to immense distances. It may also be remarked that the air is frequently so bad that it not only produces disease in man but in birds and animals of all sorts. It is a certain fact the crows in a certain quarter of the city of Glasgow, particularly in the north west, almost immediately disappeared on the breaking out of Cholera. The same occurred in many other places of Scotland, these crows remained away during the prevalence of the disease, returning when it was on the decline,—when the atmosphere was more pure.

Here I intend entering on the question of the endemic, or epidemic nature of dysentery. It was intended, at one time, that this should form the ground work of a separate enquiry, but as the disease presents the same characteristics symptoms, wherever met with, it would be of little practical utility that it should do so. If we trace the history of this disease, for ages past, we will find that at some particular period of the year, there are great numbers attacked, more than can possibly be ascribed to the then known causes of the distemper; and that such cases are with much more difficulty treated than at other periods. There must therefore be some difference of cause, since there is no apparent difference in the weather. These cases may be viewed as the endemic dysenteries depending, as Sydenham believed, on some peculiar state of the weather. Heat and moisture, as we have seen, although a frequent cause, is yet by no means to be regarded as the only one, since its opposite,—a cold with moisture,—acts much in the same way. They are as liable to produce other diseases as dysentery, and therefore cannot be regarded as specific causes in its production. There must, therefore, be some modifying principle existing somewhere in the air, or

this and the constitution, which tends towards the production of one disease over another, so diversified is this cause in its *modus operandi*, that in one season we shall have cases of typhus fever predominating ; next, it may be this fever tending strongly to a purging attack, or in the third, it may be dysentery itself, attended with fever, which is also modified by many circumstances. If these occurrences take place in hot climates this will be the endemic of the country, intermittents, bilious remittents, &c. or, in colder regions, typhus, for we know that dysentery may become assimilated with these diseases, as well as that it has a separate existence. In another season we will have none of the above, but their place is supplanted by catarrhs, influenza, erysipelas, also endemic and epidemic diseases, that all these owe their presence to some one agent in particular, more or less affecting our frames, it is imagined, cannot be doubted, even by the most sceptical. In tropical climes this is exemplified in a more marked degree, for here epidemic complaints have a more certain and uniform mode of procedure, and are perhaps only altered by the difference of constitution attacked, its susceptibility for receiving impressions, and the magnitude of the exciting cause. If, at a given place, suppose Trincomalee, we have intermittent fever this season, it may be of a mild form, the next it may be more severe or altered into the bilious remittent, the next it may be this last accompanied by, or terminating in dysentery, and the next again cholera or dysentery, now one of these generally predominates, and the others are only occasionally to be met with. The above form of enumeration may be reversed, and they still go through the regular routine. Now these things occur in such regular succession, that if cholera shews itself first in the lists for the season the inhabitants become rather alarmed, and know well that it is the signal for the prevailing disease of that season, as

this declines, then we may have dysentery, intermittents, &c. as the exciting cause becomes less intense. These things generally take place about the change of the monsoon, when all the stagnant materials are driven forth from their lurking abodes amongst the superabundant woods and impenetrable jungles, and from the other fertile sources : these as causes all tend to operate powerfully towards the production of disease, it may be justly concluded, therefore, that all the above complaints owe their presence to one and the same cause modified in some way or other. Thus, then, we see the reason why such may not only be endemics, but epidemics we see likewise that whenever any one of these attacks is first introduced, why it should be the prevailing one of the season, and why all other diseases affecting the animal and vital powers generally, should be apt to assume their peculiar type.

The above, I look on, as no fanciful speculation, and, as will be shewn, not only becomes a question of much importance as regards the treatment, but also in an economical point of view. It is imagined that I am borne out in the opinion as to the endemic and epidemic nature of dysentery from the known fact, that it obeys the same laws as the class, in being confined to a particular portion of a city, or corner of a country, and then like other epidemics which generally shew themselves in this way, it will be off to some other place when the operating cause has recruited its powers, where also it will commit havock ; then remaining here a short time to recruit its resources, it may travel over a great portion of a country, or over one half of the globe, or it may cease when a change of the atmosphere takes place less favourable for its operation, when we may thus have it giving way suddenly, or gradually, according to circumstances. The benefit that is to be derived from regarding dysentery in this point of view, it is believed, is great,

for it may be said that many endemic and epidemic diseases do not bear the operation of venesection well, and that, when employed, we ought only to moderate excess of action, and that our main dependence in the successful treatment should be directed to a something else. Now, in our own country, it may be said that blood-letting, as a general mode of procedure, is most ruinous and destructive, but, in a tropical one, this becomes another consideration; in both climates, as I have already hinted, the dysentery may be regarded as of a local nature at first, from this view it is imagined that much good will be derived, since it will make us much more careful as to the early exhibition of those remedies, at once calculated for subduing excitation or irritation of the alimentary tube, and in a great many cases we will succeed, if not in actually curing the disease, at all events in breaking the force of the attack ere much constitutional disturbance has manifested itself; when so, it will go through a sort of form of regular proceedings, but still admits of much being done by the same judicious mode of procedure on our part. Another point, of some moment, to be derived from regarding the diseases as depending on an epidemic cause, will be that we are thereby enabled to reconcile the opposite opinions, which were entertained by high authorities as to its contagious character.

Having stated contagion as a cause, and following up the definition of Dr. Cullen, it may not be improper to look a little into this subject; he, as well as others, must have had reasons for so designating it, and we may prosecute the subject with some advantage. Whether then is dysentery propagative of itself, or whether, when once introduced, is it contagious? This is a question which was agitated with some virulence some years ago, even as late as the third Vol. of the Dublin Hospital reports; it may be seen that such an opinion was entertained by

Dr. Cheyne. But most men now a days disbelieve that dysentery possesses any contagious qualities. On questions of this nature, however, where authors of equal celebrity and experience take opposite sides, it becomes me to be somewhat modest in searching out the discrepancy of opinion: in short we ought to know with particular distinctness the solidity of the facts and reasonings which may ultimately lead us to take one side or other, or perhaps neither. We may rest assured that where an important difference of opinion obtains, it is because the disputants do not understand each other. I shall set out by making a rather broad statement, which is that we may find that all diseases, which owe their existence to the influence of an atmospherical cause, are not really contagious, but then they may, under certain states, as from accumulation, become infectious. We do not find them to be so stated by any of the ancient writers on medicine, such as Celsus, Hippocrates, &c. had such a cause been even suspected by them, they would surely have noticed it, for they were most acute observers of all nature's laws and ways of working, in so far as respects things actually present. However, to the point of examination, Dr. Thomas in quoting Harty, states, that the simple dysentery is not contagious, nor the intermittent or remittent forms of the disease: Christie affirms that he could never observe the dysenteries of India communicated from one person to another: and Sir Gilbert Blane even seems to admit that the disease may occur without being contagious—He observes that fevers and fluxes depend on the same general causes. A catarrh he considers as a *local* febrile affection as well as dysentery, excited by cold or damp, without any specific bad quality in the air. But in these statements he still leaves room for the inference that, although dysentery may exist without being contagious, yet it may possibly be so; although

perhaps with some variety of circumstances, and these too minute ones, spread a most contagious and pestilential influence, and therefore that a well established fact, if such there be, is quite sufficient to have its contagious nature proved, merely with reservation that it may not be universally so. Dr. Pemberton distinctly states, that among all his extensive experience and practice he would be led to the conclusion that the disease is not contagious. Dr. Preston says, that when his regiment was in Ireland a great number of dysenteric cases broke out among the men, which proved somewhat severe, but, after enumerating the causes, he comes at length to say that the disease had nothing decidedly contagious in its appearance. Dr. Barry considers the disease non-contagious, and mentions a fact, which seems to him, to go far to establish this opinion. In the years 1797, 1799, the dysentery prevailed in the Caithness legion of Fencibles to some extent. The Surgeon, anxious to determine the question as to its infectious nature, caused the same clyster pipe to be used, without cleansing, for those labouring under dysentery, and those who were free from the disease,—the latter notwithstanding were not infected. Dr. Cheyne says that people are liable to dysentery in each of its principal varieties, both as connected with continued fever and as an endemic disease, connected with intermitting fever,—the former variety being contagious the latter not at all so. From all the statements that have been made, and a multitude of others, which might be produced to the same effect, it seems necessary to admit that dysentery is not, at least in most instances, contagious, and some may be even inclined to think that none of them, are so perfectly conclusive as to refute the opinion, that it is not sometimes at least infectious. For it is asserted, by authors of equal celebrity, that the disease depends upon a specific contagion,

and amongst these may be named Sir John Pringle, Sir Gilbert Blane, Drs. Cullen, Thomas, Trotter, Darwin and many others. Cullen says that the dysentery does often arise from the application of cold, and adds that the disease is always contagious, and that by the propagation of such contagion, independent of cold or other exciting causes, it becomes epidemic in camps and other places. This, however, he says does not at all explain its peculiar power in inducing those symptoms which properly and essentially constitute the disease. I again bring forward the remark that Cullen would have been in some measure correct had the term *sæpe* qualified the pyrexia contagiosa. According to Dr. Darwin, the bloody flux or mucus stools contain contagious matter, but this opinion has been refuted by the fact related from Dr. Barry. Sir John Pringle says that in the camps the contagion passes from one that is ill to his companions in the same tent, and from thence perhaps to the next. This, however, may depend on the causes already enumerated, operating on all in the same way. From passages to be found in the writings of the same authors, it might be shewn that in their own opinion the disease is at least not always contagious.

After these statements, for I would scarce call some of them facts, medical men of the present day will be enabled to form their own opinions, as to what side of the question they will adopt; it is to be hoped that its importance will plead a sufficient excuse for its being brought forward in such a lengthened manner. My own opinion is that no form of dysentery, purely such, is contagious. But if we admit that typhus and other putrid fevers, with which it is often combined, are contagious, or may become so from accumulation; and if we also admit, of which there seems very little reason to doubt, that these fevers, acting with other exciting causes independent of dysentery, may, in their contagi-

ous or infectious progress, excite the disease in question, we shall have gained perhaps some means of accounting for the discordant opinions which have prevailed on this subject. Now, in many cases, it would not be difficult to shew that the symptoms of dysentery accord exactly with those of a typhoid kind, particularly towards the latter stages of the complaint. It is well known how very prevalent these fevers were sometime ago in Jails, crowded Hospitals, Ships and other places of male confinement, where bad ventilation may occasionally be looked for;—it must be obvious how much more rapid the fatality which did ensue would prove in cases where dysentery was present along with fevers. If, therefore, after attending to the circumstances and progress of the disease in such places, as those now mentioned, we reflect that in other circumstances it proceeds and predominates chiefly from similar causes, viz. noxious effluvia, bad ventilation, a spare scanty and bad diet, &c. we shall perhaps be sound in coming to the conclusion, that dysentery is contagious or more properly infectious chiefly, if not solely, from such causes, and in such places. Many instances could be adduced in support of this latter opinion, it is, however, unnecessary to say much more than allude to the fact that such disease may in common and loose expressions of language, become contagious or infectious from mere accumulations alone. This accumulation of disease is more apt to occur on board ships and similar crowded places, from the necessity there is, in many instances, of crowding the patients or even healthy people together, let us look for example to slave ships, and our own men of war and transports, when employed for the conveyance of the sick and wounded, after severe and hard fought actions, the danger is much increased if these vessels encounter with wet and boisterous weather, since in many instances they are obliged to “batten down

hatches" when we must have bad air, with an accumulation of moisture. From the above it may be gathered that there are many things which operate wonderfully towards the production and spread of disease, and although such may not strictly speaking be contagious under other circumstance, yet it will become infectious from mere accumulation, and this is still more decidedly the case, if the patients are dirty, their clothes damp or wet, the air impure, with depression of mind. It is in such cases then that the contagious vapour, or rather infectious miasm, if I may so express it, attains its greatest powers and acts with greater certainty. Yet, in such cases as these, it will be found that the distemper is more of a febrile than dysenteric nature. Some may be inclined to imagine, Cullen meant by the term *pyrexia contagiosa*, that it was only the fever that was so, and that dysentery without this was not at all so. Hence they may say that some discrepancy of opinion has existed among medical writers, from not attending sufficiently to this, an apparent conclusion.

CHAP. II.

SECTION III.

PROXIMATE CAUSES,

"Cause proximate, that principle in the body, which
 "being present, the disease is also present, or which
 "being removed, the disease is taken away ; such as
 "the stone in a nephritic patient, the virus of small pox,
 "syphilis, &c." It may be observed that the primary
 cause of a disease being removed, that may not cease,
 for the altered condition of the nerves and vessels of the
 intestinal tube thereby induced, will continue to keep
 the dysenteric action in being, even after the expulsion

of the bad and indigestible food, or other foreign ingredients have been expelled.

The proximate causes of dysentery are still involved in much obscurity,—there are no doubt a variety of such. The more common opinion is that it arises from the same acrid ingesta, either received into, or generated by the intestines themselves, these acting as a stimulus to the tube increases its peristaltic action, and hence the dejections become more frequent than usual, and this brings on the other marked appearances of the disease. Cullen, and many others since his time conjecture, and perhaps with some probability, that dysentery depends upon a spasmodic constriction and ulceration of the colon, and seems to reject the former opinion. In opposition to Cullen's opinion, I believe that the complaint must have been existing for some time before any ulceration occurs, but this, when present, may undoubtedly tend greatly to the keeping up of the disease when present in some constitutions at least, his opinion is therefore to be received with more caution than it appears at first sight to require. He says, that the complaint consists in a preternatural constriction of the colon, occasioning at the same time those spasmodic efforts propagated downwards towards the rectum, and inducing there the frequent mucus stools and tenesmus. But it seems a conjecture as natural that this constriction, of which he speaks, may be an effect rather than a cause of the disease; in as much as it may be occasioned and augmented by, the acrid fæces, and mucus, with other secretions retained in the cells of the colon. For it is observed that when these evacuations are produced, either by nature or art, these constrictions are relieved, and hence there seems nothing to hinder the conclusion that the constriction does not produce, but is produced by the disease. Others regard inflammation of the intestines as the proximate cause, and particularly the co-

lon ; how far this is to be looked on as such will immediately appear. This I certainly conceive to be rather a hasty opinion, for it frequently appears that inflammation is not present till the disease has gained considerably on the system ; besides, we do not find inflammation of the bowels to be attended by dysenteric symptoms. Still, however, from the observations about to be made on the mucus membrane lining the alimentary canal, it seems evident that inflammation may act at times as a cause, and may be considered as such. And as it has been observed that the worst species of dysentery has been the consequence of such an inflammation, we cannot be wrong in regarding such, at least in some instances, as one proximate cause of this disease. Others again fix on miasmata and effluvia, arising from noxious substances, as the proximate cause of the distemper. Having made the above remarks, it is now incumbent on me to examine in how far dysentery depends on a cause irritating the bowels, and why it is so frequently in different seasons the sequæle of typhus, intermittent, and other endemic fevers. It will be proper in the prosecution of this subject to state briefly in the first place, the effects produced on the alimentary canal, operating directly or indirectly on it,—this last perhaps through the medium of the fevers just referred to. In the first place, therefore, it may be observed that the mucus membrane of the intestines is supplied with numerous glands, whose orifices open on the inside of the canal. These parts are also possessed of what authors term villi, and they are so numerous, as under certain circumstances, to resemble velvet, now the whole are most fully supplied with blood vessels, and their secretions are different when excited, or in health. The first, or follicular glands, furnish mucus, and the villi a serous or watery secretion. There is also another method, in which serous fluid may be

supplied, which has not been much, if at all noticed by writers on this subject, and it is that the blood vessels themselves allow a portion of the more watery parts of the blood to escape through their coats,—as seems evidently the case in other diseases as in cholera, berri-berri, dropsy, &c. “This perspiratory transudation” says Richeraud “would seem to be a mere filtration, through the pores of the arteries of a fluid already formed in the blood.” Exhalation is an improper term for this, since it requires the presence of air to dissolve the fluid, that is exhaling” and it “cannot take place from surfaces that are in absolute contact, and between which there is no interval.” These then are the chief parts we have to attend to in the consideration of this subject, in conjunction with the internal lining of the canal itself. The mucus secretion is much thicker than any of the above named, and contains more albumen, with a greater proportion of salts, and also possessed more of an excrementitious character. During health, the mucus is allowed to remain for a greater length of time in the glandular cryptæ, and from this cause becomes thicker in consequence of parting with its more fluid portions. Another remark worthy of insertion is that, when secretion to any extent in any organ is going on “it determines the action of the parts in its vicinity, or, as Bordeu expresses it “within its atmosphere” and when irritated “it becomes a centre of fluxion towards which the fluids are determined from every part.”

Having made these preliminary observations it may now be stated that according to the degree of excitement of the mucus membrane, so will the secretions be altered. When only excited, these are but little changed, a greater degree or that of irritation will produce a corresponding alteration in it, and when inflammation takes place we will have another product, these modified by the extent of the inflammatory process. Now, the above is ex-

emplified by cases of gonorrhæa, in which, according to the degree of excitement, irritation or inflammation, so will there be a corresponding degree of alteration in the secretion. As the secreting apparatus of the intestines are so numerous and complicated, and different parts assuming different degrees of action, according as the irritating cause exists in this or that portion of it, so will there be a diversity manifested in the products, and they are not by any means so well defined as in those parts possessed only of a single secreting apparatus. It may also be noticed that muco-purulent matter is much less frequently given out from any part of the intestinal tube, unless there be some abrasion of the mucus coat. From the above it follows that we may learn much as to the state of the disease by carefully inspecting the matter evacuated, which may be regarded chiefly as the secretions of the parts, and to be depending entirely on the quantum of food taken; for on the supposition of their being the residuum of the food we cannot account for the numerous stools passed, these often exceeding by far five or six times the injesta. The more these dejections are looked on as those proceeding from diseased secretions so much the nearer the truth will we arrive. In fine, there would be no great harm in viewing the whole of the alimentary canal as one large secreting surface, and we would from this derive not a little advantage in the treatment. Let none imagine that by having the dejections, every one as they are passed, kept for their inspection, they will in this manner be enabled to do more good to their patients. No, no, such is rather a mean method of punishing those under them, and it may be said, that no man of true knowledge would ever think of doing so, all of this class who have come under my own personal observation, have had certainly no talents to be greatly proud of. If purgatives act on the alimentary canal merely from the stimulus, they

communicate to it and thus forcing on the refuse of the ingesta, how does it happen in many instances that their products are so dissimilar,—a dose of the sulphas Magnesiae we know will produce a large quantum of serous fluid, while a purgative, of an opposite quality, will have no such effect, and why does constipation so frequently, nay almost invariably, follow the operation of the salts. Does not this take place, from the villi which were called into an excess of action by their presence, and from which the greatest proportion of the fluid was furnished, now becoming indolent from their being no longer stimulated. Another purgative would not have had the same effect, for in this case the peristaltic action would only have been greatly increased, without calling into play to the same extent the secreting apparatus, which furnished the fluid particles. From this we may take some hints as to the treatment of dysentery; glands, as well as other parts become fatigued after an excess of action, requiring repose before they will return to their natural operations, but where we have a constant stimulus in the alimentary tube we need not expect them to cease, but, in consequence of their constant operation, they gradually draw in the parts in the neighbourhood, or within the sphere of their action, and thus the disease gets more firmly fixed. The above may then in some measure explain why constipation is so apt to follow the exhibition, and *full* operation, of some purgatives, and it also helps to shew that the intestines are secreting organs, and may be acted on in the same manner, as other parts of a similar nature.

I now come to state what may be considered to be the real and true proximate cause of *all* dysenteric cases. I have already expatiated at considerable length, on the influence which the surface of the body exerts over the viscera, as also stated the different ways in which this may occur. The nervous extremities of the

skin being irritated, transmit a similar operation to that of the bowels, this then may be regarded as one way in which dysentery is produced:—here we have a direct sympathetic action, and fever will be a secondary affair in the second place, the irritation or disturbed action of the nerves of the surface, may transmit this action to the common storehouse of the nervous supply, now we may have fever excited which may be in operation for a day or so, and then the nerves of the intestines become stimulated into excess of action and we have the disease in existence, but the disturbed action again transmitted from the skin may be sent forth from the *sensorium commune* without exciting fever as a primary complaint, now we have dysentery, and this followed by fever, or both may break forth at once. Now, fevers of whatever nature if they be attended by the peculiarity of the atmosphere, already noticed in several parts of this Essay, may end in dysentery in the manner stated, hence then I look on nervous irritation from whatever cause arising to be the proximate cause of this distemper. These attacks are increased or modified by many, very many causes, rendering them more mild or intractable according as the one or other is in operation. Let us carry the point of illustration a little further and bear in mind the views I have given of marsh miasm, since this may be the best form of illustrating the subject. A person in his way home at night, intoxicated, passes through some place where this substance is generated; next day or the day after, when his system is suffering fully from the debilitating effects of the debauch, re-action soon begins to shew itself, he is attacked with febrile symptoms which soon assume the character of intermittents. He suffers for a few days, his bowels previous to the seizure have been in a debilitated state, now in all likelihood attacked with a gentle purging at first. In such cases the operating cause acted primarily on the

encephalon or medulla spinalis inducing this fever, but these parts becoming restive after the disease has fully formed, begins to invade other portions of the body, and now the bowels suffer in consequence of their weak state; it is an almost invariable rule in medicine, that the weakest parts suffer most from any general cause operating on the whole powers of the body, this is through the medium of their nervous communications. Now in the above example we have a diarrhæa at the very first induced, which in the end may become dysenteric, according to the peculiarity of the patient's constitution or that of the atmosphere, &c. this in time becomes habitual, and although the cause producing such be removed, yet the present disease will continue until we alter the condition of the secreting apparatus. Now, when dysentery takes place in some few instances the fever may be suspended, or both diseases may exist at the same time, hence we have much debility and damage apt to be done to the patient if we do not endeavour speedily to overcome the annoyance. Take another example precisely under the same circumstances, as at first, he is exposed to cold, gets fever, but of a different type, after sometime this may go off by a diarrhæa, now this may assume a dysenteric form, although a critical discharge, particularly if the weather be cold with much moisture, or if the air was of a noxious quality from which the fever was contracted. Now let us take dysentery itself, as produced by such exposure, and without fever in the first instance, this, as has been stated, takes place through the irritation or excitement of the nerves of the surface, throwing the same sort of action upon those of the intestines, this too either in a sort of direct or indirect manner, in such a case then the dysentery may go on and engage the whole system, producing either of the above species of fever, this being modified according to the cause producing the original

disease. In this manner then there is a sort of splitting of the irritating cause at the onset, one part acting on the intestinal tube, and the other on the encephalon, hence we have dysentery and fever in existence at one and the same time. Now, any of the above examples may certainly take place, in others, than the debauchee, but we are more likely to meet with it in the latter, than in the former class. Here then have I attempted to trace the proximate and exciting causes of each distemper as depending on the same peculiarity of influence of climate, weather, &c. Taking the above for granted, it follows that each complaint is only of a local nature at first, proceeding from nervous excitement, or that each may arise in consequence of constitutional disturbance, yet even in the majority of these instances the primary action is only of a local nature on the parts themselves, for every portion of the body, even from constitutional diseases is not at once under the influence of such, but that time alone only serves to bring it more deeply into the disorder. The increased nervous action of the alimentary canal in dysentery, will, as a matter of course, call into activity the numerous blood vessels of these parts assailed, hence the mesenteric arteries, will be more or less surcharged with blood, and the smaller vessels have a greater quantity of blood passing through them, with other appearances which some might call inflammatory. Now such things being present, will now call into existence the whole powers of the parts, hence constitutional disturbance, if that has not been previously in existence. Such then is the manner in which causes operating through the medium of the atmosphere may act in the production of various distempers, such as dysentery, influenza, erysipelas, intermittent, or typhus fever. In what manner the particular disease occurs, cannot positively be stated, but that such depends on peculiarity of constitution and that of the atmosphere,

with some others of a similar nature cannot be doubted. We know from experience that such things do occur, and we observe at the commencement of a season, that the majority of attacks, will put on the same characteristic symptoms, as those first met with, and that this proceeds from the continued operation of the atmosphere on our bodies, thus, reducing all those complaining under the same laws, I think may be admitted with every degree of probability.

The important subject of inflammation may with great propriety be prosecuted a little further, and it may be proper to give those views which I entertain as to its occurrence in several parts of the body, which may in some measure be applied to its occurrence in other places. Inflammation of the intestines may take place from the stimulus of distention caused by an engorgement or distended state of the blood vessels, or from an infiltration of blood amongst the coats of the tube, or from any other cause operating in the same manner, thus each of these conditions of the parts calls into inordinate action the nerves there, we will have an excited state in the first instance which may ultimately end in inflammation. This excited condition of the bowels may proceed from a variety of causes, besides the one noticed as that arising from general commotion of the system, in endeavouring to be expelled by the innate powers of the body, comes perhaps to tell greatly on the alimentary tube; or the same sort of action may be induced from loss of tone or debility in these portions, in this way allowing venous congestion to occur, hence it may resolve itself into the first state already noticed. It has been stated that any cause capable of stimulating the nerves, supplying the particular part, will to a certainty increase the actions there, or all within the sphere of their atmosphere, hence we have an increase of the secretions at the very first,

but without any inflammation. This may certainly end so, but then it will be attended with a further increase not only in the number of the blood-vessels, but an alteration in the nature of the discharges, the disturbance going on, so will the dejections be in frequency and quantity. This then must be moderated, else we have the same sort of action attacking other parts in the immediate vicinity, nay, other textures than those originally assailed. Let us take for example the operation of arsenic, when swallowed in sufficient quantity, so as quickly to destroy the vitality of the part, the first effect we find produced by this virulent poison is its irritating the stomach into inordinate action, the excitation being so slight as to escape notice. The high state of nervous irritation, produces a turgescence of the smaller blood-vessels, then venous congestion, and ere long the stomach is in an inflamed state. The system either before this sympathises with the stomach, or now that the inflammation is established will do so powerfully. Inflammation of the stomach also occurs much in the above order of enumeration, from metastasis or the transplantation of one disease from one part of the body to another, particularly in gout. Also we have the same order of things from whatever is taken into the stomach in the shape of poisons, gaseous or otherwise, all of these have a direct tendency to attack the nervous power of the part or parts, and if the action be not speedily subdued in its irritative stage, will soon assume symptoms of inflammation of this viscus or of the bowels. There are many poisonous substances in the shape of vapours, which kill in proportion to their power of either exciting or depressing the nervous system, such substances may act on the body, either through the medium of the lungs, skin or stomach, according to each of these parts attacked, so will the operation be more tardy or quick, but these from their subtile and

insinuating nature kill much more quickly than solids. Now, supposing that the body makes an attempt at expelling this or that noxious substance, as it generally will do, may this re-action not come to tell, on some particular part or organ more forcibly than another, and this especially, if that has been weakened from any previous cause. Thus then the brain, the stomach, the intestines, from being the more sensitive portions are generally assailed. If this then falls on the intestines we may have an action that once overwhelms them as happens in Cholera, or if the action, be less in degree, then we have the blood-vessels called into activity and a congestion is the consequence, which is kept in being either from the general action of the system or the vis a tergo of the blood-vessels themselves, inflammation may now occur if there is strength of action enough in the system, this may occupy some time and it is at this critical period that our attempts should be made at the curing of dysentery and we will do so with some chance of success.

Let us proceed with the investigation a little further—and suppose that the irritating cause of whatever nature has been expelled, just at the critical moment when the parts have taken on an inflammatory action, will this now cease of itself? This will depend greatly on the peculiarity of the former exciting cause, and if it was only a local one, producing the derangement, it might follow that on its expulsion, the disease would cease, as in the instance of hardened fæces, on their expulsion, the bowels might be inclined to become tranquil. But where the cause has been of a general nature as that proceeding from a bad state of the atmosphere, so will we find that, although the system has got rid of this, yet the action thereby induced on the vessels of the part will continue until regularly attacked and expelled by medicine, or until the body becomes insensible to its presence. The

inflammatory action may keep going on from another cause than the above, the irritation produced by the distention of the blood-vessels of the part, will of course produce an excitement to the nerves, the one stimulus acting in concert with the other, or the system having long ere this sympathised with the existing disease, will now all of them tend to keep it going on in that degree of activity proportioned to the strength or weakness of the patient, or parts, until the portions attacked be either destroyed, or until the inflammatory action overcomes the whole powers, thus death must be the inevitable consequence. The above, I have little hesitation in affirming will be found to take place, if not as an invariable consequence, at least of so frequent occurrence as to render the knowledge of it as a proximate cause of great value. There are, however, other states of the system, on which inflammation may depend, it will be proper now to attempt to account for them.

How does it happen that inflammation takes place in a debilitated organ or part, when its action is below par, with those in its immediate vicinity. Dr. Burns observes, "depression debilitates as well as pain and not only in inflammation, sinks the part itself, but prevents the system from communicating support to it in the same degree it would otherwise do. Organs which are depressed easily by inflammation or which sympathetically depress the system as the stomach or small intestines, must hence be readily sunk." Depression of mind, therefore, may act as the predisposing cause of disease by inducing debility of the general system, or torpor in some organ as the liver. Now we have to take into account that where debility of a part exists, and in particular the intestines, where the blood vessels from the laxity of the parts are allowed a greater latitude for distention, a distention of the vessels or congestion of blood may certainly occur, and this without any

nervous irritation being previously excited; will this condition of the part, not strongly tend to throw it into excitement the moment re-action has commenced, or the system stimulated by any other cause into activity?—whether this be from the action of stimulants, or from other external agents. Thus a moiety of impulse is given to the general system, or from the nerves in the immediate vicinity of the depressed organ. This latter opinion supposes that the body in general has not suffered, but the weak action is only in existence in the part itself, and thus the nerves and vessels of the injured portion will derive support from the neighbouring tissue, much in a similar manner as heat diffuses itself in a cold place, giving to every article near it as much as its capacity for containing the same may be. So may the nerves act in proportion to the impressions given, but as there is frequently in injured, or debilitated parts, a great tendency to take on overaction from a want of being properly governed; so it may sometimes exceed, and thus the stimulus of the distended blood-vessels will act as before noticed, and prove an excitement to the nerves. But, previous to a part falling into a weak state, it sometimes happens that there is an attempt made at re-action, in order to recover the balance of power, which it feels itself about to be deprived of; this then will more or less give an impulse to the vessels of the part, now at this moment the powers of it may all at once fall below par, and then we have a distended state of the blood-vessels, which will be still further increased, by the vis a tergo, from the heart and larger blood-vessels, in consequence of their relaxed state. Granting the premises, will not the re-action of the general system when it takes place, be attended by an increase of action in the weakened portions, and, as already pointed out, be extremely apt to terminate in inflammation. But as the re-action does not occur in general in a very sudden

manner, there must at first be a consequent slow increase to the motion of the blood, and in this way the parts may recover their former condition, so will it be found to be the case in many instances; but in other cases where this does not take place and where inflammation follows, such proceeds from the re-action continuing, until it becomes in excess, now we will have the blood solicited in over abundance to the places it formerly left, and the action induced, tells more powerfully on them, than the sound portions of the body. We may observe some of the above states induced in other places than the bowels. A man receives a contusion so severe as to paralyse the energies of the part struck, but not tantamount to destroy entirely its nervous power. The contused portion we observe after a time becoming tumid during the low state of vitality, and at length as the patient recovers he will feel pain, then throbbing, with heat, evidently shewing an excess of action or a state of inflammation, or that near it. The reason of the tumid appearance occurring during the diminution of energy was from the *vis a tergo*, sending the blood amongst its loose lacerated cellular texture, as also into the more minute weakened blood-vessels of the part itself: as the contusion was recovering from the shock of diminution, it took on the actions stated in consequence of its now weakened action, and now the distention in the injured portion gives an additional stimulus to its own nerves. This action will now be either high or low according to the extent of the lesion, or the state of the system, or our treatment.

It may be proper to proceed with the investigation a little further, as the subject is of the highest importance. It has been supposed that the proximate cause of cholera and dysentery depended on an inflamed condition of the alimentary canal from the onset, or in short that inflammation was the grand cause. Let us take the

more malignant species of cholera into consideration, and when we see that it is a disease in which all the powers are rapidly assailed, and are speedily laid prostrate, we may have reasons for concluding that there is not much time for an inflammatory action to take place, nay, that such cannot occur until there is re-action set agoing, nothing of this sort can be expected since the attack from the first moment of invasion is constantly tending to the depression of the whole system. In such a state of the body, therefore, I apprehend that there can be no inflammation, for without a certain degree of action, we can have no such state produced, this again must consist not in the depression of the nervous powers, but as it were, depends on a sort of re-reaction, if the expression be admissable, or in other words, it must be an action over and above the present vitality of the parts, therefore it is an increase rather than a diminution of their nervous power. If cholera depended on inflammation of the abdominal viscera, then we ought to have the secretions which are rejected resembling those met with in those cases in which we know that such a condition of the parts exists. In the epidemic, however, there is nothing of this to be met with, none of the mucus, watery glary matter, or muco-purulent, mixed or unmixed with blood, these ought to be in abundance in its worst cases, as here it is but reasonable to infer that the inflammatory proceedings should be at their highest pitch. None of these things occur, as every one can convince himself by an examination of the dejections, I do not, however, say that in the less severe forms of the distemper such may not occasionally be met with, but these instances resemble more dysenteric cases than true cholera; and that such modifications should at times occur, will at once appear evident from the simple statement that I have classed both diseases, when of an epidemic origin, as depending on the

same causes for their production. If, on the other hand, cholera depended on an inflammatory state of the peritoneal or muscular coverings of the intestines, then we ought to have them "*pertinaciter adstricta*" or at all events a tardy and slow movement of them, for we know that all muscular parts, when inflamed, are by no means so well enabled to perform their actions as formerly. But that there is a strong tendency to such an occurrence, after re-action has established itself, need not be disputed, and therefore our future proceedings must guard against this, as well as keep the action within such bounds, as may consist with the patient's safety. We know well that a congested and debilitated state of the parts and blood-vessels exists not only in the viscera but also in the brain, and, as I have already pointed out, this is a state very favourable to inflammation, when the powers of the system return, since these distended vessels must in a manner act like a foreign body. Now here we have inflammation induced, from previous debility of the parts and vessels, with the other powers of the system, and, as I have just noticed, we can have no inflammation in such cases where there is not first of all a re-action of the bodily powers, and then that of the parts—thus constituting a sort of re-reaction.

Now, in many cases of dysentery, as occurring in warm climates from various causes, such as worn out constitutions, or those greatly injured by climate, with any of the other depressing passions long in operation; all or any of these tend to render the body infirm or weak, we have this complaint occurring from a congested state of the blood-vessels arising from debility, and brought into operation by the slightest cause tending towards the disturbance of the nervous power. Such patients must be in general very difficult to treat, since they vacillate so much, and we cannot have recourse to that species of active measures so well adapted to other cases, but in

better constitutions. These successive attacks would lead us to believe that the bowels were in a highly inflamed state, but on inspection after life has become extinct, we will find that nothing of the kind exists, or at all events to the extent supposed, we are from this circumstance therefore not to be led into the very erroneous practice of bleeding all cases we come across, merely with the view of doing something active. Such practice will not do in these instances, as it will tend but little to remove the real irritation, for this is occasioned by an irritable state of the nerves, which is the main point to be attended to. The injurious effects of ardent spirits, especially in a hot climate, are manifold, for their great operation is in depressing and destroying the nervous power, with a consequent debility of the organs chiefly subjected to their influence, and we know how frequently disease is induced, particularly inflammation, as the sequela of such imprudence. If the drunkard leaves off all at once his potations, he is almost sure of having something going wrong in his system, such as intense pain of the head or other parts, but if he tapers it off, as it were, he very frequently escapes. The reason of this may at once appear when it is stated that the body being previously in a high state of excitement, now the sudden abstraction of the stimulus throws it into an opposite condition, or that of low action, this so quickly as to leave all the parts which were then in a high action, in a state of considerable debility, and hence we have a certain degree of congestion of the blood-vessels remaining. Now let us take dysentery produced in consequence of this imprudent act, and we find that the disease but seldom or ever occurs when the body is in the high degree of excitement from the spirits, but that it occurs almost invariably in the opposite state, now in the majority of such attacks, I do not think that inflammation has as yet occurred, but the purging only

takes place from the excitement of the nervous system. It surely would be folly to bleed such people, if re-action has not occurred; what would be gained by depressing the powers still further?—our remedies should be those which tend to soothe, as well as quell the approaching re-action, this may be greater or less according to the constitutions of the patients, whether robust, or the reverse, or according to their power of bearing spirits, as this may be one method through which at times we may produce an equilibrium of action between the contending powers, the tendency to excitement and that of debility. In fine then, we have to administer to a constitution recovering from a collapse, the stomach and intestinal tube, it is imagined, in such instances will be found nearly resembling that state which we find in some patients who have died of cholera, where we find venous congestion. I have more than once been amused with over-hearing the conversation of some seamen who had been carousing on shore, for a couple of days, when they came on board complained of slight purging with headache, they were bled and had a dose of salts, as a matter of course, and soon after became much worse. “Ah! Bill” says the one to the other “that was not good for me, the salts were so thin and cold for my stomach, and played their part too well, for I now go oftener than ever, the bleeding and them has done for me, and am sure was not good for my complaint, I wish the Doctor had allowed me a glass of grog or two and to morrow would have been quite well.” Many instances of this sort I have heard and witnessed, and the men know well how to appreciate such a method of treatment, when they are aware that this is the mode adopted by the medico. in such cases, they do not complain, but take a glass of grog and very frequently recover, this, however, is attended by another error, for they may take too many, or by delay they allow the complaint to

become fixed. The first symptoms of these dysenteric attacks I regard as purely nervous, and in general to be combatted by other measures than those of depletion, of which blood-letting at this time in the majority of instances does not constitute one of these. Many more examples could be given, in regard of other diseases, but here we must stop short, since this article has swelled to a very considerable length, it may therefore be proper to sum up the whole in as concise a manner as possible.

Viewing the nervous and sanguiferous systems as intimately blended together, yet each capable to a certain extent, and for a certain time, of acting separately, we will, however, find that derangement of the one is often followed with a corresponding action in the other, and this will be in a great measure depending on the vitality of the different parts assailed, as also the strength of the constitution. The blood, therefore, may be considered as that fluid stimulus by which the nervous power is in a manner kept in play, leaving out of view, for a moment only, the action of the brain and spinal cord, and that the result of this conjoint operation is a permanent warmth to the whole body. In Cholera, or any other epidemic disease, producing sudden death, the parts on inspection presenting a reddened appearance, such as the stomach and intestines: I give as my opinion that as yet there is no inflammation existing, but that it is only a congested state of the blood-vessels, with perhaps extravasation, this state would soon have induced such an action had the powers of life continued and re-action been established. That the above may be accounted for, it will be proper to state that before the powers of life had been thus suddenly overcome, there was, at the commencement of the attack, a state of excitement only of the nerves of these parts which called into activity the blood vessels, but the powers of the body being suddenly overcome left them in

this condition, and the patient dying in the collapse, the inspection shews that it is highly probable that inflammation would have occurred had there been any rallying. If the re-action, however, be slow, there is a chance of the balance of power being gradually restored, and the extravasated blood taken up, without any ill consequences ensuing.

We have also inflammation, as a consequence of excitement being conveyed from one extremity of nerves through the medium of their origin to the other extremity of another nerve, hence we have disease in another part of the body than the one originally assailed :—such may be produced by the various causes already noticed, as cold and heat in combination with moisture, marsh miasm, &c. shewing clearly the proximate cause of dysentery both in a primary and secondary point of view. “It is very well known” says Richeraud “that a violent diarrhæa is frequently the consequence of sudden cold applied to the skin, the fluids at once repelled towards the intestinal canal, having to pass through the mucus glands whose action is greatly increased.” It has also been stated the manner in which fever came to be an attendant on dysentery and also why the fever and the purging came to be at one and the same time present ; this took place by a sort of splitting of the disturbing action between the encephalon and the intestinal tube. “If we excite in a slight degree” says Dr. Burns “a mucus membrane the discharge is increased without being perceptibly altered in its quality. If we carry the excitement farther, and continue it longer, the secretion is altered and converted, either into muco-purulent matter, or into pus. Were we then to confine our attention of this fact alone, we should say that pus was an unnatural secretion from a mucus membrane, and would proceed to ascertain, if we could have a high excitation of the

“ part should so much change the qualities of the secre-
 “ tion. Yet even in this limited view of the subject, we
 “ should find it difficult to afford an explanation, and
 “ must, for the present, remain satisfied with a knowledge
 “ of the fact. But in this state of speculative ignorance,
 “ I feel confident in the assertion, which I make from
 “ practical observation, that this secretion may be pro-
 “ duced either by stimuli acting directly on the secreting
 “ surface, or by acting on the origin of the nerves which
 “ supply that surface. An excitement of the origin of
 “ those nerves which supply the trachea may produce
 “ secretion from its surface just as readily as the direct
 “ application of causes productive of bronchitic inflam-
 “ mation.”

From what has been advanced, I draw the following
 deductions, that dysentery, especially in colder regions, is
 only a local disease in a great many instances, and that
 it is only from its duration that it becomes constitution-
 al. Some view dysentery as depending chiefly, if not
 entirely, on an inflamed state of the colon, constituting
 what they have been pleased to call colonitis: in how far
 this is correct will appear from what has been advanced,
 as to the causes of the complaint. Those who maintain
 that the disease is constitutional from the very first, it is
 imagined that they cannot be fully aware of its true
 character, and when they assert that it depends on an
 inflammatory action, also evinced at the onset, it is
 thought that they are likewise deceived, such an idea
 leading them to a very erroneous practice, as will be af-
 terwards noticed. But those who regard dysentery, in its
 primary stages, as unconnected with inflammation in the
 majority of instances, especially in the climate referred to
 will be more successful in their plans of procedure, when
 the disorder seems to depend on an endemic or epidemic
 cause. Those who contend for inflammation say that
 it is only an increased discharge from the bowels at first.

resembling diarrhæa, and that in this stage it may be easily cured by bleeding and gentle saline cathartics. This is the stage which I have contended is not inflammatory, and, by the adoption of such measures, we will be extremely apt to do much damage, the disease in this form should be treated promptly as one of a local nature, if not so, from the nature of the parts this partial looseness is extremely apt to assume a confirmed state, and be attended with more or less of fever. It may be stated that bleeding in certain constitutions, and under certain conditions of the body, will not prevent inflammation from occurring, but by producing a certain state of the body may hurry it into existence, or in other instances, when such occurs, we may possibly have taken away the very quantity of fluid which, had it not been abstracted at this time, would have afterwards saved our patient's life. We have seen the reason why patients may or may not be attacked according to certain peculiarities of constitution. There can be no doubt but what dysentery is produced in many cases by some offending matter within the intestines, and that, in such cases, it is only an effort of the system to get rid of such, that the purging occurs, but we have seen that if this excitement continues for some time the purging may become constitutional; in the same light, may we look on dysentery as chancres, which last are regarded by many merely as local, but if allowed to gain on the system, they then become in some manner constitutional, and can only be effectually cured by general remedies in conjunction with local. So also is gonorrhœa only a local affection, but at times we see it producing general disturbance. Look at the action of cold upon the mucous tissues about the throat and fauces, &c. here after a time we have an increased discharge, but it very frequently happens that such continue as local affections throughout, but when more severe they are very apt to produce fever, the one now acts on the other

causing a great disturbance, with an increased difficulty in the treatment. I can see no reason then against the conclusion why dysentery may not be looked on at the first onset as a local disease. In hot climates where the complaint runs so speedily from one stage to the other, we must be very careful in our treatment, and according to the urgency of the symptoms, as these can be the only sure guide to a successful termination.

C H A P. III.

SECTION I.

P R O G N O S I S.

The duration and termination of dysentery is very uncertain, sometimes from violence of the symptoms especially in tropical climates, the patients may be cut off in the course of two or three days, at other times it lasts for as many weeks, months, and I may add in colder regions for a year or more. When the disease lasts for nearly six weeks, we may consider it as having become chronic, this is an indefinite period as it may have become so sometime ere this, and when so, in European constitutions in hot climates, becomes extremely difficult to manage, and not unfrequently terminates fatally. At other times the attack soon ceases, I have seen cases of real dysentery, and these pretty severe, terminate favourably in the course of two days, others in which it would do so after the administration of a couple of scruple doses of calomel, given in the space of twenty-four hours, with fifteen to twenty grains of Dover's powder at night. At other times our patient will soon get well, but on the least exposure to cold, or eating highly stimulating food, or that which may be of bad digestion, or any of the other causes noticed, he suffers a relapse—in this manner may he go on from time to time, but these repeated attacks generally end in the chronic form, or this last

is very apt to go through the same progress. As the disease is often benefited by diaphoresis, so it not unfrequently terminates favourably by a gentle and universal perspiration, thus shewing a species of metastatic action, or at all events the irritation from the nerves of the intestinal tube is in a great measure removed from hence, to those of the skin, and the reason why they do not cause an excited state of it, is that this part is under certain circumstances less easily excited, than other parts of the body. The stools now become more natural and less frequently discharged, a cessation or at least diminution of the severe griping pains, and the strength being but little impaired, are to be considered favourable symptoms. To the above may be added a desire for food, an abatement of thirst, the tongue, if it has been covered with black sordes, or mucous, resuming more of its natural red colour ; or if it has been too red and shining, assuming more of the healthy appearance. The urine flowing freely and depositing a sediment as before the attack, provided the patient was healthy. Strangury if there has been such, which we generally find in tropical dysentery, and often of the most severe and distressing nature now becoming less acute, and the attending fever arising, however, from common causes becoming more mild. The opposite states to the above may be regarded as unfavourable. Such as a violent fever, the dysentery habitual from long continuance, obstinate nausea and vomiting, attended with singultus, these indicating a very irritable state of the system. The apthæ in the mouth and throat, if they are present, putting on a putrid appearance, with difficult deglutition. The tongue retaining an irritable glossy red and shining appearance, or covered with a black crust, or similar apthæ. Countenance much changed and dejected, exhibiting what has been termed the facies Hippocratica, convulsions, cold extremities,

great prostration of strength, delirium, cold partial clammy sweats, pain suddenly ceasing, without any obvious cause, fæces extremely fœtid, resembling those formerly noticed under the article black vomit. This as it is an indication of approaching gangrene, must always be considered as a very fatal sign ; petechiæ as the fever attending such a state of the system, is generally of the worst description ; involuntary evacuation of urine and fæces. Pulse low and intermitting, or quick and small, severe griping pains and tension of the abdomen, increased by touch or pressure, or a complete and sudden cessation of it, such indicating that there is a very high inflammatory action or that this has ended in gangrene. Dysentery, when attended by disease of the liver, is always to be considered as an unfavourable case, so are those in which the distemper is attended with typhus or other putrid fevers. It may be added to the above that previous debility of body, however induced either by a long residence in tropical countries, or from former disease, or any other cause producing the same, are to be regarded as very bad cases. We must not expect to have all these symptoms following in regular succession in any, or even amongst a multiplicity of cases. But appearing individually or in any combination of them, we should hesitate before we pronounce the patient safe. Singultus occurring at the commencement of the disease is not to be looked on as very bad symptom, but if it continues with unremitting severity it is much to be dreaded. Strangury if of long continuance and severe, should excite alarm, as it indicates great irritation about the rectum and parts about the bladder. Some have even said that such cases do not in general recover, or but tardily so. This may be somewhat correct, but I have seen cases in which severe strangury existed, recover nearly as fast as the others. In pure dysentery unat-

tended with any sort of putrid fever, I am of the same opinion as Sir Gilbert Blane, when he observes that delirium very seldom occurs, and that when the disease proves fatal it is in consequence of violent local affection, and this perhaps after it has assumed the chronic form. When an incipient fever turns into a dysentery then there is a sort of counter action or splitting of the disease in the system, and it is not to be wondered at that all the symptoms of the fever, particularly the headache, delirium and coma, if there should be any, are relieved. In some cases I have seen the patient carried off, when he was perfectly sensible to the last, with no other complaint than the severity of the purging, which towards the close of life had become exceedingly putrid and highly offensive. The absence of all pain therefore is a very bad omen.

SECTION II.

DIAGNOSIS.

There are few diseases which afflict the human race of a more universal and determined malignant character than dysentery. Every year it carries off its thousands and tens of thousands throughout all quarters of the globe. Vast numbers of our seaman and soldiery especially in tropical countries are every year the victims of its malignancy, during the years 1827—28—29 and 30, it was even more fatal than cholera in some parts of India, particularly in the Presidency of Fort St. George, a complaint of such a character, demands of us every attention, and none therefore need be ashamed of entering on every minutiae connected with the distemper, even although but of trifling moment.

Easy as the complaint is to be distinguished from other bowel affections, yet I have seen Surgeons not unfrequently mistaken, and even pertinaciously persist, that

real cases of dysenteric attacks, before them were not so, because the dejections had not been tinged with blood, at other times this would be present, but the mucous might be in a great measure absent. Some authors have said that it is often impossible to distinguish between some forms of diarrhæa and dysentery. There is perhaps but little inconvenience attached to this circumstance, if we only adopt the plan of treatment adapted for dysenteries, for we will find that by the early recourse to such we will generally be in the sure way. Adhering to nosological distinctions, we will find some forms of diarrhæa more, or at least as intractable as any form of the complaint we can encounter. Dr. Pemberton states that dysentery can be distinguished from every other disorder of the intestines by the discharge consisting of mucous and blood, by the pain being relieved by such excretions, by tenesmus and by fever, some add to these the appearance of scybala. It is astonishing that this last should be so much insisted on as to be met with amongst the dysenteric discharges, however frequent in former days they are certainly of unfrequent occurrence in the present, especially in those attacks in hot climates. We also not unfrequently meet with cases in which there is no fever particularly at the commencement. Dysentery can be distinguished from cholera by the absence of that rapid sinking of the nervous power, by the discharges being mixed with mucous and tinged with blood. Again, we may observe some difference between it and diarrhæa by the discharges in the latter, being more of a simple purging and unmixed with mucous or blood, by the pain being relieved by the evacuations and the absence of fever, but in both complaints there may be slight febrile symptoms. Even when the discharges in those cases of doubtful diarrhæa are so much altered as to resemble dysentery, the proper plan of procedure will be as above pointed out. Dysentery may be distinguished

from colica Pictonum from the circumstance that the discharge in this case consists in vomiting a considerable quantity of bilious matter, and the bowels remaining obstinately constipated after a time, with the other general affections of the system, which approach nearer to cholera than the present disease. There is little danger of confounding dysentery with hemorrhoids, as the discharge of blood in the latter case generally relieves the intense pain of the intestines, which it will not in general effect in the former. From all that has been said we come to the conclusion that where there is a discharge of mucous mixed with blood and tenesmus, more or less severe, that the case may with propriety be regarded as dysentery. These discharges may consist of feculent matter, but not in any great proportion, as the disease advances, these feculent stools, or appearances of them gradually grow more or less indistinct, at all events this is perhaps more universally the case in warm climates than in others differently situated.

SECTION III. MORBID APPEARANCE.

There is nothing of so much importance, perhaps, as an accurate knowledge of the morbid appearances as presented to us by disease, from which we may in some measure be guided as to a proper plan of general procedure. But alas! how often do we find that all our remedies employed against a most inveterate distemper, although we know truly the morbid appearances, prove of little or no avail, such proceeding from the plain fact that the energies of the system are gone. It is therefore incumbent on us to strive as much as possible to cure such in the primary attack, and not allow any case to become chronic; such will be attempted in the plan of treatment about to come under our notice, in the mean

time it will be requisite to state the general appearances met with on inspection.

It has been said that the minor membrane of the alimentary canal is more subject to ulceration than any other of a similar nature: in any canal having an external opening, on inspection, the intestines are generally found more or less inflamed, especially the colon and rectum, the latter being sometimes thickened, ulcerated, or of a blackish gangrenous appearance according as the disease has been of long or short duration, or the intensity of the symptoms. In some instances, a long tract of the intestinal tube exhibits this gangrenous state. The red colour of some portions of the canal, which at times we would be apt to imagine inflamed, is not so, but only an infiltration of blood into its substance. If there is extravasation we may observe many small vessels ramifying through the part. I have witnessed a beautiful mottled appearance from infiltration of blood throughout the greatest length of the alimentary tube, without having gone the length of inflammation, this on being pressed out of some of these portions, the surface was left of nearly a natural colour. Had such depended on inflammation this could not have been done; since when under these circumstances neither pressure or maceration will have the effect of completely removing the reddened colour of the parts. Now such appearances are owing to the nervous irritation on which so much has already been said, and the same sort of redness without being really inflammation, we may meet with in cases of hernia or in the inverted intestine in artificial anus, such proceeding from an infiltration as well as distention of the blood-vessels of the part, there being in these instances a strangled state of the circulation. Dr. Burns says that "inflammation is not necessary to the production of mortification, even the pre-existence of great pain is no proof that inflammation has been present.

“ Cramp may prove speedily fatal, merely as a disease
 “ of sensation. It may produce gangrene, without any
 “ previous inflammation, or it may end in inflammation.
 “ Alkaline caustic produces directly a slough or com-
 “ plete sphacelus to the full satisfaction of the strictest
 “ nosologist, without any previous inflammation. There
 “ is great pain undoubtedly, and inflammation may af-
 “ fect subsequently the neighbouring parts, but it never
 “ existed in the sphacelated portion, a part therefore it
 “ is evident may mortify in different ways it may perish
 “ for want of nourishment, or it may be destroyed by
 “ overaction. The lower that the power of a part is, the
 “ less able is it able to bear up under the action and the
 “ more numerous that the excitements are the sooner,
 “ must any part be destroyed.”

In other instances there is perceived a number of little
 black or brownish spots in various parts of the tube, es-
 pecially at the lower portion, these consisting of three
 different kinds, viz. ecchymosis of blood, congestion of
 blood in the small blood-vessels, and ulceration. The two
 first belong exclusively almost to the mucous membrane,
 but afterwards they extend to the contiguous parts.
 The congestion of the small blood-vessels varies from an
 indistinct blush, to the most vivid scarlet, or the deepest
 black, and this is found to belong especially to the mu-
 cous membrane and seems to depend upon an inordinate
 repletion of the minute blood-vessels, these sometimes
 assuming the appearance of small patches. Occasion-
 ally, though rarely, we meet with a finely spotted marled
 appearance resembling marble of the black and white
 sort studded over with vermilion, these spots exhibiting
 all the different stages from infiltration of blood to gan-
 grene. Sometimes portions of the intestines are morti-
 fied through and through, the ulceration but very seldom
 if ever commences externally but proceeds from the in-
 side outwards, and we meet with the ulcerative action ex-

tending to the other parts. Now of the existence of such a state we have no marked appearances at least from the matter passed, as purulent secretions can and do take place without loss of substance or even abrasion of the part. At other times again the parts present a greenish substance in the forms of sloughs, and as Mr. Marshall has properly enough designated it, that such may be compared to a tainted oyster." The villous coats of the larger intestines have a variety of colours, sometimes these are red, at other times "the turgescence is occasionally so great as to resemble the tumid state of the inflamed conjunctiva, during a violent degree of purulent ophthalmia." Tumours of different forms and magnitude have been observed varying from the size of a millet seed to that of a garden bean, and they are not unfrequently gathered in groups, and these parts may ulcerate more readily perhaps than any other portions of the canal. Traces of pustules resembling small pox have been found in the colon and superior portion of the rectum; these frequently ulcerate during the progress of the disease, and consequently the case generally though not always, is mortal. Ulcers have been met with in every part of the alimentary canal varying from the size of a pea to an inch in diameter. It would appear from the authority of many authors that these although they most frequently end fatally yet that they do sometimes get perfectly well. In every such case we can do little more than assist the efforts of the system and ameliorate symptoms, such cases are in general truly deplorable. It was formerly held as a doctrine that ulcerations in the intestines proved always mortal, but we are well aware that such is not necessarily the case. The following conclusions may be drawn, 1st—That intestinal ulceration arising from inflammation, is not fatal of itself and—2d—That it is susceptible of cure although we have not been able to find any artificial means

of cure suggested, and that cicatrization takes place here in the same manner, as in other parts, but from the continual flow of the intestinal secretions over the ulcerated surfaces, they are continually subject to this irritation, which in a greater or less degree prevents their healing : and this particularly where the disease has been of a considerable duration as the parts are frequently completely altered in texture. The mesenteric glands will also at times be found enlarged, especially in young persons of a scrofulous habit ; in some cases lying dissolved in a dark coloured sanies, this according to the extent and duration of the inflammation. I have seen a case in which these glands were destroyed to such an extent, that the abdomen when opened presented the intestines swimming in a manner in pus. They were collected into clusters in several places and at the sigmoid flexure of the colon, a cluster of them was found adhering to the intestines and where a communication between that cluster and the intestine was found, but no fæces had passed into the abdomen. It has already been observed that when the disease continues for any length of time or becomes chronic, these are intestines often thickened to a considerable degree, and it may be added that they are not unfrequently distended with flatus. As also there is a softening and pulpy state in combination with the thickening, which must always render the treatment difficult. There is also an infiltration of serum into its substance. “ This infiltration with softening of the cellular tissue renders the mucous coat more easily separated. The coat itself becomes more sensible and is slightly rugose, more or less according to the number of papillæ. It loses its transparency and the follicles increase in size and vascularity. All these circumstances cause a thickening of the coat, which is frequently one of the most troublesome effects.” It sometimes happens that from the severity of the inflam-

mation the internal membrane of the intestine is thrown off, by its becoming speedily gangrenous from the high state of excitement that previously existed, thus the vitality of the part is at once destroyed, this is more frequently met with in cases of intertropical dysentery, where it runs rapidly through its different stages, as before noticed ; this does not bear any resemblance to the fibrinous production of membrane met with in croup, which will also occasionally be found expelled with the dejections.

At this stage of the enquiry it may be necessary to observe, that although we meet with such appearances as noticed, yet such do not shew the primary cause of the production of dysentery, but they are only the result of some previous action in the general system or parts. Inflammation then, it may be said, is not the producing cause of this complaint in the vast majority of instances, nor is inflammation of the mucous coat of the stomach the proximate cause of fever. I say that such when present will generally increase the symptoms, but then it did not produce the disorder, such a condition of the parts is owing to another cause. We must now look to a something else, and we will find that such depends entirely on a deranged state of the sensitive system, or from a disturbed state of the nerves that these diseases primarily arise. The nerves of the encephalon or the extremities of this system are the parts that are primarily concerned, this excitement produces another action that of irritation, which if not expelled we have inflammation. The above I look on as the proper manner of accounting for the presence of dysentery, but how long these states may last it is impossible to say, generally however in a hot climate they endure for a shorter period than in a cold one. Hence it follows, that the appearances met with on inspection however minute, cannot lead us to a true mode of treatment applicable

to all disorders, especially at the outset of such, nay if we did do so we would not unfrequently commit irreparable damage.

The liver and spleen are frequently found diseased more particularly in hot climates, altered in structure, indurated, and containing large and small abscesses, this is more frequently the case than we might be led to suppose from the writings of some. The effluvia arising from these inspections are most offensive. In some cases the internal surface of the colon and rectum, particularly in hot climates, is often found covered with irregular ulcers of various magnitude. In others the villous coat appears to be torn off—I have already noticed the general appearance of this coat, as also its separation and passing with the stools. This account of morbid appearances could be swelled to an enormous extent but from what has been stated it will be found that many are the varieties of diseased structure to be met with in dysenteric patients and they are easily accounted for. Those who wish to prosecute this subject further, may consult Bailie's or Morgagni's morbid anatomy. I shall close this part of the essay with the following quotations. Sir Gilbert Blane says, that the usual cause of death appears to be occasioned by an ulceration of the great intestines, particularly of the descending colon and rectum, and thinks that this is occasioned by their being the receptacle of all the acrid secretions from the rest of the canal. This ulceration he represents as so common, that out of eight patients he inspected, seven were found to have this ulceration. The case where there was one was not so much that of dysentery as of inflamed bowels. It may be added that the disease will prove fatal without any ulceration of the bowels, this will take place in proportion to the state of exhaustion the distemper is capable of producing on the animal and vital powers, if rapid exhaustion be induced, then

we may have death without almost any appearance of organic lesion, it is imagined that small patches of inflammation or even ulceration, is not in many cases the immediate cause of death, but that this takes place in proportion to the injury inflicted on the nervous system and the energies of the brain, something in the same manner as Cholera acts. It is well known that rapid and severe exhaustion will just as effectually destroy life as any of the more severe organic lesions. Preston says, that the liver was invariably deeply engaged in disease, in general considerably enlarged, and its whole structure apparently destroyed. In two cases the surface was studded with large yellowish white spots, which on cutting into, were found to contain yellow purulent matter in distinct cells throughout its whole extent. The concave surface commonly presented a livid aspect and was indurated, the gall bladder usually nearly empty. Preston's remarks are brought forward not with a view of shewing that disease of the liver is an invariable attendant, but the reverse is the case, as it is more so in some seasons than in others; however, by the remark we are taught, that the liver is to be met with in a state of disease, in combination with dysentery, and when so, our best endeavours are required for its removal, as well as the other complaint; for so long as we have irritation in the one we are always apt to have the same state existing in that of the other. In conclusion to this subject, it has been observed by Dr. Bailie that "it is very much to be regretted that the knowledge of morbid structure does not lead with a certainty to the knowledge of morbid actions, although the one be the effect of the other. Yet it lays the most solid foundation for prosecuting such enquiries with success."

CHAP. IV.

—
TREATMENT.

GENERAL OBSERVATIONS.

From the variety of opinions which prevail as to the cause of this complaint it should not seem wonderful if a corresponding variety in the means of cure be adopted. Considering that the same end may be obtained in this, as well as in other cases by different means, should we be inclined to regard the whole variety suggested and recommended of that fanciful cast, which at first sight we might be apt to suppose. It is erroneous to believe that any disease admits of one method of cure, for difference of climate, of constitution, and other collateral circumstances, have had a strong influence in determining the character of remedies peculiar to each, and we should recollect that we make allowance for the propriety of different modes of treatment in different climates, just as we ought to do for particular habits, or circumstances of patients in any. The medicines themselves are necessarily fitted to accomplish the same effects, with either an increase or diminution of the dose. I have heard medical men say, and this in an intertropical clime, that they never lost any patients from dysentery. What can we think of so much vain boasting, the better informed part of the profession must conclude that they either treated few cases, or that those they had an opportunity of witnessing, were very mild in their nature, or that they had but a very imperfect idea of dysentery. I was not a little amused, in conversing with one of the Gentlemen alluded to, and somewhat surprised when he persisted in the statement; being one day rather hard pushed for the specific, he acknowledged the following to be the wonder working medicine which was employed on

all occasions and in the majority of instances without blood-letting.

Rx	Tinct: Catechu	3ij
	Creta ppt.	3i
	Mist. confect. aromat.	3iiss
	Tk: opii	3iss
	Ol. menth: pip:	gtts. iij
	Agna puræ	lbiss ft. mist.

a wine glassful after every liquid stool. We are to recollect that the above is a very excellent formula, and exceedingly well adapted for many cases of the more mild forms, especially in the colder regions; but if trusted to solely in a hot one, we would find ourselves much, very much deceived. Moreover, it would be absurd to use it as a specific in any climate: those who do, will find themselves miserably disappointed in the successful issue of the business. There never was, nor, in all probability, will there ever be, a specific remedy for dysentery; since the complaint is so varied in its nature, we must therefore turn our attention to a more systematic mode of procedure. If we attempt to tamper with the disease in any instance, we do great harm to the patient; as by doing so we only permit it to lay a more firm root in the system, for we will find that it speedily draws all the neighbouring organs into a depressed condition, particularly the stomach, by which the powers of life are soon lessened, and the disease, in the mean time, makes rapid progress to a chronic state. I have seen many cases that have been shufflingly treated, the result was generally truly deplorable, ending not unfrequently fatally, this too, when more effective measures were had recourse to in the after treatment. It is, therefore, incumbent on us to be well aware against what we have to contend, and not lose the favourable moment at the commencement, this is the best time for the effective application of our remedies.

In looking over some of the different publications which have been given to the medical world as to the cure of dysentery, it is truly astonishing to observe the discrepancy of opinion which still exists as to the proper general plan of procedure. Some are bigotted to the gentle laxative mode, from the very commencement to the termination, this plan but too frequently places the patient in his grave. Others depend much on bleeding, and cannot allow a case to escape them, without phlebotomising; others again trust to sudorifics and purgatives conjointly, while a fourth class adopt the mercurial mode, of this last, I may say, that it appears to be decidedly the preferable, more particularly in an intertropical country. It is truly astonishing the antipathy which exists against the administration of calomel by many land practitioners, they without experiencing its good qualities, calling it a poison. If it is really so, why have they recourse to it in larger doses, in cases of cholera and other complaints. If calomel was really the very bad article, they could wish us to believe, why do they administer it in those cases which oppress the powers of life more quickly than dysentery. Such a method of reasoning as adopted by them is indefensible and it is imagined can only proceed, from a wish to be thought less harmless practitioners than their neighbours, and seem more fitted for the ball room than the more energetic practitioner. Such on their part is certainly mistaken humanity, for by their *dilly dallying* mode they give a licence to the disease to proceed to what lengths it chooses; nay, they but too frequently urge it on to extremes, which it would not otherwise have arrived at: the consequence is that they invariably lose many cases, but more of this subject anon. In the mean time as regards the above modes it may be observed that in many cases we will succeed with each, and a good practitioner will adhere inflexibly to neither, but he may, as occasion requires, have recourse to them

all, perchance even in the same case. None, it is thought, would be so foolish as to trust a dysenteric patient labouring at the same time under an attack of hepatitis, especially if severe, to the gently laxative plan of treatment, but, as a sensible man, would have recourse to other more appropriate remedies, such as the nature of the case required. Again, it may be said, that none would inflexibly adhere to the mercurial or sudorific methods, if the patient had most severe pain of the abdomen increased on pressure, he surely would have recourse to venesection, and this not by stated number of ounces, as is not unfrequently done, but would bleed *pro viribus*, and the effects produced on the general system, or until there was a mitigation of the pain. But, in order to see fully with what we may have to contend, in the treatment of dysentery, let it first be mentioned that in the event of successful cure, we must endeavour to remove the fever with which it may be accompanied,—provide for the evacuation of irritating substances from the alimentary canal,—relieve the spasmodic affections,—restore the tone of the intestines, as well as, that of the general system. The first thing that may with some propriety be considered is the nature of the existing fever, and at the same time consider, whether it will be proper to attack both by the same general remedies, or whether it will be proper to postpone the curing of the dysenteric attack or the fever. If no fever exists then there is no circumstance connected with the pure dysentery itself to require us to defer our exertions. But on the other hand the sooner we proceed, *celerat acer* may be our motto, the more efficacious for the patient.

If the fever be synocha, and if the plethora of the system be great, it may be proper to bleed and have recourse to antiphlogistic treatment; so as to cut short the fever, at the same time having in our mind those remedies which are calculated for allaying the irritabi-

lity of the alimentary canal, as well as the general system. If on the other hand the fever be typhus, then we must recollect the general tendency, that such sort of fevers have of occasioning in their progress great depression of the powers of the body. Here we do not bleed except from imperative necessity, as we require to be more sparing of the vital fluid, as also strong purgatives. If, however, in typhus the pulse be strong and throbbing, especially with determination of blood to any vital organ, we use the lancet according to existing circumstances, keeping in mind the general tendency of the fever itself to debilitate, which in this instance will be more speedily effected from the drain which the dysentery must produce on the system. We ought therefore to bleed only to the extent of moderating action, always keeping in mind that the greater proportion of what is discharged by stool is secreted from the blood, and that the discharge in this way in very many cases is considerable, we will be more sparing on that account, for the bleeding will add to the general debility present, and in this manner give a greater latitude for irritation to exist in a weakened part, and thus we may have the *inflammatio debilis* induced. The older authors I think very properly in such instances insisted to be careful of not adding to the debility by the abstraction of blood. If on the other hand we feel indifferent as to bleeding, then we may use saline cathartics with more freedom, but even in the use of these, care must be taken to select those that do not stimulate the intestines too much, and we proportion the doses according to circumstances. As to the full employment of blood-letting with other remedies, such will be considered under their proper heads. If there is any other form of fever attending the dysentery, such as remittent or intermittent, &c. then care is to be observed that each be handled according to the appropriate plans of procedure for its relief. Our particu-

lar attention is required in those cases in which there are two diseases as it were existing at the same time in the body, although each may in some measure be depending for its presence on that of the other, one of them must predominate; in such then we combat the most urgent symptom in the first place, at the same time not overlooking the grand object, and we endeavour to select these medicines which may be calculated for operating on both, which at times may not be exceedingly difficult to accomplish. We are in many instances obliged to attack the various portions of a disease and reduce "them piecemeal," this plan of procedure may appear inconsistent to many, but let me ask what could they do half so well calculated for effecting the purpose, and the most of medical practitioners now a-days only attack the more important symptoms at the onset, and when the system has been brought under our power, then we can administer medicines which may have a more beneficial effect. This is the manner in which we get rid of almost all severe medical diseases, viz. by breaking some part of the chain of actions, beginning with that which is most urgent and then gradually attacking the others until we force the part to assume its healthy state, or reduce the morbid chain so low, that nature herself will be enabled to resume her healthy operations. As we advance in the treatment, more will fall to be considered; in the mean time I may speak of what is proper to be done in simple dysentery. Here, however, it will be proper to premise a few things, as nothing is so absurd as asking any medical man what his treatment of the distemper is, unless we give him at the same time to understand the nature of the attack, which of course takes place in a variety of constitutions, and under a surprising number of circumstances, so that we see the folly of any one answering that this is my plan of procedure, bleeding and purging, another says, gently laxative medicines with sudorifics, &c.

CHAPTER IV.

SECTION I.

EMETICS, IPECACUAN, &c.

Having alluded to nausea and vomiting when speaking of the symptoms of dysentery, and as there is often an effort of nature to get rid of something offensive to the system, it may now be observed that a gentle emetic seems not improper to promote the general effect. Now every one knows the *modus operandi*, or at least the effects of the action induced by such remedies, they for a time depress the powers of the system, but on its full operation being completed, a new action takes place, which is entirely opposite to that of the former. There is a sort of re-action of all the powers of the system, so that it may not unfrequently happen that this stimulus of action induced will be greater than the existing disease, and, if the body has only strength sufficient, the dysenteric symptoms may be at once and completely displaced, and all that may be required is a gentle laxative medicine to clear the bowels, such as castor oil with a few drops of Tincture of opium, with some gently stimulating substance as the compound tincture of cinnamon, or peppermint water, or rhubarb with ginger powder, or the aromatic confection, so as to keep up the action and free the bowels, at the same time of their acrid materials. The emetic might be selected, if possible, so as to fulfil two or three useful indications. Not one that, from its severe operation, is apt to depress the system after the operation, by keeping up for a time great languor or nausea. If it empty the contents of the stomach, so also may it do so to the duodenum, and by increasing the peristaltic action, we may likewise have a stool produced. Nay, independent of all these, we may have diaphoresis induced, or at all events it paves the way for the more

sure operation of any diaphoretic medicine we may think of administering. Even, supposing that no previous nausea existed, it may still be highly proper to give an emetic. The natural operation of which is to free the stomach of any noxious matter, which may lodge within it. Emetic medicine it is pretty well known operates in increasing the action of the superior portion of the alimentary canal, and evacuates not only the contents of the stomach and duodenum, but also extends its influence to the ducts of the pancreas and gall bladder, which being in consequence stimulated, give out their secretions, which form as has been asserted the proper stimulus of the intestines. The above may serve to explain the general nature of the operation of an emetic. But without pursuing further the theory of such, I shall rather attend to the proper kind which ought to be given previous to this; however, it may not be improper to state that the above remarks are more strictly confined to the cases occurring in the more temperate parts of the globe, where our patients bear the operation of these remedies much better, than the cases to be met with within the tropics, where in the latter instance the body is so irritable, from the state of the weather and other debilitating causes, so that the administration of emetics, as a general plan of procedure must in general be laid aside.

Antimonial preparations and ipecacuan are those in which practitioners place most confidence, but as the ipecacuan appears to act with more mildness, I would give it a decided preference, seeing that it can be administered in all cases where there is debility, and this with much more safety than the antimonial preparations, which sink the powers of the system too much, from the extent of the nausea they excite, and in weakened parts, or those possessed of great sensibility, such remedies will be found improper. If ipecacuan, or any other emetic is to be administered, during the fever, experi-

enced practitioners have recommended bed time as the most proper period for their exhibition, and to follow up this by the pediluvium, and this last by a good dose of Dover's powder, especially if the fever be of the typhoid type, and if we cannot check the fever by these means, in conjunction with an opening medicine, it will in general run its course in despite of all our endeavours to arrest its progress. Indeed all that we can otherwise do is only to palliate symptoms, and this is what will generally be found to be the collected result of any practice, however extensive, either in a private or public capacity. It is imagined that instead of waiting till night, if the patient applies during the day, we cannot do better than follow the above at the moment of his appearance, and thus turn the time of application as it were to night by ordering him to bed at once, as it is of the utmost importance that the force of the disease be at once broken. If allowed to proceed it would only become more deeply fixed, and require more powerful means for its palliation, it is of the utmost importance therefore to treat it when only of a local nature, for by this means we may often succeed in destroying the action at the very onset. It is intended in the prosecution of this enquiry when following out the employment of the several remedies in the cure, to state their *modus operandi*, as well as the manner in which they will be found to act on the powers of the system according to the dose of each.

Therefore when on the subject of ipecacuan it may be as well to state that it has been administered with a different intention than for its emetic properties, this too in all cases and in all climates. What is its operation in small doses? Few of those who thus administer it I believe can tell the distinct intention which is to be accomplished by giving it in this form. It may act as a gentle laxative and why? In the mean time, I will suppose, not from any laxative properties it of itself possesses, but by

its regulating the undue peristaltic action of the intestines, when this is over and above the natural, and healthy standard. This it does by exciting a slight degree of nausea, either by sickening the nerves of the part, or of the system generally, and where such an action takes place, the system as a matter of course becomes more languid, and, in conjunction with the rest, the peristaltic action of the bowels. That it does so may be seen by looking to the effects produced by a full dose given with the intention of acting as an emetic. After a short time the sensitive parts of the stomach begin to sicken, soon after this the general effects are soon manifested, by nausea, and this followed by vomiting, thus shewing that at first it acted as a sort of sedative, and then as an exciter; any one will destroy the actions of the stomach after a hearty dinner by taking a few grains of this medicine, it will be found that the process of digestion is stopped for the time being. After the emetic effects are over then we have another state induced which is that of a general excitement, this calls into play the nervous and sanguiferous systems and thus restores the balance of power to the different parts: on these principles, then is it that the disease is not unfrequently overcome, if I am correct as regards the opinions stated concerning inflammation. It must also be recollected that the medicine in question is possessed of gentle laxative and sedative qualities, and the last effect in particular when combined with opium. By regulating the peristaltic action of the intestines, soothing the secreting apparatus of these parts, thus time is allowed for the more fluid parts to be taken up, and by checking the inordinate action of course fewer secretions are poured into the larger intestines, or forced forwards; in consequence of this fewer calls to stool. Hence then we have the only benefit ipecacuan is able to confer, for it has no specific action. It would seem from this that blue pill would be the best medicine

to combine with it, but this must depend greatly on concomitant circumstances, as to the state of the patient and the nature of the attack. That the above is the action of ipecacuan in small doses will appear to more advantage when it is stated, that small doses of tartar emetic have been used with success in the treatment. These are to be repeated according to the nausea that they produce, thus the inordinate action of the bowels is quelled at the expense, however of the general system, in this manner then the bowels may return to their healthy state. Desault I believe it was, who administered this medicine in erysipelas for the purpose of lowering the general action on the surface, and in this manner cure the disease. I am not, I must confess a strong advocate for such proceedings, and do believe that in many cases it will prove decidedly injurious when too long persevered in by lowering too much *all* the powers of the body. Dr. Good observes "the ipecacuans, however, though "possessing some diversity of power, concur in operating "very generally on the skin, at the same time that they "excite the stomach, increasing in a slight degree the "discharge of mucous from the lungs and *adding* a little "to the peristaltic action of the bowels." This last action is only it is conceived, when in their natural state, for we find that many medicines act differently between health and disease. Dover's powder although an excellent medicine does not seem possessed of the same properties as when the ipecacuan is given singly, the reason of this may be that opium seems to possess a great power as regards the evolution of animal heat, and consequently on sensation. It seems to increase the former, and from its other known powers we know it to relieve the latter. Dr. Cheyne exhibited ten grains of the compound powder of ipecacuan early in the fore part of the day and repeated this at night, with low diet and a gentle aperient to assist its operation in the morning.

In several cases the disease in this way, as also the fever spontaneously ended in free perspiration. Now when we consider the quantity of ipecacuan that is in ten grains, we might be inclined to ask what good effect this could have over the distemper, I should say but little, but when it is joined to as much opium then we have another power given it which neither of the two possessed singly, for now there is a tendency to the skin, which, when we have it brought to a state of perspiration, will often relieve, if not remove the attack. The reason of this appears to be, that by inducing this state, as I formerly observed, we have a splitting of the actions, and a transfer takes place, thus the irritation being in part removed, we allow the powers of the system to assert, and maintain their authority. Thus by removing the irritation from one portion of the body, we relieve that existing in the other.

Sir John Pringle, if not the first to introduce the practice of small doses of ipecacuan, at least prosecuted it with more freedom than had before his time been employed, he gave it both in large and small doses, from five, ten, to fifteen grains, and the same practice has since been recommended by many eminent practitioners and at present is pretty much in vogue in many parts of India. It will therefore be proper to notice Sir John's practice, as he in my opinion employed it most fully. He gave a full dose of it in cases of much nausea, assisting its operation with cammomile tea, and if the pains were severe and troublesome he gave it in divided doses. I have little hesitation in saying that this was done with the idea of allaying the inordinate peristaltic motion of the intestines, this it accomplishes by exciting a new action in them, or rather allowing the old to take precedence, and I care not how this be done, whether the medicine acts primarily on the stomach, or elsewhere, so long as we find that it allays the action.

To illustrate this practice properly it may be requisite to state, that the due and efficient application of remedies, requires that their doses be so proportioned as always to keep up the effect wished for. It will not do then to have a five grain pill of this medicine given in the morning, and another in the evening, as the interval between the doses is so long, that re-action in the system, would take place either of the doses, after their nauseating effects were over, and thus we would have more harm done, than we will be enabled to remedy for some time, this however depends in a great measure on the constitution of the patient. We ought to be regulated in our proceedings by the various symptoms present, always recollecting that much *sensible* nausea is to be avoided, as in such instances we would decidedly do harm by the debility we should occasion in organs of the nature of those we are dealing with. Debility of this sort is not the "bugbear" which is produced by blood-letting, but it is of this nature, it lessens all the animal powers, consequently it depresses the powers of the part without inducing that healthy state so as to enable them to resume their natural actions. *Sensible* nausea therefore is to be avoided in the treatment of dysentery, it is only an approach to it that we should aim at, in such a case then, it would be folly to state the number of grains, or the time when they are to be repeated. This must depend on the points already noticed, which we must take as our general guide in all cases of disease, and as respects any class of remedies, particularly stimulants. After this manner then we may require to administer during the course of the day from twelve to one hundred grains. The extract of gentian, or any other tonic medicine, may be most advantageously joined to the ipecacuan, so as to prevent the nauseating effects that might otherwise arise. How do these in combination with the ipecacuan, prevent the nauseating effects from shewing themselves less

readily? I apprehend that we must admit it to be somewhat in the following manner, by calling into operation the powers of the stomach, and through this organ, that of the general system, thus by strengthening or fortifying the stomach we prevent the rejection of the other medicine, by soliciting a watchful action which guards the body against any unpleasant consequence that might be induced ; after a little time we will find that the patient can bear a larger dose and perhaps also repeated at shorter intervals. The extract of gentian, then, I apprehend has no other specific power, and the same benefit might be obtained by joining ipecacuan with any other tonic extract, or even agreeable aromatic, with the intention of exciting in some degree the actions of the stomach and general system. It is a most wise plan of procedure then to join this remedy with the extract of gentian or others of an agreeable nature so as to have their tonic properties a point of no small importance in those cases, in which there exists previous debility of stomach, and such we find to exist in a vast number of dysenteric patients. The exhibition of ipecacuan with the bitter extract two or three times daily, is but of little utility, if the above reasoning be correct as to the *modus operandi* of the medicine, since we cannot in this manner have in general the full benefit to be derived, which we could otherwise obtain by keeping up the action which it is liable to induce, provided nothing untoward has occurred to prevent its further administration. It may be observed that bleeding and a purgative such as castor oil should, if thought advisable be used before entering our patient fully on the practice under review. Some are in the habit of administering this medicine with such unremitting attention as not to allow their patients an hour's sleep even during the day or night. I observe as to the mode of practice, that a good night's rest is by far more preferable than all the

acknowledged benefit which it is possible to derive from this unwearied attention, for we will find that there is nothing so distressing and tormenting to any person as to be kept constantly on the alert, or wakened every hour to have the medicine ; our patient by such proceedings becomes fretful and uncomfortable, and in this manner is produced a disposition of mind, but ill calculated to bear up under such a disease, nay it may be said that the torment of the mind produces more disturbance of the general system than ten times the quantity of ipecacuan can remove. There is nothing then like a good night's rest. Whether this be natural or procured by some proper anodyne. We should therefore in the vast majority of cases prefer this latter mode, and be on our guard that the tormina and tenesmus be not renewed during the early part of the morning or the day time, by the proper exhibition of ipecacuan with the extract of gentian, or by some other equally powerful medicine. In those cases which were treated by the continued and unwearied exhibition of small doses both by day and night, what advantage was gained which might not have been obtained by a mild mercurial plan of procedure. This leads me to another combination with the two remedies above noticed, and the blue pill will be found a good remedy. The three in combination will act in as many distinct ways according as each may be calculated for this or that indication, two of these actions have been mentioned, and the other will come under consideration in its proper place. The blue pill may be added so as to have from five to fifteen grains given during the course of the day, or these pills may be given alternately with the others. In cases treated after this manner, I question much if the blue pill be not the principal remedy, and that the disease yields in consequence of the mercurial action, for we very often find that the beneficial effects of

the remedy are not fully shown until we observe that the mercury is shewing itself in the system. Does this not lead us to the conclusion that more benefit is to be derived from the administration of blue pill alone than from the other two, and that we should give as much of it as seems requisite according to the intensity of the symptoms? The plan of the three medicines in combination, although a good one, is only a mere subterfuge for the mercurial method, why do we not therefore have recourse to the proper administration of the mercury itself?

After the example and recommendation of Sir John Pringle, some have even gone the length of considering ipecacuan as a specific, as others have done of certain other remedies for the disease. As has already been remarked there can be no specific for a distemper of this nature, where the symptoms and causes producing it are so varied, as well as that we must treat it according to the progress it has made on the system. In confirmation of the above it may be mentioned, that Dr. Latham, Cullen and others, were almost as unfortunate in the use of ipecacuan, as Sir John and others had been successful. Our admiration of its utility should be chastened, regarding it upon the whole as a good medicine and generally most worthy of being tried. Having stated what we may expect from ipecacuan, not only as an emetic, but when administered with other intentions than to have its emetic property called forth, it may now be stated that before we have recourse to emetics and where we must bleed the latter operation should generally be performed first, as by this means inplethoric patients, and those somewhat predisposed to apoplexy, we will run less risk of this being induced. There are some practitioners who have recourse to other remedies in combination with ipecacuan than those mentioned, such as calomel, opium (not as Dover's powder) &c. any of such cannot have any difference in increasing or en-

hancing the value of the remedy, further than if they were given by themselves, and for fulfilling another indication, which the medicine in question could not accomplish. If our patient nauseates the unremitting exhibition of several medicines, then it may be proper to give such in combination, provided their doses be not large or bulky, where there is a distaste for this last sort, then they may be given separately. It may with much propriety be stated that ipecacuan, as a general mode of procedure, does not answer well in those attacks occurring at sea. In this there may not be so much to surprise us, when we properly consider the nature of such, as here the predisposing cause of the disease is generally in operation, such may be moisture with a variable state of the weather or other causes. These, especially the two former, must always tend to keep the attack alive, unless combatted by more powerful remedies such as calomel. This may be one of the reasons why some Naval Surgeons have been at times so unsuccessful in their attempts at radical cures. Ipecacuan may at times prove a sort of palliative at sea, if so it must be highly injurious, for what only proves so in this disease must in the end be found to have produced very much disturbance, more than what we may ever be enabled to rectify. Every medical man should endeavour to treat dysentery at the onset, with as much energy as if he were handling a case of severe cholera, when so, it will be found that the cures will be more numerous, and less long on our sick lists. It is certainly curious to observe practitioners at times pursuing this routine practice with such obstinacy, and fidelity to their former lessons, as to preclude the idea of one moments reasoning on the subject, at length they are perhaps roused out of this reverie by a few deaths occurring amongst their invalids when they now have recourse to full doses of calomel, and with manifest *success* for they lose no more,

as also that they have many cured out of the number ere they reach England. It will appear, from what has been stated, that ipecacuan acts gently on the bowels as a laxative, relieves the spasmodic affections, and also has a tendency to the skin, especially when in combination with opium, these points then are certainly of the utmost importance in the treatment.

We may now turn our attention to other medicines which have been employed as emetics in dysentery. The antimonial preparations have been used for this purpose, and the cerated gloss of antimony has been praised as a very efficacious and powerful remedy, a particular account of the effects of which we have from Dr. Young in the 5th Volume of the Edinburgh Essays. Sir John Pringle states that he has seen it most effectual in relieving both the stomach and bowels. The doses proper to be used are from three, to twenty grains, according to the age and strength of the patient. In small doses frequently repeated, it excites vomiting, and also at times produces diaphoresis. But allowing this medicine the merit of having in some instances effected a cure, yet when its too powerful operation in exciting very severe nausea and vomiting is considered, I should rank it below, and far below, the ipecacuan. Dr. Lewis indeed observes that it has been found useful in watery and chronic diarrhæa, this however, although not immediately applying to dysentery, yet it is of importance to know. Sir G. Baker administered tartar emetic in watery diarrhæa, half a grain three times a day or oftener, made into powders with sugar. In chronic diarrhæa, we may use it in combination with acetate of lead, and opium made into pills with mucilage. The ipecacuan will be a better medicine, but any of these although they may give relief, will not cure the disorder. One sixth of a grain of ipecacuan every half hour in dysentery when hemituria or other hemorrhagic signs are

present will be found beneficial, although the other usual means are not to be neglected. I should feel inclined and for similar reasons to hold the same opinion with regard to tartar emetic as the other antimonial preparation. If after the operation of the emetic the bowels be very painful, and the stomach still irritable, we may administer opiates or the other soothing means, or the *pilulæ* and *aponacæ* of Sir J. Pringle, which will add to the former operation of the emetic in producing diaphoresis. Tartar emetic excites an action in the liver, it is said, producing a larger secretion of bile, when the bile is stagnant in the gall ducts it may be proper to give it. If the disease has continued for some time and the appearances of inflammation be strong, and especially if the patient be plethoric, with a strong hard and full pulse, pain and tension of the abdomen, considerable irritability and inquietude, the pain and tenesmus great, with frequent dejections, especially if bloody, we can have little hesitation in using the lancet, and then give a saline or any other convenient cathartic, always keeping in view the attending fever.

SECTION II.

BLOOD-LETTING.

As the proper application of blood-letting is of the utmost importance, it is to be hoped that I will be excused the imputation of being tedious, by entering fully into its merits, this will be endeavoured to be done in so far as regards every state, and under whatever circumstances we may meet with the disease. It may be observed that the blood keeps all the other powers in a healthy condition, and that it is on a proper distribution of the healthy fluid that the nervous power is in a certain way governed. The moment a large quantity of

this escapes from the system, every portion of it feels a loss and sinking of its energies, hence syncope so often the result of large bleedings, here we have the nervous system brought into play for the re-establishment of action, which if too weak for this, death must ensue. In epidemic diseases of a certain tendency, we ought to be particularly cautious in what quantities this is abstracted, and in many of them venesection is much more seldom necessary than many would lead us to believe. It is only at present proper to remark that the efficient maintenance of action is regulated by a proper performance of the two systems noticed, and therefore that we are in no case needlessly to deprive the body of this fluid, which we cannot so easily replace, and upon which, perhaps the recovery of the patient chiefly depends. Let us recollect that at all times blood-letting is a method by which we produce a direct debilitating effect, we ought therefore when it is thought prudent to abstract blood in dysentery, to do so under the impression of moderating action and relieving symptoms. This is to be done in an efficient manner, for we must also recollect that in those cases in which the operation is imperatively demanded, it is the sure method to relieve urgent symptoms? It is not by small bleedings frequently repeated that we can accomplish a cure, or even in many patients a relief of the tormina or tenesmus. Bleeding in these cases requiring it, prevents exhaustion from taking place, this it does by removing those causes, the constant operation of which would to a certainty do so, and perhaps in a greater degree, and would be in the end attended with more detriment, this may proceed from the excitement of high fever, or other causes operating strongly on the alimentary canal, these will be considered in the sequel. But for this purpose we must bleed only when there are symptoms present, which imperatively demand the operation, and as above stated, *pro viribus*

It is a mistaken notion, as well as contrary to the rules of humanity to have a regulated quantum of blood to be taken away from every patient, bleed to the extent of a pound in the morning say some, and if that will not do the operation can be repeated in the afternoon or at night. I know of no practice attended by more injurious consequences than this, such a simpliciter mode is decidedly wrong, for by it the patient is *gradually* weakened without any permanent good being done, thus is produced a degree of excitability which in some cases, the chances are, that we can never get the better of. As we proceed with the investigation points of importance will fall to be considered.

As to the general utility of the practice in dysentery much has been said *pro* and *con*. The practitioner who is neither too forward or the opposite, will in general be most successful. In many complaints within the tropics, venesection is the *sine qua non*, but it is believed in dysenteric cases this will not hold as an invariable rule, for here also we meet with many cases as mild in their nature as in the colder regions. Many cases could be given in which it was used with manifest advantage, and many where it was decidedly detrimental. It may be remarked as a general rule for our guidance that it is not where the belly feels a little tender on pressure that we are to use the lancet, for this particular degree of tenderness may be met with in almost every case, this depends very often on nervous irritation, as a matter of course under these circumstances we must not overlook the state of the constitution as to its being plethoric or the reverse. There are few it is thought would be inclined to bleed a plethoric patient merely because he was so, particularly when symptoms are not present demanding the use of the lancet, we require however, to keep a strict eye over such, since in all likelihood they will be more readily assailed by inflammation than others. The

worst form of cases that we meet with are those in which there is not a superabundant quantity of the blood in the body, for when such do take on the action they are difficult and oftentimes troublesome to manage. The absence, or presence of a slight degree of pain is often a deceitful symptom, for we know that such may proceed from cholic, as well as nervous irritation, this depending again on flatulency, and also may in certain cases be excited or increased on pressure, this last we are told being the sure signs of inflammatory action; although a good rule, is not of general application. This pain must however be removed, for if of long continuance may produce inflammation, as also tend to exhaust the part. Excess of action of this sort impairs the patient's powers more effectually than the loss of blood, therefore if the attendant fever be great with such present we can have little hesitation in performing venesection, and then this must be to the full extent, otherwise we only increase what was intended to be relieved. We must also bear in mind that the excessive secretions from the intestines is also a powerful means of producing debility, and as there is generally from this cause a tendency to pain and an excess of action, it will if allowed to go on, prove in the end more powerfully debilitating than the blood-letting, the two when combined must add powerfully to the existing danger. On the other hand do we not see patients die, with marked appearances of inflammation existing in many parts of the bowels, who never during life complained of pain, such as in cases of hepatitis also, especially of hot climates, so that we see it is necessary to be on our guard not to be misled. The rule for blood-letting ought to be where there is evidently an increase of pain excited by the manipulation. The griping ought in general to be pretty sharp, in short with all the appearances of considerable excitement of the intestinal tube or general system. I do not here confine myself

to the increased peristaltic motion, but where we have considerable pain additionally given to the already tense abdomen. In many cases the pulse is not to guide us as to the detraction of blood, he who puts his confidence in such, will in the end feel himself disappointed. Here as in true enteritis we will not find it possessed of that bounding and oppressed feeling, or the truly deplorable cant term of some "*lumping*," which it so distinctly assumes in other inflammatory stages of the constitution. It is not therefore according to the state of the pulse that we abstract blood, but it is in consideration of the pain produced on pressure, which I regard as a much more certain sign of the necessity of blood-letting. We are all well aware that there is considerable variation in the state of the pulse according to the age, habits, and other conditions of our patients. The pulse may be oppressed and yet feel in some degree, regular, many more instances could be adduced in which the state of the pulse cannot determine us as to the propriety of phlebotomy.

Another question may be urged independent of the pain on pressure, has there been much purging and this excessive in quantity and of long duration, such a state as this cannot last long without inducing other symptoms which are exceedingly apt to mislead us, since we may mistake irritability of the parts for a major or minor degree of inflammation, there being nothing as yet any thing truly inflammatory, or it is perhaps beyond that state in which we could not do any good by blood-letting, but when employed would only add to the general excitement and debility, in such instances then a good and large anodyne on the very first, is the best thing that we can do, and on the efficient operation of this, or perhaps another dose we will find that the most of the pain and uneasiness has vanished. I do not intend to proceed further with the investigation of this point at present,

and now only add that such does not depend on an indirect debility of the part. A question of some moment starts itself as to the treatment between a robust patient and one of a less stout frame, when in a state of depressed action from the continuance of the disease. In the one case many would say that we can do little harm by opening a vein, and in the latter much, but we may with truth say that in both damage is done by it, for this is not the proper time for the employment of the remedy in either, but we should wait until re-action is about to establish itself, and then see what may be required. We may find the pulse under the circumstances stated, of an inflammatory nature, but still it will not admit of blood-letting. Now by bleeding in such a case we only add to the danger by abstracting the very fluid on which we must depend for a re-establishment of action, for it would add greatly to the excitement of the body. Dr. Burns says " I fear many
 " young practitioners fall into this error and keep up by
 " depletion an unnatural and excited state of the sys-
 " tem, which should otherwise have soon subsided.
 " This not only may directly injure the inflamed part,
 " but by weakening the system unnecessarily, it dimi-
 " nishes the power of recovery or lays the foundation of
 " other diseases. The state produced by this condition
 " of the vascular system is sometimes simple excite-
 " ment, sometimes that species of it which may be called
 " irritation. This irritation is very injurious and soon
 " occasions more fever, and in certain cases it is attend-
 " ed by shivering although no suppuration be going on.
 " When this state is not produced by blood-letting, but
 " occurs early in the disease, it is generally greatly miti-
 " gated and often almost instantly removed by the loss
 " of blood. But when it comes on in the progress of
 " the disease and after depletion, we shall generally suc-
 " ceed best by removing all additional sources of irrita-

“tion, such as indurated fæces, by preserving in a due
 “state the action of the alimentary canal, and by the
 “exhibition of opiates combined with diaphoretics, such
 “as Dover’s powder. Finally, with regard to blood-
 “letting let it be remembered that it can do very little
 “good, so long as any exciting cause of inflammation or
 “even any unnatural state exist, for these counteract its
 “effects or may often induce disease in other parts.”

It has been stated that the pulse is not a sure criterion as to the utility of using the lancet, yet we are not to forget that there are cases in which it plainly demonstrates the necessity of having recourse to the remedy. It has also been noticed that many instances could be adduced, in which venesection was employed unsuccessfully, if not detrimentally. When used even in a moderate degree, or in those cases which had been freely bled the patients did not by any means recover so speedily as those, who, although labouring under precisely similar symptoms had not been touched, the cure of the latter being in general more certain and permanent. The pulse may be weak, and yet our patient may not only derive much advantage from phlebotomy, but have his life saved by the performance of the operation. Take the pulse for example at the commencement of re-action in fever, or some other complaints, we will here find it not to be bounding and full, nor is it so in concussion of the brain, in both cases it is feeble and not unfrequently irregular. In the latter instance if we bleed we will in general have the patient falling back into a lethargic state, from which he may not be easily recovered, this will also not unfrequently be the case in the first example, for he will again relapse into that state of feebleness and listlessness from which he was recovering. Hence it follows that we ought to wait until there be some sure signs of re-action being fully established ere we venture to abstract a stimulus of such a power from the system.

some might say that blood-letting was useful in all such cases of the disease as above supposed, but then this must be at the proper time, and in an efficient manner, otherwise we do much harm. They may say that the effect produced in such cases, as the taking off the stimulus of bulk, lowering the force of the circulation as indicated by the state of the pulse and also as it leaves less blood to be circulated, will consequently remove a source of irritation to the disease, and give the inflamed part a chance of recovering its healthy actions, besides lowering the febrile symptoms, there is therefore under these views much benefit to be derived from the discriminating use of the lancet. Bleeding, however, to prevent re-action before this has taken place, does much very much injury, for it never does prevent inflammation. We might bleed a patient who has had his limb just amputated, in order to prevent inflammation, but we would, in such a case, only add to the general debility, and thereby induce a state favourable to its occurrence, and when such did take place we have perhaps taken away that on which our main dependence was to be placed. Blood-letting must be more frequently had recourse to in the intertropical regions, since the disease, as has already been stated, runs a more rapid course and more frequently ends in inflammation. "Whoever encounters dysentery successfully will aim at the restoration of the balance of the circulation and excitement and the healthy functions of the skin and liver." Now venesection will in some measure enable us to do this, but not in all climates, and under all circumstances—lately in Glasgow an Army medical gentleman bled every case he came across, the consequence was that he lost about every seventh case, while the other practitioners, who treated the disease according to the intensity of the symptoms, lost none or but

a very few. In all large manufacturing cities we ought to recollect, the conditions of our patients, particularly when the dysentery seems to be endemic. It has been more than once stated that I do not look on dysentery as a constitutional complaint at the onset, but merely a local one, and therefore ought to be attempted to be removed by remedies which operate more directly on the intestines themselves, we should choose those which we know, act most effectually in removing irritation, keeping out of view opium as a remedy for this purpose, particularly at the commencement. If allowed to proceed it may then end in inflammation of the tube, then only in colder regions ought we to have recourse to blood-letting, provided the symptoms demand its adoption.

Blood-letting has been too indiscriminately had recourse to, as a remedy of general practice, and there are many practitioners who are foiled by running from one extreme to another and in the end in despondency have nearly abandoned the practice, and they wonder that as much if not more success attends them. It is perhaps impossible to give distinct rules as to the use of venesection, it may be stated that those who bleed only under certain circumstances, and only to moderate symptoms, such as when the belly is sensibly pained on moderate pressure will do well, this rule may hold true as regards the generality of cases to be met with, having at the same time regard to the constitution, age, sex and temperaments of the individuals, as well as, the general tendency of the prevailing malady, and the known effects of former bleedings. There are some things that are apt to mislead us were we not aware that they can exist without any inflammatory state being in existence. There is frequently pain in the duodenum near the entrance of the biliary ducts, which may be increased on pressure, particularly if the liver be irritable, we would

not in such instances be too hasty in the use of the lancet, such pain does not in general depend on an inflammatory action, and is most frequently met with in dyspeptic patients. All that is requisite in such cases is a gentle dose of the sulphas magnesiæ or castor oil. There are other portions of the alimentary tube where pain is apt to be present from slight causes, such as at the caput coli, the termination of the colon on the opposite side and all along its transverse arch, this is not unfrequently caused by flatus distending the tube. In these instances a gentle dose of castor oil with peppermint water, will be the most useful purgative, if it does not operate soon, it will be happily followed by a dose of the sulphate of magnesiæ. If however, these pains increase with the other signs of inflammation as a matter of course, we can have little hesitation to abstract blood, and this *pro re nata*, after the venesection, a blister may be a very desirable application, and will often be attended by the happiest effects. Whenever, at the time of bleeding, no mitigation of pain or the tormina and tenesmus takes place, we may expect that little good has been done, and that as yet we have not taken away enough, or if the pain should soon return, supposing a previous amelioration of symptoms, bleeding in such cases will be found of but little utility. Here the repetition of the remedy cannot do good, but we only add to the force of the attack by either inducing an irritable state of the system, or adding to that already in existence, now a double danger, as we have debility also to contend with. From the above it will be seen, that we are not to bleed too frequently, but that we ought rather by a proper one at the necessary period, endeavour at once to soothe the system, so that the injured portions may be enabled to resume their natural actions. I recollect well a case of a boatswain's mate who was attacked with a severe

bowel complaint with cramps and severe spasmodic actions in which, at one bleeding, I abstracted nearly to the extent of seventy ounces, before the symptoms would yield and before any permanent benefit seemed to be derived, syncope took place, and, on his recovering from this state, all the spasmodic affections had entirely disappeared, had shortly after an anodyne draught and in the morning a dose of castor oil which soon opened his bowels. In a couple of days this man was at his duty. He was a very robust, and of a full sanguinous habit, else, I would have paused ere I would have abstracted so much, even although the symptoms were not mitigated. While on the Cape of Good Hope station, where this case occurred, I have frequently in other cases of bowel affections abstracted to the extent of forty to fifty ounces at once, but this more seldom in dysentery, however even here it has been my invariable rule when I took lancet in hand to bleed until some marked effect was produced on the disease, or system, always recollecting that one good bleeding at the first, saved much unnecessary trouble in the end, and that it generally cut short the attack, as also saved the patient's strength. This method then is certainly to be preferred, when the patient can stand it, to the other practice of abstracting by a number of stated ounces, this to be repeated if necessary, there is much damage done to the constitution in this manner. Another good rule for our guidance, when we are determined to bleed in inflammatory attacks, is to do this early, the longer such an action exists within the bowels the more deeply fixed does it become. We may in some measure adopt the views of Mr. Abernethy when speaking of blood-letting as a cure for sympathetic fever, care however is required to distinguish between the two diseases. "If an internal and vital organ is injured and inflammation comes

“ on in that organ, the pulse will not be so full and
 “ strong, but it will be very frequent and on bleeding the
 “ patient the blood will be found cupped and highly in-
 “ flammatory. The pulse will rise on bleeding, and the
 “ patient will be in some degree relieved; the inflam-
 “ matory symptoms, however, will return, and you bleed
 “ him again and again, until you diminish the inflam-
 “ mation of the vital organ. In such cases the patient
 “ can only be saved by the most resolute conduct on the
 “ part of the Surgeon, in pursuing a mode of treatment,
 “ which would otherwise appear most outrageous. You
 “ must either let the inflammation of a vital organ
 “ kill the patient, or run the hazard of killing him your-
 “ self with the lancet. It is only by the most determin-
 “ ed conduct that the inflammation of a vital organ can
 “ be subdued. We do not, however, bleed for fever but
 “ for the inflammation, which if suffered to continue, will
 “ injure irrevocably an organ essential to life. In such
 “ cases you should bleed the patient upright, till he
 “ faint, put a stop to all action of the heart and arteries
 “ for a time, and when this is renewed, bleed him again
 “ till he faint. Taking a little blood morning, noon and
 “ night, in the horizontal position, will never do in in-
 “ flammation of a vital organ, you must subdue all vas-
 “ cular action, by the determined course which I have
 “ described to you. When you have taken as much
 “ blood from the general system, you should still apply
 “ leeches and counter irritants.” The above lengthy
 passage has been quoted for the purpose of stating that
 such seems to be the governing ideas of very many prac-
 titioners as to the proper plan of procedure in dysentery.
 They believe that where inflammation of an organ so es-
 sential to life, is inflamed that they cannot bleed too
 much, or too soon, this doctrine is erroneous in the ex-
 treme, for we must recollect that there is a great differ-

ence between diseases spontaneously produced, and those which are thrust upon the body by mechanical causes. In the latter we generally have a different state of the constitution to contend with than in the former, the one occurring in a comparatively sound constitution while the other in a previous disordered state of it, hence there comes to be a great difference between the inflammation as arising from dysentery, and that from the sympathetic inflammatory fever. In the one again the nervous action and excitement is stout, and in the other it is much reduced, hence a difference between inflammation attacking a part previously healthy, and that of a diseased structure.

If dysentery however goes on, independent of three or four bleedings employed early in the attack, then I question very much if any good can result from the prosecution of the practice, for now we will have that state induced formerly alluded to, and so forcibly pointed out in the quotation from Dr. Burns, we must therefore look for some other remedy or set of remedies that may be calculated to fulfil this important indication. The author just referred to, when speaking of abdominal inflammation, observes, “ now it is only in the first stage that “ we really can do good, this is a fearful hazard, for if “ we fail, we only hasten the evil by the debility induced “ by our remedies. The call then is most important “ for prompt and vigorous interference at a time when “ we have some chance of success. We must bleed “ instantly and we may bleed freely at first, but never “ dare bleed long and repeatedly, for if we do not “ speedily check the inflammation, the very means that “ we have been using will hurry it on sooner to the “ second stage” (or that of debility) “ in which venesection can do no good, but aggravates the evil. We “ must be governed by the effects of depletion and part-

“ly by the period of the disease. In the commence-
 “ment if no material benefit be derived from venesec-
 “tion, that is no reason why it should not be soon re-
 “peated, but it is not so at a late period, for then if
 “the patient be not sensible of relief perhaps more
 “than after any former bleeding and particularly, if
 “instead of abatement of the symptoms, he experience
 “rather a sinking and increase of weakness, it would
 “be folly to persist.” I now draw the general infer-
 ence that blood-letting is absolutely necessary in many
 cases of dysentery, and decidedly pernicious in others,
 that we are to be guided in this respect by the general
 tendency of the complaint, at particular seasons of the
 year, and also that we make allowance for climate and
 constitution, as well as many other collateral circum-
 stances to be taken into account : we in no case of the
 disease should attempt to abstract blood with the inten-
 tion of being in time, or to prevent inflammation from
 occurring, such will do irreparable damage, therefore in
 every case it is proper that symptoms of sufficient mag-
 nitude should be present, imperatively demanding the
 use of the remedy ere we put it in practice. The opini-
 ons of medical men vary much on this point—Dr. Tho-
 mas says it will not be necessary in one case out of the
 fifty. We have looked on the disease not only as of
 a local nature, but also as arising from constitutional
 causes, and it has been attempted to point out, that
 when it assumes the inflammatory type accompanied
 with a plethora of the system, it cannot be doubted but
 that blood-letting, in proper circumstances and places in
 regard to the seat of the pain, is indispensibly necessary,
 and conducive to the cure, as also that there are few
 cases of severity met with in tropical climates which
 may not be much benefited by a discriminate and judi-
 cious use of the remedy. In the dysentery of Ireland

in 1818, bleeding was had recourse to pretty freely, Dr. Cheyne says, that when with the pyrexia the stools chiefly consisted of bloody mucus, and when the abdomen was tender, venesection was never omitted, and the practice relieved the tenderness of the abdomen. The appearance of the stools was sometimes immediately altered, which purgative medicines failed to effect, while a large feculent stool without straining was not unfrequently passed after the loss of sixteen or eighteen ounces of blood, by patients who for several days before had passed nothing but blood and mucus. Now such need not seem very surprising, when we know that certain purgatives in this disease cannot alter the state of the secretions, but that blood-letting will do so seems highly probable, this it accomplishes by allaying the irritation not only of the system, but also of the tube, consequently allows a more natural state of the vessels of the part to secrete properly, hence a feculent stool. Here it may be proper to notice that when dysentery becomes endemic in the colder regions, great advantage as to the treatment is to be derived from the consideration of the subject whether it is of an inflammatory tendency, or attended in general by typhus fever, for, like influenza, the fever attending it this season may certainly be more mild or severe than it will be the next. There are some who incline to dispute whether dysentery be at times attended with typhus fever or not, but this it is thought is a useless question, the facts stated by Sir John Pringle, Sir Gilbert Blane and Dr. Cullen, go to prove in a most satisfactory manner that it can be so, and really I can see no solid reason why it may not be so attended, as well as, by intermittent, or bilious remittent fevers or scurvy, the two former may be considered in some degree the endemic fevers which at times accompany the disease in a hot climate, as well as that typhus may at-

tend it in a cold one. Much therefore depends on the constitution of the air, as Sydenham expresses it, whether the dysenteries will assume an inflammatory character, or be attended by a fever of a putrid tendency.

The rule, as before noticed, in inflammatory dysentery, to bleed at the moment of the formation of this action and to the extent sufficient to produce a favourable impression on the disease; but we must not bleed repeatedly, for we gain by one good bleeding at the onset more than we can obtain by two or three small ones at stated intervals and be apt to induce another disease than the one now in existence; this is applicable to any part of the globe, but of more universal application to hot climates. If dysentery was under all circumstances of a truly inflammatory tendency, what prevents us from curing all cases by a strict antiphlogistic diet and blood-letting? But we know that the disease does not consist in an increased state of the circulation either of the general system or parts, nor does it, in the great majority of instances, depend on the mere excitement produced from a foreign material, mechanically exciting the tube, the removal of which would in all probability allow the parts to resume their healthy action, and that blood-letting and a gentle purgative might be all that was necessary for the accomplishment of such a desirable object if employed early. But we do know that it depends on nervous excitement, or irritation, however induced, has already been noticed, and that blood-letting so far from removing this might only add to the evil. The disease at first, therefore, being purely nervous derangement, it follows that our success will be in proportion to our overcoming this. I do not believe, as many do, that dysentery in hot climates depends almost entirely on derangement of the liver, this has been already inquired into.

It may now be proper to state, in a general way, my

views concerning the propriety of venesection as a general remedy in European dysentery, particularly as respects the disease when of an epidemic or endemic cause. Blood-letting, in the majority of such cases, will do no good, but, in proportion to the quantum abstracted, so is the danger, the cases where we may with advantage have recourse to it have already been noticed. Those of a mild nature from the first we ought not to bleed, since the disease is not of a real inflammatory nature, and we do not, be it recollected, by lessening the general bulk of the circulation, alter much the condition of the mesenteric vessels, for as long as the nervous irritation remains, so long will there be a tendency to repletion in them, and this in proportion to their now weakened state. Phlebotomy, we know, not only relaxes the general system, but along with this the parts come to suffer, and it will tell more forcibly on those engaged in disease, blood-letting therefore by increasing the great debility will, as a matter of course, increase the nervous irritation of the whole and after a time that of the part; it thus prevents re-action from soon taking place, or when so this may be insufficient to throw the distemper out of the body. Blood-letting also proves injurious by abstracting the stimulus of excitement to the whole system, since it is through this source, restitution must be made to the whole frame in the end, which may not be replaced for many months, consequently, in the event of a cure, this may be attended by protracted convalescence. Many have the idea that an excess of sanguiferous action is the only thing to contend against, in every case of dysentery, and from this mistaken view, think they cannot use the lancet too soon, as well as purgatives, sudorifics, blisters, &c. Where, let me ask, is this excess of action? we will not find it in the blood, for it cannot of itself act, until called into activity by the operation

of other powers, therefore it is as much dominant to the laws of nervous authority as any other portion of the body. There is no increase in the actual bulk of the fluid, but some may say, and I grant the premises, that it is called into more requisition at the disturbed portion, yes, but was it not called into this quarter by another power, this must also be admitted, does it not follow from this that at the very onset the blood is not the part to be attacked, but that this must be done elsewhere, through the nervous system then, must our impressions be made in order to combat the disease successfully, after the flame has been lighted up, it then becomes another question, still our views must be the reduction of nervous excitement, and we employ blood-letting for this purpose. Does a certain condition of the nerves of the part, or general system, or both, give the buffy coat to the blood? I am convinced there are some hundreds every year carried to a premature grave by the indiscriminate use of the lancet, and the *gentle* laxative mode, this I regard as a silly practice, and well may we condemn the opposite that of excessive purging. What let me ask is the general tendency of any of these modes of procedure, do they not one and all of them, according to circumstances, produce another disease, which is the formerly termed "bugbear" one of debility, this of course when added to the one formerly in being, we will have a nice state of the body to contend with, two diseases to encounter in place of one, both if allowed to proceed feed the other, thus the body is soon in a fine predicament. We also know well that, in very many cases of dysentery, we cannot effect a cure until we renovate the body, and that the purging only continues for a want of powers sufficient to expel it. There certainly, therefore, can be no benefit from allowing such a state of the system to take place, the above

proceedings will strongly encourage this. Many may say that by bleeding we take off the stimulus of distention which is caused by the turgid state of the mesenteric vessels, as well as that from the general system, thus lessening the febrile action. I grant, when the fever and the other symptoms formerly mentioned are great, that venesection will be found of much service, nay should the pulse get up, and continue full and hard after the first bleeding, we may even revert to the use of the lancet with advantage, but not always, for, in proportion to our reduction, so the inveteracy of the dysenteric attack.

But the emptying the mesenteric vessels to a certain extent will be attended with but little benefit as we have seen, unless we carry depletion to the extent of diminishing greatly the whole mass of the circulating fluid. In the accomplishment of this otherwise desirable object, we may fall into another error, that of producing too great a degree of direct debility, and should the force of the disease not be broken by it, then, as formerly noticed, we have only added one evil to another. Another point to be attended to is that we have only lessened the former action, and not by any means changed the nature of it, such bleeding in any case never can do, it is therefore only a sort of side application, not by any means so much the great specific which some suppose. If there is such a remedy of this nature that is certainly mercury, particularly in healthy and unbroken constitutions, here I refrain from saying any thing further in commendation of its merits. We must recollect also that some constitutions are more easily affected by loss of blood than others. Bleeding *ad deliquium animi*, so far as this is concerned, does no good, but often prevents us taking away a proper quantity, if the *deliquium* then comes on too quickly we allow the patient to recover, and then

take away more in a recumbent posture. From what has been said, I repeat again, even at the hazard of being taxed with repetition that the lancet is only to be used for the mitigation of pain and the abatement of fever. In those weak and debilitated habits, when there appears a determination of blood to some particular part of the system, we may substitute bleeding by leeches for the use of the lancet, even here caution must be used after their removal, as patients, from neglect in this respect, have been known to sink who would have borne a moderate bleeding well. Many might say that from the circumstance of there being no anatomical relation between the parietes of the abdomen, and the intestines, that the practice would be of little use. Explain it as we may, however, we do know that such is often attended by happy results, and it is imagined can only be explained on the principles of the sympathy of association, which is so conspicuous in every part of the body. The same holds true in regard of all other external remedies, whether these be liniments, blisters, fomentations, &c. for a further explanation of this subject see the Essay on Cholera. Dr. Douglas has a remark in reference to bleeding in puerperal fever, which I think not inapplicable to some cases of dysentery. He says that “as the pulse in every variety of abdominal inflammation is deceitful, the degree of pain felt on pressure is to be regarded as a preferable criterion by which to regulate the abstraction of blood, and gives it as his opinion that the failure of this inestimable remedy is not owing to genuine inaptitude in the remedy itself but by the inefficient manner in which it is often applied to timid practitioners. After bleeding we may use fomentations if the pain does not abate, and give a good anodyne draught, with some castor oil if judged proper, or apply a blister according to the nature of the case.”

In those cases of dysentery combined with hepatitis, and in particular where the latter is clearly made out to be inflamed, we would not hesitate to bleed and this early, for in such cases we can scarcely perform the operation too soon. It is in such cases where the nature of the inflammation is that of the *valida*, that we gain most advantage by the performance of the operation, it proves beneficial by taking off the nervous excitement in a great degree; but when this action is of the nature of the *debilis*, it will increase the general irritation, here then is the grand difference to be observed, that by a full bleeding in the one case we remove the irritation greatly, whereas by the same plan of proceeding we increase it in the other. After venesection in these cases of liver affections, we must have immediate recourse to those remedies deemed to be the most applicable for the particular nature of the attack, for we have no time to lose especially in hot climates. In the first instance we bleed according to the feelings of our patient, and if we use calomel we do so to the extent requisite, keeping in mind the constitution of our patient, for he may be already worn out by some other harrassing complaint previous to the present attack, we must also take into consideration whether he has lately undergone a course of mercury. In such cases we would not be over-anxious in throwing much more into the body for by so doing we might excite the very action we are endeavouring to subdue. Our best and perhaps the most certain medicines would be a gentle course of the blue pill, in conjunction with the mineral acids, and bitters, or other remedies to keep the skin in a proper state. After the bleeding, a blister may be a very proper application over the region of the liver, provided the force of the inflammatory action be broken, and then open the bowels with a gentle purgative. It has been said that

bleeding, besides facilitating the operation of mercury, allows more of the mineral to be thrown with more safety into the system. The first may be true in certain conditions of the body, that is where the disease is of less power than that which the mercury would excite. But where the inflammation of this viscus runs high, or the fever is very severe, we will find that it is a very difficult matter to get the mercury to shew itself. It may be said that venesection, by lessening the excess of action, will allow the mercurial one to come more readily into play, in some instances this may perchance be the case, but in all such instances we will find it extremely difficult to touch the mouth, this not being effected until the strength of the disease has been broken, this proceeds from a depressed state of the powers of the body. As to the employing blood-letting in order to allow us to throw more mercury upon the constitution, most men will see the fallacy of this, for we cure diseases, or ought to do so, with only as much as is proper, and not according to a stated number of drachms. I could give cases in which it failed to shew its full effects, the cure in such cases becoming tedious and harrassing. When venesection is used, under these circumstances, Dr. Burns observes, "by association the absorbent system is brought often into a similar state of activity thereby, and rapid absorption from the diseased part is excited, nay even the whole absorbent system is sometimes thus excited, and serum taken up. It has been found in a person freely bled that there has been a greater proportion of fluid in the last, than in the first cup, although only a few minutes could have intervened between the flowing, contraction of the arterial system may however be carried too far, and the very effort to contract, to the degree necessary, in great or repeated evacuations, must soon prove an

“excitement to the vascular and nervous system.” Some are in the habit of applying leeches in dysenteric cases to the anus, and not without some degree of benefit. The loss of blood from this quarter produces, it has been affirmed, a greater degree of weakness of the general system, for a few ounces from this part seems in many cases to have as much effect as a pound from the arm, who ever has had leeches applied to hemorrhoids can join me in the truth of the observation, however explained, we need not stop to enquire, but only state that much advantage will be derived from them when there is tenderness and irritation about the rectum, and most advantageously employed when there is piles or severe strangury. To introduce them as a substitute for blood-letting into general practice, it is imagined will not do, we may obtain much advantage from them in the more mild forms of the disease, or where we are afraid to bleed in bad constitutions.

SECTION. III.

BLISTERS.

The efficacy of blisters in this disease may now be considered, here we find a diversity of opinion existing, as in almost every thing else which has been employed as a general remedy. Let us enquire into the good to be derived from applying them over the region of the abdomen. Many think that this remedy is of the utmost importance, and allow few if any cases to escape them, in which this plan has not its due mead of praise in the alleviation of the distemper. To such people the time of application is of but little moment, by which we may observe much and serious injury to be done to the constitution. It has

been my lot to observe a vain, boasting, conceited, corpulent medico, with all the importance imaginable, when asked what was to be done in a case of severe bowel affection, answered on the instant and without much enquiry into the nature of the case, oh! put a blister on, put it all over the abdomen, cover the part in fact. Now such is not to be our method of proceeding, otherwise we will be set down as fools if not madmen. If the above medico had enquired minutely into the cause of disturbance, he would have found, as was ascertained in his presence, that there was constipation to be removed, when this was accomplished all the bad symptoms vanished, and the young boy became speedily well. This may recall to our minds a couple of lines in Butler's *Hudibras*.

Dogs with their tongues their wounds do heal
But men with their hands, as thou shalt feel.

Now the application of such immense blisters on the bellies of young people is a thing of no small moment, for they excite much constitutional disturbance, nay, they are not without danger in grown up persons, and had such a large one been applied over the abdomen of Job himself, it must ere it had healed have worn out his patience even if that had been as large as the fish which swallowed Jona, I have seen musquito bites for some men to contend against, but what are they to such a large blister. We must not be guided by such dictatorial modes of prescribing, let us as humane men bear in mind, that our business, in the treatment of disease, is not to give unnecessary pain, but to ameliorate the sufferings of each as much as we can, and not heedlessly torment them. But this is not all, for we ought to be well aware that a large blister employed at certain stages of the disease always excites much pain, which may be of long duration, thus the system, from associating in this

action will be much reduced, besides the sure increase of the febrile symptoms. I cannot, nor is it intended to be denied that much benefit is not often derived from their application in cases of a severe spasmodic nature, with severe griping pains, but then this is the judicious use, and not their abuse. Others, however, and with more reason, pursue an opposite mode and with more success than those who adopt them as a universal mode. In the majority of cases trusting to the proper exhibition of calomel we will find but few cases requiring the application of a blister. Cases of a truly inflammatory type will be benefited by their use, in the same manner that other inflammations of internal parts are. It may be observed, for our general guidance in the proper application of the remedy, that they increase the velocity and strength of the pulse and should never be employed at the commencement of inflammatory fevers, or in any other cases of acute inflammation, until bleeding and purging has been fully and freely used, so as in the first instance to break the force of the valida inflammation, for if this action be not soothed by such measures, then the previous application would tend only to increase the very action we are endeavouring to overcome. The bowels at this time are in such a condition, that they would be glad, if the expression be allowed, to lay hold of the excitement thereby induced, and hence a transfer of the irritation might be thus given to the original diseased structures, this either through the medium of general excitement or by metastatic action, producing thus a new disease on the surface which may take on "association with the original one and increase it." By attending to the above we will find that when used at the proper time we will gain much good, now at this time by increasing the action on the skin they will produce a serous dis-

charge from it, this will operate beneficially on the parts below, for these may now be in that state, either tending towards a renewal of the inflammatory action or that of health, when the operation of the blister may turn it in our favour. By allaying the tormina and tenesmus, they have a direct effect in quelling the disorder, for these two symptoms are to be regarded as stimuli which operate in keeping the disorder alive. It is said that "they also tend to diminish the irritating and injurious effects of the loss of blood."

A blister adapted according to the urgency of the symptoms after the patient has been bled, will be found to be of much importance in the *valida species*, but much more so in that of the *debilis*, or low state of inflammation in debilitated organs. Where venesection is not required we can use them at any time provided we are not afraid of over exciting a weak part, since we have few means in our power to quell this when once in existence. A judicious and discriminating application is imperative, to the comfort and cure of the patient. When we attentively consider that the patient has enough of pain and uneasiness in the system from the continual calls to stool, without the additional harrassing pain from a large blister, we will not be over rash in our recommendation. They often stimulate the urinary organs and as there is very frequently a distressing strangury attending the attack, it is of the utmost importance that such should not be increased, and that the epispastic should be applied in such a manner so as to avoid this. Should we prefer the operation of a blister to all other means of external irritation, and we are of opinion that good is to be derived from the serous discharge, or if we want to keep this in existence then we must be careful that the blistering plaster be removed so soon as it begins to bite well, so that we prevent the ab-

sorption of the cantharides. There is little benefit obtained from their remaining above twelve hours, and they will not unfrequently be found to act in about six, or thereabouts, this, however, depends on the state of the skin as to its fineness and sensibility, or the contrary, and much also to the manner of applying them. Should strangury be induced or increased by the absorption of particles of the cantharides, we ought immediately to remove all the visible particles and wash the parts, with water of that temperature, pleasing to the patient, this will prevent any further increase of the symptoms, if by allowing these particles to remain the strangury might have been severe. As the blisters sometimes stop the secretion of the urine, our patient may be allowed a greater proportion of bland fluids as drink during their application, having recourse at the same time to those remedies for the relief of strangury, if present, for this purpose an enema with forty to sixty drops of laudanum with thick starch water, will very often remove the distressing symptom, and we may also give a mild diuretic. Should we wish the application of remedies little short of blister there are many which we can have recourse to as a means of exciting external irritation, they are not so efficacious, their operation being less durable, this however may be a recommendation in the opinion of many, for the irritation they excite is soon over, and can again be renewed at pleasure. For such purposes, when the skin has been well cleaned, which it always ought to be, either before the application of blisters, or them, we may use hot turpentine, applied with a piece of flannel dipped into it, of course of the size we want, this acts quickly at the same time producing pretty considerable smarting, when it produces too much uneasiness then it is to be removed. The aqua ammoniæ puræ may be used in the same

way but cold, or rubbed upon the part with a piece of linnen, this will also quickly excite a degree of irritation. Sinapisms of mustard will also be useful, and if the skin has been previously rubbed with turpentine, or a raw onion, mustard prepared with good vinegar hot, the operation will be more quickly induced and will also be found to act better, being more durable than when employed in the common manner. We always ought to treat the skin in the same way previous to the application of any blister, and if we require to apply them to the head, when properly shaved and well cleaned, then we may with much advantage treat the scalp in the above manner, and we will find that the blister acts well. There are many other methods of exciting counter irritation, these however as sufficiently known need not engage our attention. The above remedies may be more usefully employed than blisters, in those cases in which we are afraid to use the latter, such as in weak and debilitated patients, those of great irritability, or in the old or young, in the latter in particular we may not unfrequently find them produce sloughs which I have known them do, this is from the excitement produced being much greater than the vitality of the part, therefore they must gangrene, as also we must be on our guard in all such cases, for we will find them add much to the severity of the disease, thus producing the very condition of the body we have been attempting to rectify. In the chronic form of dysentery very much benefit may be obtained from their application, but here a succession of small ones will be much more effectual than one large one. There is yet another remedy from which we may obtain much good, this is the tartar emetic ointment, so used as to bring forth a copious crop of pustules, the pain and excitement which each pustule gives, when taken into account as a whole is

perhaps more than that of a blister, but then this is counter-balanced by the want of the serous discharge, this again we may turn to some advantage in the infirm and broken down constitutions, where the amount of the discharge might debilitate too much. However each practitioner can please himself in this respect. There is another point to be noticed, we can at all times employ larger blisters over the region of the abdomen, with the view of quelling intestinal disturbance, than what we could with safety venture upon, was there any inflammation of the parietes itself, in the latter instance, there is a direct continuance of cellular substance, this is every thing as respects the application of these remedies. A large one, in such instances, we would find increase the evil, which would have been avoided by a succession of small ones. Now this holds true as regards any other portion of the body, having a continuity of substance almost directly traceable from the part where we wish to use them, but where such does not prevail large ones may with greater propriety be employed, we should therefore be careful not to apply our blisters too near the seat of irritation, in which this traceable communication exists. In fine then of the effects of blisters I have only further to remark, that they will when properly used, as to time, and size, be found to relieve spasmodic pains, and not unfrequently also the tormina and tenesmus. But the removal of pain and tenesmus, though a thing of the first importance, is not all that is required in attempting the cure of dysentery. We must pay, without being over-fond of the examination, particular attention to the dejections of the patient ; for as long as we allow any acrid or putrid substance to remain in the intestines, we have a substance that must irritate them considerably, and may certainly be the cause of keeping the disease still

in existence. To get rid of this, therefore, we must have recourse to purgatives and as there are some of this class of greater repute than others, it will be proper to ascertain which are the most efficient.

SECTION IV.

PURGATIVES—GENERAL OBSERVATIONS.

For the above purposes I observe that all *drastic* purgatives are improper, when we consider attentively the nature of dysentery, if administered they surely must over-irritate an irritable tube, and in very many cases induce such a hypercatharsis, as must prove in every sense of the term highly injurious, for in this manner we give much encouragement to the disease to lay more firm root in the system. With what fondness do we observe some practitioners of the present day urge the necessity of using drastic, or other powerful purgatives, such as the extract of colocynth, scammony, &c. in pretty large doses, in combination with other powerful ones of the same class, and although I am perfectly aware that the combination of several of the same class renders them more mild in their operation, yet this is not sufficiently so, to make them of general application. Such combinations may be of use in some one or perhaps two cases, out of as many hundred, nay thousand, but even then it is only when there is an engorgement in the intestines acting as an exciting cause. How seldom, in true dysentery, does such a state exist, besides, if it did, we have no direct means of ascertaining the fact, although we may strongly suspect. This then is a disease, especially when of an inflammatory tendency, that is not to be attacked as it were *vi et armis* by such powerful medicines, but it ought to be soothed and

solicited out of the system by more mild means. I have known two cases of simple derangement of the bowels, and many more could be given, which were treated according to the above method, let us notice the result. One of the patients was sent to Hospital with inflammation of the bowels, in all probability occasioned by the drastic purgatives which had been given. Dysentery followed the same evening, for, on his admission, there was administered some of that ruin-working medicine the *ol: tiglii*. At this I expressed my surprise, but was told it was a very common practice, and thought to be attended with much benefit. The croton oil even when joined with opium, or made into pills with the extract of gentian, or even when used in the form of tincture, is still the same medicine, and is the strongest fluid cathartic we are possessed of, and, although it operates quickly, sometimes in the space of ten minutes, yet none of these things can warrant its employment in dysentery. It is very apt to occasion nausea with severe griping of the bowels, even when joined to opium, for its action is always very powerful. It has been said to purge when externally applied to the abdomen. The other was a case of incipient enteritis similarly treated, with the same result, these men were strong and healthy, previous to the attacks, but, whenever they come under the power of drastic purgatives, they became so weak and infirm that both were obliged to be invalided, from the debility induced, some months after, and considerable doubts were entertained of their reaching England, even after they had been embarked, and were with difficulty saved. I have seen many cases, of a similar nature, amongst merchant seamen, where the debility produced from the constant operation, of drastic purgatives, and the weather together, was severe, every one is well aware how soon a patient is pulled down, as the expression is, in a hot cli-

mate when attacked by dysentery. The medical men of such ships, apparently men of much experience, advocating in strong terms, and following up the exhibition of them, with almost unremitting perseverance. The oleum tiglii is a favourite remedy with many other sea practitioners, and is frequently used for the purpose of unloading the bowels of that supposed engorgement, which they pretend exists, of such men, it may be truly and safely said that they know but very little of the real nature and tendency of the complaint. If they were acquainted with the true pathological reasoning, and morbid appearances, they must, I am confident, hesitate ere they would administer any drastic cathartic, and especially the one in question, which is so very apt to excite so much disturbance in bowels so perfectly free of any inflammatory tendency. I knew a Surgeon in His Majesty's Navy who had been labouring some time under dysentery, he went for a time to the Hospital, where he had croton oil given him without its being mentioned, from the mal-administration of a couple of doses he was nearly cut off by the excess of irritation produced, and the disease was greatly increased in severity, it was in the chronic state when the oil was given: and as he states the tormina and tenesmus was "awful" with an irritable condition of the body all returned in a tenfold degree, and it was thought that one drop more could do no harm, which was most injudiciously had recourse to "and if there was a hell on earth for tormenting man alive" that medicine produced it in his bowels, his sufferings I can be better imagined than described. He was saved many months after, the disease tormented him for upwards of eighteen months while in a hot climate. Disease of the rectum was produced by the above severe purging, of this he was cured while in England. When the oil: tiglii! was mentioned in his presence,

and as if inadvertently asking his opinion as to the merits of the medicine in dysentery, to look at his eyes and mark the kindling indignant glance might be amusing to those, who have not suffered from its operation, or who know not the agonies of a patient proceeding from the same causes. If it believed that few will now have recourse to this remedy in dysentery, and it is not at all calculated for effecting the indications which Butler expresses.

That wounds, nine miles point blank would solder
or it is

— of a heav'nlier influence

Than that which mountebanks dispense.

There are some who administer, after bleeding, rather strong purgatives, thus, in the first instance, they endeavour to quench the fire, and in the next place attempt to rekindle it, when they continue to feed the same with unremitting attention, such practice we must by no means imitate. Dr. Good, when treating of the adhesive inflammation of the bowels, in which he mentions purgatives as requisite, and I am afraid that the paragraph has led many to erroneous ideas concerning the nature and treatment of dysentery, it will be now quoted for the purpose of reminding us forcibly not to adopt the practice in regard of this disease. “ It does not necessarily follow that the irritation of these more acrid purgatives will add to the inflammatory action ; nor do we always, or even commonly, find any such effect. For, firstly, the operation of the two irritations is very different ; and by exciting the former we may even diminish or take off the latter by a transfer of action, in the same manner as we take off inflammation from any other organ by the application of a blister to some neighbouring part. Secondly, the direct effect of the cathartic is to restore a natural action, the peristaltic action of the intestines, which it is the direct effect of

“ the inflammatory action to oppose. And, thirdly, we
 “ find, in fact, the beneficial influence of such a practice,
 “ not only generally, but almost uniformly and are in-
 “ capable of accounting for it upon any other principle.”
 Thus we see there are some who use them under the
 impression that they will act by inducing another sort
 of action in the alimentary canal, and thus cure the dis-
 ease, in the same manner as a blister relieves the pain
 in pleurisy, and other inflammatory complaints. Now
 what sensible man would apply a blister to the inflamed
 texture itself, yet this is the only action we can expect
 from their use in dysentery, for their impression is di-
 rectly upon the irritated texture, and it is not as if the
 inflammation existed on the outside of the intestinal
 canal, the action is therefore *direct* in place of being *in-*
direct, thus then, from extra excitement, we are apt to
 have a high degree of inflammation produced, which may
 end in mortification, for if I am right that must,
 or, at all events, is very likely to be the termination of all
 superabundant action of this nature. Even supposing,
 upon the hypothesis of some, that they could induce ano-
 ther disease greater than the dysenteric attack, what
 advantage would we gain, since the same depletory mea-
 sures must be adverted to, in order to quell it, the chanc-
 es are that such is accomplished with more difficulty
 than the original distemper, and with more danger to the
 system, since the same cause may be in duration which
 produced the dysentery. There are such men in the
 profession, however, who are but too apt to proceed
 against all reasoning, and despise books, ever since the
 days they left the classes, and believe they know every
 thing proper for a medical man, such men I have met
 with, and although as high in life as they can expect to
 be, yet are by no means enviable characters. They prac-
 tice by *rote*, or adopt that which they learned when boys

from their masters, they have no reasoning mind of their own, and are only capable of following that common hackneyed tract of servile imitation so disgraceful to the human mind, particularly as respects medicine, it is one of the meanest faculties with which mankind are endowed—the propensity to the imitation of the actions of others. Seeing the bad consequences which are likely to ensue from the indiscriminate use of purgatives, we should attempt to remove the acrid matter by such only as are of a gentle and anodyne quality, calculated to effect the object in view, without much expense to the system. It must be recollected that these, although useful auxiliaries, in aiding in the defeat of the enemy, yet are not to be held in the light of principals. For where the cases are in any way severe or doubtful, we must have recourse to other means of a more promising nature, and regard them only in the light of most useful remedies. Mr. Marshall says “mild purgatives are useful, particularly “during the early stage of the disease. They co-operate with venesection in reducing arterial action, “while they remove the feculent contents of the primæviæ, and the morbid effusions which flow into the “cavity of the large intestine from the inflamed or mortifying surface, of the mucus membrane. The purgatives should be always of a very mild quality and they “ought not to be repeated too often.”

CASTOR OIL.—Is held by the generality of practitioners as an excellent dysenteric purgative, safe and easy in its operation. This may be ascribed to its anodyne property, which it may be said to possess, when perfectly pure and sweet. It operates speedily, in the course of a few hours, ridding the intestines of a great quantity of bad secretions. Although I do not agree with some authors as to scybala being a diagnostic of the disease, yet if the attack arises after long con-

stipation, or we have reasons to suspect the presence of feculent matter amongst the folds of the intestines, the castor oil may not effect their expulsion, or where the canal is so very irritable as to make the oil pass quickly through them unchanged perhaps; in the latter instance, we, in the first place, allay the irritability of the canal with sedatives, and then give the oil, or this with the infusion of senna when we imagine that a more powerful cathartic is requisite, some pleasant aromatic being added to prevent griping. Dr. Cheyne with whom I join in opinion, notwithstanding, of the general utility of castor oil, objects to it, in some instances, as he found it to increase the sufferings of the patient, rousing the severe "dormant griping pains" and he therefore adds that its claim to be preferred in this disease, which till then had been thought almost prescriptive, had been too hastily conceded. Tincture of opium added to it may, in some degree, obviate this bad tendency, not only in dysentery, but in almost all affections of the alimentary canal requiring the exhibition of the milder purgatives. It may appear to many a curious mode of administering medicine of two such opposite qualities, yet when we consider that the bowels are very irritable, and apt to have this still further increased by the exhibition of such medicines, we do well to soothe at the same time we afford an opportunity for the safe and easy operation of the oil. Besides it has in this manner a greater chance of getting into the different cells or folds of the intestines, and thus clear all before it. To avoid rousing the pains, and even reduce the tumefaction of the abdomen, and moreover to promote copious evacuations, a mixture of turpentine with this oil has been recommended as possessing good qualities. The *modus operandi* of turpentine, like that of many other medicinal preparations, is of difficult explica-

tion. I shall introduce a passage from the 2d Number of the Medical Chirurgical Review, "the turpentine is not only a powerful cathartic according to Dr. Brennan of Dublin, but excites powerfully the whole mucous membrane of the intestines, and thus drives the morbid irritation from the peritoneal tunic to a secreting surface, where it is carried off by an increase of secretion itself." If this then be the true operation we may see the cases that are more properly adapted for its use, as also, that it seems less calculated for many cases of the disease than we might have *a priori* conceived, for we do not want to call into existence any additional quantity of secretion to these parts, as our object is to mitigate, not to increase, the tendency to such. It may be added from experience that it will not in general be found well adapted to tropical dysentery, and the very circumstance stated above should make us at least cautious as to its general administration. Even although others have stated that the oil is rendered more mild by the addition of the turpentine, and that it acts more mildly and less liable to gripe, yet it is of too stimulating powers, and we may observe it not unfrequently to pass through the intestines unchanged, besides it is apt to nauseate, however when we wish to use it, we will find that an emulsion of it made with honey will in a great measure remove its nauseating properties and has been much praised by some.

It may be added, from personal experience, that castor oil if old and rancid, is a very improper remedy, and, under these circumstances, is as liable to gripe as any other medicine, that I am acquainted with. It ought never to be administered unless when new and sweet, if we use it as just pressed from the seeds it seems to contain some property of a nauseous and griping quality, this is the castor oil which is obtained in many parts of

India, and ought not to be given unless when joined with tincture of opium, and some pleasant aromatic, when we have severe irritation of the bowels present. There is a very agreeable method of administering this oil, this is with coffee as prepared for table with the milk in it, by adding a dose of the oil to this the whole can be swallowed without any unpleasant taste being left in the mouth, the coffee will do without the milk, but not so well. Another good addition to castor oil by itself will be mucilage of gum arabic, this serving to lubricate the intestines through the whole tract of the canal. The more opaque the oil is the better, if white it has in some degree lost its purgative properties. The oil when pure and sweet does not in most instances gripe, and causes very little stimulus to the rectum, hence it is particularly useful in those cases with hemorrhoids. To overcome its unpleasant properties the addition of a little whiskey will be serviceable, where such can be obtained, and given in those cases in which a little stimulus of this nature is thought prudent. This not only corrects the nausea at the time of swallowing it, but when taken without this, and the nausea be great—a little of this spirit will now correct this also. Castor oil be it observed is very liable to excite nausea when joined with peppermint water, it is also the only purgative which leaves the fœces in their natural colour when evacuated.

SULPHAS MAGNESIAE ET SODAE.—These are esteemed by many as applicable from their mildness. In some cases these may be considered as possessed of considerable sedative powers, since we find that they not unfrequently remain on irritable stomachs, when others are rejected, and as they have not the same tendency with some others, to rouse the sufferings of the patients, they are certainly useful, for that reason they are brought into notice here. These very properties, however, have

led many to a favourite mode of practice, the continued exhibition of small doses of the sulphate of magnesia, during perhaps the whole progress of the complaint. This practice is somewhat in accordance with the Brownian principles, since if they effect a cure it must be by the induction of a higher disease than the one in question, therefore the proper way, if such be their notions, would be to keep the action alive which the salts produce and not allow it to flag. But in this manner it is supposed that they could not be successful, since it has been shewn that such a state is not in accordance with the nature of the disease. I allow that in a few cases, in the colder regions arising from cold, that they might succeed, but this cannot be expected in warm climates where the disease so often arises from other causes. They give a couple of drachms twice or thrice daily, followed at intervals by the exhibition of the *ol: recini* according to the effects produced by the salts. Would it not be better to give a sufficient dose at once, and have this probably followed with the constipated effect formerly alluded to: if we are not afraid of over-exciting the intestines, this would certainly be the proper way. But I must say that this gentle laxative mode of procedure is in general much less efficacious than the other to be mentioned. No doubt cases may under particular circumstances be in some degree benefited by the plan, but in general we will find it of more importance to treat dysentery at all times as energetically as possible, and not give it a chance of laying hold of the constitution, and thus ruin it. It has been found on trial that small and repeated doses of the salts have in some instances ameliorated the symptoms, but in the greater number not at all. The sooner, therefore, the idea of curing tropical dysentery, at all events, by the Cullonian method, is abandoned the better, for the pa-

tient's and our own satisfaction. These men imagine that little or nothing else is requisite, but such a mode of procedure, and that the disease in all cases, and under all circumstances, consists in some acrid substance offending the alimentary canal, and that this is the only method of getting at it, in this they are miserably deceived. Viewing dysentery as arising from a number of causes, it follows that it may admit of some modification of treatment than the above, who for example would think of curing scorbutic dysentery by the above plan, no, no, we must renovate the system, and at the same time ameliorate the symptoms, in proportion to the amendment, so will the purging cease. There is surely no harm in looking on the disease, when of an endemic or epidemic cause, and every suspicion that marsh miasm is that through which it is produced, why we should not adopt many points of the intermittent fever plan of procedure, this it is believed will be attended with eminent success, let us therefore give quinine and blue pill or calomel, in such quantities as seems requisite, and abandon the idea of the gently laxative mode. I hope that the day will soon arrive when this mode of action will be generally adopted, especially in the hot climates, in all cases which are not of too high an inflammatory case to prohibit the exhibition of the barks, even those slightly so we may derive very much benefit by the appropriate combination as above. Do we not in remittent fevers, where the liver is inflamed, give quinine as the only sure means of cutting short the fever which has produced it, and is in some means the cause of keeping up the irritation in this organ. I suspect that, in very many seasons, dysentery owes its presence to this cause alone, it therefore follows that we must not lose time in any case by adopting measures which can never get at the root of the evil, nay, do we not find that patients, when very

much reduced, and who have quinine given in order to strengthen them a little, that then, and then only, the dysenteric symptoms begin to yield, and from this time, we may date the period of their recovery, but in many others the dysentery has become chronic and although benefited by the plan yet we cannot expect a good recovery, from a state of the bowels being present which we may not be able to combat. Do not therefore let us succumb to authority, of however high a nature, but let us follow the bent of our own judgment, and see what the issue of the affair will be, commencing with the plan of procedure here proposed, when symptoms of a too formidable nature are not present to forbid it. I could narrate a few cases which occurred on board ship, in the intertropical clime of the east, which were sent to hospital, they were not cured by the gentle laxative proceedings for some months, and when sent back they were certainly in some instances so much reduced as to be incapable of duty for a considerable time after. Even then the dilatory method had not the merits of putting the system in that condition to return to a natural state, but this was I suspect mainly to be attributed to the sparingly dealt out grains of calomel. On board ship we had also cases of a similar nature to treat, and at the same time, the result was obvious, these men got entirely free of the disease in from two to three weeks, consequently cured at a much less expense to the powers of the system, and soon able to resume their duty, so much did the men themselves observe the difference that many have solicited not to be sent to hospital, even with all the comforts usually attending such places, saying that they would much rather put up with all the inconvenience of ship board, than return at the lapse of two or three months, squalid and unfit for duty. Our plan was to put them as quickly as consistent with the nature of

the attack under the influence of mercury, and to combat the other urgent symptoms with suitable remedies. Such then are some of the evils attending the above method, bleeding in the first instance, and then the exhibition of gentle doses of salts, or other cathartics, is too much of the simpliciter plan ever to be trusted to in intertropical dysentery, as it only affords a more sure chance for the disease becoming chronic, then here in all probability in many cases no great benefit is to be derived from any method even by a change of climate.

To give opiates as Sydenham observes "is to shut the enemy up in the bowels" and to give purgatives "is to increase the disturbance and as it were to endeavour to quench fire by oil." The first part is pretty correct, if this applies to the early period of the attack, since the effect stated might certainly take place. But as the disease progresses, we must be under the necessity of using these useful auxiliaries on purpose to soothe nervous irritation. As to the second observation it is believed that few of the present day will assent to the conclusion, since daily experience runs counter to it. If, however, this be applied to the drastic purgatives, or even when the more mild operates severely, or the continued administration of them, then we have a true representation it is believed of his meaning, and many now a-days will join him in the correctness of it. We are not to regard dysentery as a disease caused by a repetition or distention of the mesenteric vessels solely, and that it is by emptying them by purgatives that nature and them will force the distemper from the body. There is nothing of this sort of reasoning which ought to guide us, for as was formerly stated, until we subdue the nervous irritation of the part, or general system, by those remedies properly adapted for this purpose, we can do no good, but much harm. Are purgatives capable of relieving

this general or local disturbance ? It is apprehended not, they are good enough in their way in effecting certain indications of the treatment, which we could not get well accomplished without them, and “like Cavalry in an engagement, they are more useful in completing than commencing the defeat.” Castor oil and opium will have such an effect, then however the sedative effect is not permanent but only lulls the symptoms for a short time. We have however such a medicine in mercury, since it fulfils almost the very indications required, but of this medicine more shall be said in another place only observing that it is possessed of sedative properties, soothing the nervous system, and also capable of effecting material changes in the secretions, and in this manner allowing nature to complete the cure. If the cathartics, observes Dr. Trotter, did not relieve the griping and tenesmus, I continued them three or four days, but never the salts after the second day, as I was afraid their too strong cathartic powers might deprive the intestines of their mucus, and thereby leave them more liable to inflammation. Many are in the habit of administering a solution of salts, with an infusion of senna, or rather medicines, these will be found useful in particular cases, and very efficacious as an excellent general purgative, active, yet at the same time mild in its operation. They are apt to gripe in this way, which may be guarded against by the combination of some aromatic, such as ginger, or coriander seeds, in the infusion. The coriander seeds cover in some degree the taste of the salts, take two to three ounces of the bruised seeds to half a pint of water, dissolve the salts in this infusion and it will prevent the gripes and nausea which so often occurs at the taking of them. A little magnesia will render their taste less nauseous, and if we have reason to suspect acidity of the *primæ viæ*, forty to fifty grains

of magnesia will be usefully added, less salts will be required in these instances, for the acid of the stomach may act in concert with the magnesia, and thus form a sort of neutral purging solution. Another good method is to drop about twenty to thirty drops of dilute sulphuric acid into the solution of salts, or even more than this, if we do not wish to have too great a debility induced, in this way they will operate mildly and have a strengthening effect at the same time. Another point we are never to lose sight of is the diversity of constitution, for what may be requisite in one may operate most powerfully in another, thus two ounces may be required in this instance, while a couple of drachms is all that is proper in the other. This applies in a striking manner to those in hot climates, so that we see from the diversity of the dose they are not at all times safe, and that we should commence with moderate doses at first, in case the larger commit more disturbance than we want. When we administer the sulphas sodæ as a purgative, and it is of excellent anodyne qualities, we may disguise its taste pretty well with some senna in Bohea tea, the senna will lose its nauseous taste. An excellent purgative is obtained by combining the compound tincture of senna with castor oil, and well adapted for many cases. Senna may be very advantageously joined to the tartrate of potass, or any other of the neutral salts.

RHUBARB:—Sir John Pringle and others found in the medicine a successful remedy, and after the purge the exhibition of some tincture of opium was very frequently productive of much good. It may be noticed that many will scarcely admit of the use of the opium at all, and in so far as its employment at the very commencement of the attack, I am inclined to be of the same opinion. Our object at the very first is to secure as free evacuations as pos-

sible, which the rhubarb, from its astringent and gripping qualities may not so readily effect. While towards the close of the disease the first named may be just the qualities that justify its application. If we wish to unload the intestines from a mass of feculent matter, then rhubarb, from its bolder purgative powers, may be rightly employed, but the castor oil with the tincture of senna, or salts and senna, or the turpentine with the oil may be equally efficient for this purpose. The rhubarb is well adapted to those cases in which the secretions are like yeast in cholera, and somewhat thickish, in small doses it is thought that it has decidedly an alterative effect, more so than any other of the purgatives, these doses are to be proportioned according to the different habits, &c. of the patient, and repeated accordingly, with the continuance at the same time of more effective remedies, if we can as yet use such. A circumstance may be mentioned, as connected with the administration of this medicine, (in the slighter cases, or in those instanced above, or in those in which the disease decidedly experienced the benefit of mercury) is that if we administer a couple of scruples that it will purge freely, and the operation be kept up for some time, but if we add about ten grains of the powder of ginger, and then give it in the same cases we have only a stool or two, and the diarrhæa almost instantly ceases. When the medicines are fresh and good less will be required, I would not in such diminish the ginger but of course the rhubarb, for it loses much of its cathartic properties by being long kept, or exposed to the air, we may even add the ginger to the amount of twenty grains. I have frequently administered this combination in many cases of loose bowels, particularly those succeeding a debauch, with most marked success, and also in the more mild forms of dysentery. Many cases I could instance of the benefit to be derived

from its use, one will serve, the patient complained bitterly of the purging which had occurred after hard drinking, was now in a state of collapse, resembling of the Cholera attacks, had not very much pain on pressure, I gave him a good glass of grog with thirty grains of rhubarb, and fifteen of ginger, this soon relieved him, and on the repetition of a second dose of the stimulus, with the Dovers powder at night, he was well in the morning. Such cases we may not unfrequently meet with, the idea here ought to be to reduce the stimulus by degrees, by which we save the patient from a severe attack, which would have been induced by the plan of blood-letting and salts. We will find the following of much efficacy in these cases.

Rx Tinct. rhei. \bar{z} ss.

Tinct. sennæ 3iij

Tinct. cinnamon com. 3iij M. ft. Haustus.

In general when we want the bowels opened after all debauches, particularly in hot climates, we cannot do better than employ something of the above sort. Salts and senna, or the black dose, is by no means well calculated for such patients, they are too cold for the stomach, and are apt to operate too violently, we must be careful that there is no real tendency to inflammation, when there is nothing but general languor with headache, and a little uneasiness about the bowels, we cannot use a better combination than the above. When the dysenteric attacks have in a great measure yielded to other medicines, and particularly calomel, and there seems to be a disposition to three or four dejections during the twenty-four hours, we cannot do better than use the ginger and rhubarb. We will find another good adjunct to the rhubarb to be magnesia and peppermint oil, which is adapted for almost any case of looseness of the bowels.

R Subcarb. magnes. scruple ij.

Pulvis rhei. gr. x.

Ag. menth. pip: ʒiss M. ft Haustus.

We may change the peppermint for that of cinnamon water, or any other pleasant aromatic, or essential oil, to be repeated once or twice during the twenty-four hours, according to circumstances. The astringent effect of the rhubarb soon follows after the first or second feculent stool, and is the best tonic purgative we can give. Rhubarb, when joined to the supertartrate of potass, has its taste almost concealed thereby, and the best time for exhibition will be bed time. When we wish to use it in diarrhæa, or dysentery, as a general medicine, another purgative should be exhibited in this manner, it is less apt to prove constipulating. It not unfrequently tinges the urine of its own yellow colour, this takes place sometimes so quick as to appear in twenty minutes after being swallowed, we must therefore be on our guard not to mistake this for bile. The medicine is also very beneficially used in combination with the tincture of gentian, or blue pill, when we are desirous to recruit the powers of the system.

SUPERTARTRATE OF POTASS—BALSAM OF COPIVI, &c.

Dr. Cheyne, on the strong recommendation of a Physician who boasted of cream of tartar as a specific, had recourse to this medicine. The crystals were reduced to a fine powder and given in half ounce doses every four or six hours. The history of this medicine as given by him in substance is that though at first it increased the sufferings of the patient, yet when persevered in, it often was productive of good effects, but these were chiefly ascribable to an alternation of this, with Dovers powder and balsam of copivi. Administered in this way he thought it useful in bringing down the bile to the intestines, which when accomplished gives great relief. In

those instances in which we have reason to suspect any thing scorbutic in the system we will find some advantage to be derived from liberal doses of the nitrate of potass, not too much, so as to irritate the system.

Balsam of copivi is sometimes used as a dysenteric purgative, for this purpose two to six drachms will be proper, when good and new it is a very beneficial remedy, and particularly adapted to the chronic stage, more so than for the acute, it very frequently soon carries off the mucus stools. Many years ago the Naval Surgeons, on the South American station, used it with much benefit in all cases of the disease. There is a great objection to it from the disagreeable nature of the medicine when swallowed, and it would be well could we cover its taste. The proper solvent for the balsam is alcohol; and it may be united to water with the yolk of an egg. When for internal administration, the sulphuric acid previous to it, will render the stomach better able to bear its presence without nausea. If the dysenteric symptoms be inflammatory, we ought to be careful as to its use, since it stimulates somewhat.

Dr. Wright observes that marine salt, dissolved in any of the vegetable acids, operated as a charm in dysenteries in the Island of Jamaica, when all other remedies which were celebrated in his day as curing this disease had failed. This says Trotter is corroborated by the experience of others. There is not much to be wondered at in this, since the salt in question contains muriatic acid as one of the ingredients, consequently, by giving tone to the stomach and alimentary canal, would prove beneficial in this way, besides its being possessed of laxative properties. It has also been stated that the carbonate of potass will be found a very efficacious remedy, four grains in half an ounce of water, repeated every two or three hours, until feculent stools are procured.

Having said so much on the prominent purgative medicines in general use for the removal of this distemper, and glanced slightly at others I deem it unnecessary to enter minutely into a lengthened detail of many more of a less important or powerful kind. This in particular is not required, as the general principles for our guidance have it is imagined been made sufficiently clear. Tamarinds, manna, cassia, fistula, sulphur, &c. have all been had recourse to with more or less effect according to the will of the prescriber. One or two general remarks may be made as regards some of them. Sulphur will in general be found very useful in those cases complicated with hemorrhoids, which are very apt to be greatly increased by the irritation about the rectum, besides the tendency of the medicine to the skin, as also its beneficial and soothing nature over the larger intestines, and it can be generally used without any interference to the other general plan of procedure, even the calomel, for it is imagined that its powers of carrying this medicine out of the system, as many suppose are but very slight, if in fact it be possessed of any such at all. In the close of this account of purgatives I may be allowed to indulge in one or two general remarks, which it may be of importance to keep in view. It is now well ascertained that the action of medicines possessing similar properties act best in conjunction, and that this holds in particular, with regard to purgative medicines, and especially in reference to the disease in question. The commixture acts with greater mildness and certainty, preventing at the same time those griping pains which the simple exhibition of some of them would tend to produce. This is perhaps particularly the case with the jalap and supertartrate of potass, the mild operation of which and the certainty of its action seems to render it well calculated for fulfilling se-

veral indications in the progress of some cases. This is a favourite medicine with some after the exhibition of castor oil, even when there is much irritability of stomach. The combination not only acts as a purgative but also brings down the bile into the intestines a point of some moment as was before noticed. Coffee will be found a good corrective to jalap, either when we give it by itself, or in combination with other medicines. We must be careful not to give the compound powder of jalap in dysenteric cases in full doses of a drachm or thereabouts, half this quantity will be sufficient. The doses of these remedies should always be proportioned according to the effects they are likely to produce, and therefore it is proper to take into consideration the nature of the disease, the constitution, the liability of our patients to be affected by them, &c. It may be observed with respect to purgatives in general that they may with great propriety be divided into three classes—always bearing in recollection, the greater the evacuation the greater the debility—1st. Those that operate mildly causing a stool or so.—2d. Those that purge briskly. 3d. —Those that purge and stimulate powerfully. The first class are great remedies in costiveness, and in hemorrhoids, and may be advantageously used in dysenteric cases. The second class not only evacuate, but also produce a watery flow from the large surface of the intestines. The stimulus they exert is not diffusible, they do not raise the pulse, and hence the neutral salts are our great remedies in the inflammatory diathesis. A previous bleeding often renders a purgative more sure in its operation, and less may be required, these salts can be given as mild purgatives when diluted with a large proportion of water. The third class occasion a smartness of stimulus and raise the pulse. When in full doses, they abstract a considerable quantity of watery

stools, if in small doses they act in the manner of gentle purgatives, and do not raise the pulse. When thought proper to be administered, they ought to be given in combination, and small quantities of each, so as not to debilitate the system. The cathartics may at times operate as gentle stimulants to the intestines and system, this is when properly administered, but when pushed too far they destroy in part the powers of the several organs, thus they are not unfrequently abused.

SECTION V.

DILUENT AND DEMULCENT DRINKS.

But besides purgative medicines, diluent or demulcent drinks are also required to defend the stomach and intestines from the action of the acrid and feculent matter lodged within them. These are often found of great benefit, especially when there is much fever with considerable thirst, care being taken that the stomach be not overloaded by them. It is indeed difficult to determine, how these demulcents act, when taken by the mouth, as they must undergo, in a great measure, the process of digestion, as also absorption, and therefore, as in gonorrhœa, cannot reach the parts so as to act locally. This, however, is of less importance since we know from fact that they are beneficial ; of the various kinds which are usually employed may be mentioned, barley water, water gruel, congee water, or a little mucilage of gum arabic, either in water or added to any of the above will improve their demulcent properties. It is stated that an infusion of cammomile flowers sometimes removes the tormina, and at all events must improve the powers of the stomach, and also that gum arabic with the bland oils, besides their demulcent properties, prove somewhat laxative. Butter-milk and whey may in certain cases be given

with advantage. If the thirst be great, and the patient very desirous of acidulated drinks, which ought in the majority of cases to be well timed, and cautiously used, the mildest should be selected, remembering that acids are sometimes apt to gripe, when calomel is in the system. We may choose the mild and of the orange or the lemon, the sulphuric acid sufficiently diluted forms an excellent beverage, and is very grateful to the taste, besides its other properties of being an excellent tonic, and we will find it particularly useful in those cases complicated with land scurvy. The citric acid will be serviceable in those cases complicated with sea scurvy. As good a drink as we can use in the generality of cases will be found to be one composed of dried orange peel boiled for a short time in water, then add to this immediately when taken from the fire cream of tartar, when sufficiently cool add as much sugar as will make it palatable. This fulfils several important indications, such as proving gently laxative and being agreeable to the stomach, it will be found agreeable to most patients. All the mild acids stimulate in some degree, they also produce a cooling feeling to the body, they increase the appetite, abate the morbid effects of bile, when such is present it will be proper to assist their action by gentle purgatives. They are endowed with a constitutional and local effect producing some diaphoresis, but they are much less powerful than the sudorifics.

Some, as the French, are by far too fond of demulcents, with the small doses of salts at intervals, more particularly enemas. I have already stated that this practice is attended with the most injurious consequences, especially in intertropical dysentery, for by tampering with our patients we ruin their constitutions, by laying the foundation of an incurable disease. I have known cases of dysentery treated by this plan in the hands of the

French at the Islands of Mauritius and Bourbon become very bad, and in the end with difficulty cured by more energetic measures, when however they became under the influence of the calomel there was an evident amendment. Tea and coffee are not unusually given as drinks, we ought to be aware of their properties. The distilled water of tea produces nearly the same effects as opium. The green contains a considerable quantity of gallic acid and tannin, or a compound of a bitter, astringent and narcotic, this last is said to reside in its odorous principle. When drank it dissipates sleep, acts as a tonic, excites hilarity and it answers very well after animal diet promoting digestion. It is possessed of a stimulating power keeping the mind clear without producing intoxication like spirits; it relieves fatigue, and, at times, acts as a diuretic, we will find it often serviceable in relieving headache, particularly, when this depends on derangement of stomach. Some ascribe very bad properties to tea when given too liberally in disease, it may be in the narcotic principle that such qualities reside, this is more particularly the case with the green, from the black we have not so much to dread, the green is very injurious, brandy or alcohol remove these bad qualities, but they are inadmissible in dysentery. There is one advantage to be gained from the administration of green tea, it corrects the deliterious effects of opium, and this last also neutralises the injurious qualities of the former,—coffee contains a bitter principle also tannin. The virtues the same as tea but of less power, if we continue its use too long it produces lassitude, weakness, &c. From what has been said above, we may gather several useful hints as to their proper administration. Let none imagine that I venture on these seemingly unimportant remedies with a view of adding either to the length, or the mysterious nature of the subject. I have given the

most concise view of several medicines and articles of diet, so that we may be properly on our guard as to the most judicious method of proceeding in the administration of our remedies, for I am convinced that medical men often do away with the beneficial operation of a remedy, by unintentionally allowing such matters of small moment to interfere with it.

SECTION VI.

ENEMAS AND SUPPOSITORIES.

When we fail at the onset by applications at the mouth, we may have recourse to clysters, and thus have it in our power to try the effect of the bland mucilagenous mixtures, and thus they will come more immediately in contact with the irritable part. Such as linseed oil, olive oil, starch and these mixed with laudanum, many practitioners are exceedingly fond of using enemmas of opium and any mucilagenous mixture, and this frequently during the day, or perhaps morning. Let us turn our attention for a short time to the investigation of the merits of this plan, and ask ourselves what good they can do. When the disease exists in the rectum, enemmas may certainly be of much use, but when the disorder is situated amongst the smaller intestines, they cannot reach them, and therefore little good could be expected to be derived, in so far as the local application is concerned. They no doubt soothe the parts, and relieve the tenesmus and strangury, and this in a marked degree in some cases, from their warm and anodyne properties, even granting them all the good they are possessed of, it can only be in certain cases, and for certain purposes we can have recourse to them. If they are employed with an intention of lubricating the smaller intestines, as they may do to the

large, we will certainly fail somewhat in this particular, as few, if any, of our common injections will pass the valve of the colon, they act on the principle of allaying irritation in one part, with sympathy of that of the rest of the canal, and we know that this is by no means an unusual attendant : excite irritation at either extremity of the canal, and it is not unfrequently communicated to the rest. Besides the above action they will keep clean the rectum, by removing the acrid matter from this place they will be of great service in the amelioration of symptoms. Their utility however, as a mode of general practice, is much curtailed, when we consider that they must be pernicious in those cases in which the parts around the anus are tender, and in particular if the orifice be much excoriated or inflamed, or encircled with hard and painful hemorrhoids. The introduction of the pipe in such instances would almost to a certainty renew the tormina, tenesmus, and rouse the dormant symptoms. Hence it follows that few can have recourse to them under such circumstances. It may not unfrequently happen that the inflammation around the anus is in a great measure caused by the careless introduction of the pipe, or the parts may be so irritable and just approaching to a state of inflammation, which the introduction of the pipe will be a certainty aggravate, or at all events renew the bad attendants on the disease. Various indeed are the enemata used by medical men, each in fact having a favourite one of his own. An infusion of bark may be useful, and this will be rendered still more astringent by the addition of a few grains of the sulphate of zinc. I certainly think that in this disease infusions and decoctions are much superior to the spirituous remedies too frequently had recourse to, if our intention be nothing else than to soothe the parts, and thus keep down inordinate action.

Cammamile tea has been recommended, and we will find it as good as any of the others. Lime water, or with the addition of more water and opium according to the fancy of the prescriber, or lime water, with zinc lotion and opium, will also be found serviceable. Dr. Trotter says that clysters of thick rice water into which is dissolved two drachms of assafœtida and a drachm of opium, is excellent, this is perhaps amongst the very best we can use for allaying the irritation about the rectum, this not unfrequently relieves the tenesmus, and will often complete the cure, or at all events aid greatly towards it, the above will serve for two or three enemas. A solution of super-acetate of lead combined with opium ranked high with Dr. Cheyne. In those cases in which the stools have a very offensive smell, and in particular if the disease has been of long standing, we may often change this for the time being by an enema of starch and carbonas ligni or a solution of the chloruret of lime. On this last being administered, the stools often almost instantaneously change their odour. The carbonas ligni is to be rubbed down with the starch, then mixed with water, and a little opium may be added.

These enemas will not cure the disease although they will often palliate symptoms, we have another indication to fulfil than the mere cleansing out of the lower portion of the bowels, and acting sympathetically through this medium, since they will not tend to change the condition of the secreting vessels higher up in the tube, the disorder then must be attacked by medicines which are capable of acting constitutionally in addition to these local powers. In the dysenteric affections of colder regions where it is not over-active there may be but few objections to the more general use of clysters, and rather think them serviceable than otherwise, as in them the parts are not so irritable or so apt to be excoriated, as in those of

the warmer regions. There is one thing to be borne in mind, and this is, that if at any time this practice gives rise to an accession of the tormina, tenesmus, &c. then we must discontinue them : another point to be attended to when we are desirous that the enema should be retained for sometime is that we do not make it too large, if so, it might be instantly rejected, here the stimulus of bulk causes the re-action to contract, and thus forcibly expel it. Three to five ounces will be sufficient and as much as the irritable state of the parts can well bear, less than this, when we are desirous that they should remain for a length of time will be proper ; by attending to the above much good will be often derived from their use. It has already been noticed that the anodyne and soothing properties will be communicated from one extremity of the canal to another, or at least throughout the greater portion of it, and thus the irritable part will be benefited. These with a mild diet, gentle laxatives and seasonable anodynes, may be all that is required in very many cases. If the patient be so weak as not to digest his food well, then some beef tea administered in this way will have a good effect, and it is rapidly conveyed into the system. Scybala when present, may be softened by larger injections of cammomile tea, containing some portion of castile soap, this injected at the interval of a few hours and retained as long as possible. As for the proper time of using the enemata, they ought not in general to be employed till towards the latter stages of the disease. In conclusion to this subject it may be observed that every organ is put in motion by the stimulus it is subjected to, and this stimulus (confining our attention to the bowels) may be of two kinds. The stimulus of bulk and the stimulus from acrid matter, which when present must excite considerably, but when bland and seemingly inoffensive, will either call

into action, or lull the sensations of these parts. But if the bulk be too great, and although of the strongest sedative qualities we can with safety use, yet it will as certainly stimulate as if a quantity of acrid matter was stimulating the intestines. These when in an irritable state can bear but little addition in the shape of fluids or any other bland materials so that we may now see the reason why the clysters should be as small as possible when wished to be for some time retained.

There is yet another method of soothing the irritation of the lower portion of the alimentary tube to be noticed, and this is the use of suppositories. These remedies are also particularly well adapted for soothing the irritation which is not unfrequently met with about the neck of the bladder. Although they are extremely useful in other complaints where such things exist, yet in this particular disease they must not be used without discrimination, since they will on many occasions from their firm nature, and the manner of introduction, give considerable annoyance to such irritable parts, this too even although their bulk be small. Much benefit in many cases has been obtained from their use, and when they are liable to excite too great irritation of the parts, this may in some degree be got rid of by making them of soft opium with soap, or the like, and there may possibly be cases in which if they can be introduced without much unnecessary pain that they will be retained, when few if any other remedies would be. For relieving strangury they are most usefully employed. We may join opium to assafœtida and soap and have a very good one, or a small piece of soft opium itself will be as good as any thing of the kind we can use, they are to be introduced at least an inch from the orifice, from that to two will be proper.

CHAP. V.

OPIUM.

We now come to the consideration of a most serviceable medicine in the treatment of dysentery, one that has stood the test of ages, but although of such ancient date and so much and variously employed by medical men yet its *modus operandi*, even in the present day, does not appear to be clearly understood. In our enquiry into its proper administration in dysentery, it shall be my business to state what may be expected from its use, as well as the manner in which it seems to fulfil the several indications required. Opium from its well known powers of assuaging pain and all spasmodic affections, has led many into the too indiscriminate use of this active remedy. In all cases in which there is severe pain as was formerly noticed, a full dose of opium will be of the utmost importance, as the continuance of pain would only exhaust the part, and be very liable to produce inflammation, or debility. It is surely therefore of the utmost consequence to have such a symptom removed as speedily as possible, either by venesection, or by opium, or their conjoint operation. After this has been moderated for some little time then a purgative of the most mild sort should be given, cautious however in this respect, in case we excite what has just been relieved. Dr. Burns observes, “ as
“ pain is both an effect and aggravator; or at least a
“ supporter of inflammation, it has been proposed free-
“ ly to administer anodynes. We ought, however, to be
“ aware that inflammation is not a simple action, and
“ that allaying one symptom will not always allay, far
“ less destroy the whole. We possess as yet no medicine
“ which simply diminishes sensibility and mitigates
“ pain. It would be of great importance if we did, for

“ sensation has much influence on the continuance and
 “ consequences of inflammation. Opium the most to
 “ be depended on, exerts at the same time a stimulat-
 “ ing effect, which, if it do not render it positively in-
 “ jurious, will at least counterbalance any good it can
 “ otherwise do when exhibited internally in every stage
 “ of most inflammations, and particularly without pre-
 “ vious depletion. In abdominal as well as in external
 “ inflammation, and in all cases where there is consi-
 “ derable pain, it is almost essential, after subduing
 “ the active state by bleeding, that we allay sensation by
 “ an opiate, for the mere sensation keeps up inflamma-
 “ tion and there is a state in which the two remedies
 “ may be advantageously blended, and perhaps one in
 “ which opium alone is the most useful.” In this dis-
 ease presuming too much upon its anti-spasmodic and
 other qualities, many Medical men seem to have over-
 looked its astringent quality. When an organ is un-
 usually irritated by the presence of any cause capable of
 offending it, such as takes place in the intestines from
 acrid or other irritating substances, the mouths of the
 vessels opening into this tube are in consequence called
 into greater activity, and the fluids are poured out in
 a superabundant quantity, and thus the discharge is
 kept up until some power capable of effecting a change
 of this action be applied, how far opium is fitted for this
 purpose may now be stated. I am not very partial to
 opium in any stage, or even at any period of the com-
 plaint, in which it is not imperiously demanded, and in
 particular in combination with mercury, as I prefer giv-
 ing this medicine by itself. The reasons for not being
 very partial to it are as follows, granting that it allays
 the irritation of the system at first, yet this is not per-
 manent and it is soon over, the patient soon becomes
 worse. Why this should be the case, is that the me-

senteric vessels have time to become more distended, or there may be an extravasation of blood, occurring the moment our opium has ceased acting, and when the system begins to react, we have the disease under more unfavourable circumstances than before, for the blood-vessels and the membrane are more or less injected with blood, so that, now we have a double cause acting the one on the other, the conjoint operation of each is on the general system, thereby increasing the general disorder, by this delay we have lost valuable time; besides the last named circumstances there are other points of the utmost importance as regards the treatment of dysentery as a local affection to be attended to. Why in such cases not rather give mild laxatives, they are certainly much better adapted than opium, for by taking out of the body the acrid matter and the acrid secretions, they may at times at once relieve, but if stronger purgatives be given, they may certainly increase the very symptoms intended to be alleviated, any of these however can have no permanent effect over the disease, on their operation being over, the same state of the secretions will in most instances be renewed.

Astringents on the other hand at the early period of the complaint only add one evil to another, such we may regard the operation of opium in addition to its relieving spasmodic actions, thus then by restraining the flow of the secretions, such will certainly increase the nervous irritation, this acts anew on the parts, thus one evil is added to another. So much then against the premature use of opium before the use of laxatives, or blood-letting when necessary. Purgatives, as was before observed, act on the open mouths of the vessels and thus stimulate them into an excess of action,¹ in this manner a greater discharge from the parts, but if this was the only benefit to be derived from their use, viz.

the reduction of the mass of the circulation, this could be as effectually done by opening a vein. Thus then purgatives of a certain class act in the manner of depletion, hence having this before us, we will know in what manner to use them, an opiate being joined to any of these, lessens this tendency greatly. In general a good opiate should be administered after the purgative begins to act, as by this means we check not only the inordinate peristaltic action which they are liable to excite, but also decrease the tendency to the secreting vessels being over-stimulated: this even may be done in some cases in which opium has been previously given with the purgatives at first, only taking care not to throw too much on the system. It was before noticed that these parts require rest after being stimulated by the purgatives, during this time the system may have an opportunity of returning to its former condition. As long as the fever which is usually in attendance upon the complaint, continues any thing high, we cannot expect the purging to cease, but as this may be kept up from the existing irritation of the alimentary canal we may very frequently derive great advantage from a good dose of opium. There are cases in which the immediate recourse to this practice is warrantable, for by retaining excess of action we moderate the febrile symptoms. If then there is much irritability of the body, and in particular that of the intestines, the one acting in unison with the other, we have such a state of the tube induced, so that every thing which is taken, even the natural aliment passes through them so quickly, as in some instances to be unchanged, or they may just be on the verge of this irritability when a good dose of opium will rectify the morbid action very much. In all cases where there is hypercatharsis we cannot allay this too soon by full doses of opium, thus we moderate

the excess of irritability in the nervous and portal systems, as also save the strength and afford sometime for the application of other remedies better calculated for the eradication of the malady. In general, opium in any form should not be employed at the very onset of the disease, unless when the vomiting, griping pains, or tenesmus is severe, when any one or all of these are present they ought to be removed, without which we cannot do much good. If the vomiting be so severe as not to allow any medicine to remain on the stomach, we may have recourse to other measures, such as opiate enemata, opiate linaments over the region of the abdomen, sinapisms or blisters, or any of the other means recommended for allaying inordinate action, some of which remain to be considered.

In such cases where the patient has been long in applying for advice, it would be improper to bleed, unless circumstances were present imperatively requiring the use of the lancet, surely the better practice is to quell the present turmoil, and see what condition the patient is in, when we can have recourse to any method the most applicable. We are not to proceed on the idea of full doses of opium doing damage, even when inflammation may be present, for under the above supposition, the remedy so far from increasing this will actually soothe greatly. Dr. Armstrong observes "so great indeed is my confidence
 " in full doses of opium in peritoneal enteritis, that if
 " compelled to say, supposing myself the subject of the
 " disorder, whether I would exclusively rely upon them
 " solely or on blood-letting, I should certainly fix upon
 " the former. At the same time I should like to have
 " the simultaneous influence of both remedies, being convinced that they are far more serviceable combinedly than separately employed." One great object when we use opium as a general remedy, or in particular cases,

is to be fully aware of its general results, it often produces severe headache, and not unfrequently increases the heat of the body, consequently we may have an increase of the fever. Some are, therefore, it is believed, improperly in the habit of giving this at the very commencement, it should in general never be given until free evacuations have been procured, some timid practitioners might be afraid of venturing on such a plan, but general experience gives a decided affirmative to the question, and this whether the disorder be attended with fever or not; others object to its use altogether till the fever and tormina be overcome, if such symptoms have been present. Such, however, depends greatly on the constitution, or idiosyncrasy of the patient, as well as the symptoms, the nature and duration of the attack, some of these peculiarities have already been noticed. If there was no diversity of the human constitution, the operations of nature should be uniform, and we could in the generality of cases regulate the doses of our remedies to a nicety, since however it is otherwise, it behoves us to pay the strictest attention to the varieties to be met with, the circumstances under which we do so, as well as the peculiarity of climate, and the nature of the causes operating in each, by this means do we gain the really practical knowledge which can be of true service to us in the treatment of any disease, with the proper remedies and their *modus operandi*. There is perhaps no medicine with which we are acquainted, that displays such a multiplicity of varied actions on the body as opium, either as regards quantity, quality, or its effects. We are aware that in some cases in certain doses it allays pain and produces sleep, whereas in others of a similar nature, it aggravates all the symptoms. We know also that there are some constitutions which receive but little relief from it, given in any form, there are others again to be met with, who al-

though they cannot bear its administration in ordinary cases of disease, yet when these assume a severe form are benefited by its administration. There are others with whom it will not agree in middle life, yet when further advanced can bear it well. Such discrepancies in its liability to affect people in these different ways can only be ascertained from experience, or an intimate acquaintance with the previous habits of our patients. In the great majority of instances, the medicine in question will be found useful, it may be now requisite to state my views as to its *modus operandi*.

Opium, according to the dose, has certainly a twofold operation—stimulating and sedative. The first of these effects is not generally required in dysentery; we not unfrequently in certain diseases give it in small doses, so as to keep up the stimulus in the body which they induce, great care is required to regulate them, for when repeated as often as may be required for such purposes the opium may accumulate in the system and all at once will there be a sedative effect produced. When administered in larger doses, such as from sixty to one hundred drops of laudanum, then there is a direct sedative and narcotic effect produced. The reason of this is that the stimulus of so large a quantity is very transient, leaving the sedative operation to have its full play, and the first action produces but very little additional disturbance even for the time being. Such, however, was not the opinion of Cullen, nor that of many of the French practitioners, at all events a few years ago, but modern British practice has sufficiently confirmed the truth of the above remarks. Dr. Cheyne observes that opium tended to arrest the progress of the inflammation, and that whatever in such a case produced respite from agony sometimes proved of permanent benefit. This remark is quite in unison with the views I have given as regards

pain, for such purposes then we must give pretty large doses, for otherwise we should have the stimulating operation induced, thus by tampering with the disease, we allow the irritability to increase. The rule should be, that, in proportion to the severity of the symptoms and pain, so should the extent of the dose be, and if in ordinary circumstances the patient could bear a grain well, so now will he take double or triple that quantity, and this with great advantage. In such instances the injurious effects of the opium are not experienced, which is confirmed by daily observation, for we will find that in all severe spasmodic affections of the alimentary canal, the patient requires much more than under ordinary attacks. In cases of a mild nature we must expect, as we shall find, that the use of the remedy renders the bowels more torpid, consequently the peristaltic action being less, constipation may be the result, it is requisite to be on our guard to prevent accumulation, and also to remove the constipation, that we should at times interpose a gentle dose of castor oil. By the frequent repetition of large doses of opium, we may have a looseness produced, this takes place from the intestines having lost all tone, consequently are in a very torpid and debilitated state, thus allowing the feculent matter and other secretions to collect with more freedom, hence a purging from the want of a power of resistance. When there has existed for many days a severe purging with tenesmus, griping and the other attendants on the disease, with perhaps a few scybalous balls or indurated fœces passed, we might be very apt at once to give some purgative, but it would be found that this would be of little use at the present crisis, for it would have every chance of increasing the irritability, and could not, from the already existing irritation in the bowels, dislodge the hardened matter, since it is most likely imbedded amongst the

folds of the lower intestines, and the purgative, in consequence of the above state, would pass quickly through, not having time to enter these folds, or on the other hand these parts may be so tightened that the feculent matter cannot get out, all these things proceeding from the state of the parts noticed. In such cases, by giving some anodyne, so as to quell the intestine commotion and then a gentle purgative, we will have produced the wished for effect, and the patient will soon recover, or at all events the system will be in that condition to receive benefit from those remedies calculated to put a period to the attack ; even in lead cholic we must frequently premise opium before we can get a cathartic to act. If the drug was administered in an opposite state to that just noticed, it would in all probability tend to render the operation of other remedies less efficacious : if in such instances scybala be present, we will do well not to administer opium at all, especially in small doses, as here it may act detrimentally from its astringent nature, thus rendering the original cause of the malady less easily removed.

In prescribing opium in any form, we must keep in mind the age, constitution, and habits of our patients, as well as the circumstances under which we have recourse to it. None would think in tropical climates of giving a small dose to a patient who had been in the daily habit of using the drug largely, or few would think of administering a small dose to any one who, while in health, had been in the daily habit of using other stimuli of a powerful kind. If the pain, or spasmodic affections, be severe, I repeat again, that at least sixty drops or upwards should be given, to a person in middle life, or as much as would be an equivalent to this of the solid opium. But we occasionally meet with patients to whom the exhibition of opium would be injurious, such idio-

syncrasies of constitutions are not easily accounted for. Such cases I have met with, in which they could not bear the drug, at all events by itself, one, in particular, is that of a gouty clergyman, who never could take this medicine without an aggravation of all the symptoms. Knowing this previous to prescribing, and seeing that many advantages were to be obtained from it, I thought, if given in combination with other anodynes that the unpleasant effects might be prevented, accordingly recourse was had to it in this way, and the result answered my most sanguine expectations. He slept tolerably well that evening, which he had not done for many nights previous, and this was continued for a few more times when the attack was removed. When on recovery he was informed that the draughts contained laudanum, he was very sceptical on the point, saying that it was really the first time for very many years he experienced any benefit from it. Next season was again attacked and again greatly relieved by these draughts. We are also to recollect that opium very often occasions severe nausea and headache, occasionally even vomiting. The headache is so usual an attendant, that perhaps, from this cause alone it is less frequently given, than might otherwise be the case, in such cases we must have recourse to other remedies, or to other forms of the opium, as the black drops, &c. The extract of *Lactuca virosa*, has been stated to be nearly as powerful as opium, and was at one time much employed in obstructed or other deranged states of the viscera. The tincture of *Hyoscyamus* may be occasionally substituted for that of laudanum, when this last disagrees. Five grains of the extract are equal to about one of opium. I have often prescribed this tincture, with laudanum, the aqua camphoræ and the liquor ammoniæ acetatis, with the happiest results. It may be observed, in respect of camphor

when given in any form in combination with other medicines, that it is perhaps the most powerful corrigent of other articles in the whole pharmacopeia, it is of itself a powerful anti-spasmodic, and very useful in watery diarrhæa assisted with the gum resins, recollecting when we administer it, we observe the same general, but not infallible rule, that it should not be given in inflammatory attacks until previous evacuations are produced, and that it sits easiest on the stomach in a liquid form, succeeding often in allaying pain and spasmodic affections where opium fails. It is somewhat surprising that we do not more frequently have recourse to large doses of nutmegs for conciliating sleep, since they have a decidedly narcotic power, without the baneful effects of the opium. It is believed that where they can be easily and cheaply procured, that they would be most advantageously employed against a variety of symptoms, in a multiplicity of diseases, in which we hesitate as to the administration of the powerful narcotic, the dose being from twenty grains, to half a drachm or more. We must likewise remember that the same dose of opium adapted for the stomach would be inadequate to act on the system through the medium of the rectum. There are other cases in which an immediate recourse to opium, besides those already noticed will be proper. If the dysentery be attended by fever, we then give perhaps an emetic, after the operation of this, a full dose of laudanum, particularly at night, for there is nothing like procuring a good night's rest at the very onset. Dover's powder may be advantageously given under these circumstances, the laudanum may in certain cases be preferred, as it acts more readily on the system, more so than the solid form, as this last dissolves slowly in the stomach, hence we have more of its stimulating properties in place of the direct sedative power which it so

frequently and speedily produces in its liquid state. From the above we may observe that, when we want the stimulating operation longer continued, the solid is the preferable. Another instance in which we may use this medicine at the very commencement is where the spasmodic affections are severe, without inflammatory symptoms, these not being easily overcome by the usual means, then I have little hesitation in administering a full dose, and in the liquid form. There is another advantage attending the exhibition of the remedy in this way, that where the stomach is very irritable, the liquid will get diffused over the coats of this organ, and thus part of it will always remain behind, and on the repetition of a second dose the wished for effect may ensue, had this been as pills they might have been constantly rejected. If the disease be very violent from the commencement, or be of long duration, our first endeavours should be to quell the most prominent symptoms, by its administration with calomel, or, as some practitioners choose, without this last, these points depend on matter of opinion, and other circumstances, that need not at present detain us. There is one point on which all must be agreed which is, if the disease be allowed to gain ground by the neglect of the patient, or by the continued and mal-administration of small doses of saline purges, it is very apt to become firmly fixed, so much so that all our remedies will be of but little avail if not speedily and energetically had recourse to, these remedies as well as astringents will fall to be considered in another part of the Essay.

In drawing a conclusion to the subject of opium there are still a few points to be noticed. We must regulate our doses either of the solid or fluid forms, in proportion to the urgency of the symptoms, for that which would be sufficient to overcome a squall in the body,

would be found of but little avail when this proceeded the length of a hurricane, so that what would perchance endanger life under certain circumstances, is absolutely requisite to save it in other states. It is also necessary to observe, that, when the system has become habituated to the use of the drug, we must be careful to increase the dose so as to keep up the effects intended; as also, that we must leave it off by degrees, and allow at all times as little as possible to interfere with its operation, for an *enema* or purgative may at once ruin what we have been for days or weeks labouring to accomplish. To sum up the whole, it is curious that many medical men, trust entirely to opium in the cure of dysentery, many there are, on the other hand, who regard the practice as decidedly bad, and seldom or ever give it in any form of the complaint, trusting entirely to calomel, with antimonial powder, or the first named alone. Dr. Fergusson says, it may “strike you as strange, that in almost every stage of the acute disease, I considered opium to be hurtful and even dangerous. The temporary ease which it afforded from the tormina of the bowels, was generally succeeded by worse symptoms; and besides the same degree of relief was much more effectually obtained by mild purgatives, which were otherwise productive of permanent benefit. Astringents of every kind during the acute state were even worse than opium.” We will find it a better practice, in many cases, to have efficient operation of calomel with occasional opiates. There are some who imagine, as will be seen from the above quotation in part, that in place of allaying irritability, it actually increases it. But this proceeds from an improper administration, no matter as regards the dose, such must in some instances depend on the habits of the patients. Others, again,

there are, who say that it allays the irritation of the intestines for the time being, which when its operation is over, returns with an increase of all the symptoms. Such then is the discrepancy of opinion which prevails on this important medicine, it will be found, by attending to what I have attempted to set forth in the foregoing remarks, that many of these unpleasant attendants may be avoided. Opium, when injurious, will generally be found to be so in the acute stage, and when it has been used before the exhibition of either bleeding, or a purgative, or both when requisite. I do really think with some others, that it tends to increase the mucus stools and tormina, particularly in the morning, when the dose has been given over night. In the chronic form of the disease, we give it as a palliative to many of the untoward symptoms, which are too frequently present. A watery solution of the powder of opium in boiling water will frequently operate without producing any nausea or vomiting, although this is sometimes the case, yet they are often more apt to produce nausea than the spirituous. Opium loses much of its powers by being exposed to the air, it ought therefore to be kept in well stoppered bottles, and we should always prefer that which has the strongest smell. Opium, and other narcotics render the bitters more active; when mixed with chalk it is an excellent remedy against diarrhæa, and in particular when there is acidity of the *primæ viæ*. When joined with aromatics, it lies easier on the stomach, Dr. Paris is a little in error, when he states that such combinations prove injurious. This drug runs to the skin, and it operates very quickly, in some cases so that it may often be smelted in course of a few minutes on the surface. Opium in large doses sometimes checks the secretions of the body, unless that of the skin; it suspends the action of the liver, consequently the secretions of the

bile, and at times renders the stools white. It is an excellent corrective to the gripes and pains, which is sometimes occasioned by the use of mercury. In cases of cholic where there is vomiting, a grain, or half a grain, of opium joined to the essential oils or aromatics will often relieve it, the cinnamon or peppermint oils are very useful for this purpose, the pills are to be rolled in them.

We sometimes will meet with cases of a most severe form, from the very first, where a constant purging and a consequent depression of the vital and animal powers soon run the patient out of existence, unless suitable means of relief be instantly had recourse to. In many of these cases we would be led to infer that some actual disorganization, if not ulceration of the intestines was coeval with, if in fact it did not precede the purging, shewing that in some places of the globe there may be a disposition to the attack before it breaks forth. This opinion is strengthened by inspecting the parts after life has become extinct, when we will find many gangrenous patches, in particular of the larger intestines, which could scarcely have been expected from the short duration of the disorder. In all such instances our primary and grand object should be, as already noticed, the subduction of *pain* within the abdomen by the most suitable measures. Bleeding, in many of these instances, as also the nitrous acid, will be found of far less utility than opium, which we must administer with no sparing hand, in one, two, or three grain doses, every one or two hours according to the intensity of the symptoms, for here we need not be afraid of its narcotic powers, so long as the severe irritation exists. It is something like calomel in this respect, that it does not shew itself in the system to any extent, until the force of the malady is broke. This practice is to be continued according to the benefits derived, and the doses repeated, in proportion to the dura-

tion of each, whether this be at the commencement, every one, two, or three hours, for the first twenty-four. Opium, however well adapted for the relief of pain, and irritation of the alimentary canal, we cannot give it our implicit confidence for effecting *permanent* good, and for this purpose it will be well joined to calomel or blue pill. The mercury in scruple doses not only proves anodyne, but restores the equilibrium of the parts, by relieving the nervous irritation, which, as a matter of course, produces a change in the nature of the secretions, thus the whole is disposed in time to return to a more healthy condition. There are few other remedies, if any, so well calculated for effecting these most important indications, it would be folly, therefore, to trust to astringents, or other medicines as a means of present or permanent good. Calomel therefore in scruple doses joined to one, two, or three grains of opium, for the first, second, third, or fourth doses—will be very properly administered before we look to other medicines as a means of cure. Such then would be the primary object in the treatment of the cases noticed, and I would be inclined to place but little reliance in venesection, this although useful, yet from a consideration of the nature of the cause of production, as also the general habits of these patients would be found of much less utility than the larger doses of opium, this too preferable to one grain repeated every hour for the first twenty-four. Our object being the subduction of pain and excitement, it is surely of no use to trifle with small doses of either medicine, even although such be frequently repeated, for the longer the pain continues the greater the exhaustion, with a consequent depression and injury to the bodily powers. In all severe maladies our minds, and medicines should be directed to the accomplishing the desirable result as quickly as possible, when we will have many more recoveries, than we

sometimes meet with in certain places, where they are scarcely sixty-five per cent.

In old people, or those whose constitutions are much reduced by habitual intoxication, and consequently but ill able to bear up under the effects of a severe purging for any length of time, we will require to give some gentle tonic medicine with opium during the whole time of treatment. Even in those cases we will do well not to refrain from the use of wine, good old Port is certainly the best, in fine, we must treat the attack as depending on debility, unless other circumstances prevent us. We will find it a matter of great difficulty to regulate the actions of those who have been guilty of habitual tippling, and there is no precise rule which can be laid down for our guidance in such instances, they must therefore be treated according to circumstances. In these cases very great advantage may be derived from opium, and this not only with the idea of allaying inordinate pain, but also the cravings after much food or drink, especially the latter, where if it allays the inordinate cravings after spirits it may be most advantageously substituted in part lieu of them, thus rendering less necessary. Thus by habituating the body to this sort of stimulus it is much easier in the end to gradually abstract it than the spirits, by this means therefore we may not unfrequently cure the patient of the disease, but also the great predeliction for spirituous potations. This is a most difficult point to be accomplished, for as Dr. Watt observes "there is a perpetual
" sinking. Nature wants the arterial stimulus of the
" blood, and calls loudly for a substitute. If we knew
" the cravings of those who contract habits of intoxica-
" tion, and who indulge in eating beyond what nature
" seems to require, we would perhaps be more disposed
" to sympathise than censure. To them a constant

“ supply of food or drink is almost as necessary as a
 “ supply of air. Cordials, tonics, rich and highly
 “ seasoned food are as indispensably necessary, to ren-
 “ der life even supportable. This pampering and drink-
 “ ing is continued from day to day and though miser-
 “ able in the extreme, they are envied as having all the
 “ good the world can bestow. If we look merely to
 “ present ease, stuffing and stimulants are absolutely
 “ necessary. If the patient wishes to have other enjoy-
 “ ments, besides the indulgence of an insatiable appetite
 “ the whole system must be restored. This, however,
 “ can only be done by abstinence and depletion.”

From the foregoing observations several important
 points may be collected as to the nature and cure of
 dysentery, and amongst other things that there
 are several forms of the disease, these requiring
 perhaps as many modifications of treatment. In a very
 bad and unhealthy season, when we have the disease
 raging as an endemic or epidemic, we will in most in-
 stances find that it is attended by fever, which may be
 the first indication of its being about to shew itself, this
 state may continue for a day or so, then the purging
 commences, just as happens in many instances of
 erysipelas, where we have a fever in attendance for a day
 or so, before the bursting forth of the malady. I have
 purposely avoided stating what the nature of the inflam-
 mation is which attacks the mucus lining of the bowels,
 most likely it is in some instances resembling that which
 occurs in erysipelas, and here I may be allowed a sort of
 comparison, that the dysentery of Europe, as generally
 met with, resembles the more mild forms of the disease
 named, but as it is met with in India and other tropical
 climates, it assumes more of the phlegmonoid variety,
 consequently more dangerous and difficult to manage.
 To return to dysentery with the attending fever, in cases

of this nature, we must recollect that the one is liable to act on the other, and both on the constitution, here then we must moderate both, and this with as little expense to the general system as the nature of the case requires. Here however we may find the cure somewhat tedious and difficult, as long as the atmospherical vicissitudes continue. It would be folly to imagine that in such cases, all we have to do, is the curing the dysenteric affection. The remedies, that are proper for the curing of the simple form of the dysentery, will assist materially in overcoming that of the fever. In general therefore the force of the latter should be broke by those remedies of known efficacy to its particular type, whether this be intermittent, typhus, or of a scorbutic nature, and then effectually attempt the cure of the other, which we will find yield comparatively easy when the main force of the others have been broken, if this does not occupy too great a space of time. If the purging be prematurely stopped, there might be an aggravation of symptoms in the fever. It would be worse than useless to attempt a more particular detail of the remedies proper for these diseases, or any other urgent symptom attending the particular case. The general principles laid down by others must be our guide. These things must be attended to whether the fever follow the dysentery, or *vice versa*. Our great object should be, as formerly stated, to moderate the most urgent symptom first, and then attack the rest *seriatim* at whatever period of the disease such might occur.

CHAP. VI.

CONCLUDING OBSERVATIONS ON THE ACUTE STAGE OF
DYSENTERY WITH REMARKS ON THE HOT BATH,
FOMENTATIONS, &c.

The use of mercury and astringents will be noticed when we come to treat of the chronic form of dysentery; many may object to this arrangement, however, it is thought more consistent to have each subject under distinct heads than in detached parts.

We have gone over those general remedies which are very frequently employed in the acute stage, in the prosecution of this we have seen what each is capable of accomplishing under certain states of the system, as well as their operation when in combination. It is imagined that the arrangement adopted, and the elucidation of these important points, will afford much more satisfaction than if a detail of cases had given, with a cursory view of several medicines in combination. There remains as yet, something to be said as regards the proper exhibition and management of those medicines calculated to excite diaphoresis. Now this ought to be a point of much moment if we bear in mind what was formerly advanced regarding the sympathy which exists between the intestinal tube and the surface, accordingly it is found to be attended with considerable advantage when properly had recourse to. In all dysenteric affections we will find it of much consequence to keep the skin at least moist during the progress of the early stage, some attention is necessary that the patient be only allowed what is proper for his comfort, and that he should not be loaded with bed clothes, as these would oppress too much, nor is he to be too closely shut up, as a free admission of air into the apartment is indispensably necessary to the comfort of every individual even

in good health. A proper attention to cleanliness is of the utmost consequence in every case of disease, and perhaps more so in this than in any other, care being taken to keep the room free of all offensive smells. To produce a moisture on the skin, or perspiration, we will find an excellent remedy in the Dover's powder, the finer the particles the more speedy its operation. Whenever opium is united with a diaphoretic, we can use it with more freedom, the injurious effects of the drug, when given by itself in large doses, is frequently counterbalanced by this preparation, its bad properties seem to be obviated by perspiration. From fifteen to twenty grains of the powder, in ordinary cases, will excite diaphoresis, and may be administered with more advantage during the day, since sleep seems to counteract the operation of this, as well as most other medicines. The best form for exhibition, it is stated, is that of bolus with conserve of roses, but as all patients cannot swallow these, then it may be given in any convenient formula. The sulphas potassæ in combination with *cicuta* is said to promote its efficacy greatly, this medicine however is rather nauseous. After administration no drink should be allowed for sometime, or until the skin feels moist, as otherwise vomiting might be produced, especially in irritable stomachs. When the perspiration begins to appear, we may give warm diluent drinks more freely, which will encourage the perspiration, and protract it to the extent required. The sweating being general, will be found of more advantage than in other cases where it is only partial. This is more difficult to be accomplished in the feet than elsewhere, in such cases we may use artificial heat of a moderate temperature. As the perspiration in some instances may be tardy in shewing itself, we may apply flannels so as to confine the heat of the body, on its breaking out they ought to be cautiously

removed so as to avoid cold. Indeed, before the commencement of the perspiration, the patient should be wrapt in flannel, and the sheets removed from the bed ; after it is over he should be rubbed with a dry cloth, and the bed and clothes changed. It is of the utmost importance in the treatment of dysentery, that a strict attention should be paid to dryness about the body, no damp articles should be allowed about the patients. The feet at all times should be well protected, this in particular on board-ship, where our patients are very much exposed to damp and wet, therefore they ought at all times when walking about to wear stockings and shoes. I have seen cases relapse on the least exposure to this cause, when the patients in coming out of their hammocks, their feet came in contact with the wet deck, when they came complaining could give no assignable cause, for they had committed no irregularity in diet and paid strict attention to all other rules, it was some time ere I suspected that such an apparently trivial cause could do so, but was soon convinced that such was the case in reality. I have suffered twice or thrice in consequence of such imprudence, when called from my hammock in the middle of the night to visit patients, whenever my feet got wet in the morning, I was sure to have a purging, such was the very irritable state of the bowels, and this renewal of the attack would remain for three or four days. This liability to the dysenteric affection occurred in consequence of a previous attack which had remained for many months, more and less severe at times, proper attention is required therefore to avoid this apparently trifling circumstance. Many, if not all practitioners, give Dover's powder with another intention than acting as a diaphoretic. It is particularly well calculated for removing irritability of the stomach, bowels, and general system, this, some give in

combination with blue pill or calomel or with some others. It answers very well by itself, and ought seldom to be omitted in any dysenteric attack, generally administered at bed time for several successive nights, and then if proper a gentle laxative. The subcarbonate of ammonia we will find useful in gastric affections joined to opium, when so it is an excellent remedy in long continued diarrhæa, this medicine is a stimulant and diaphoretic. The acetate of ammonia or spiritus mindere-ri is a convenient diaphoretic, it produces no previous stimulus, acids, fixed alkalies, magnesia, sulphates of zinc, copper and iron, &c. are incompatibles. This medicine is exceedingly well calculated for those cases complicated with fever, given often during the day. It may be stated as a general remark that all the saline diaphoretics made from acids and alkalies raise the pulse before they produce their diaphoretic effects. In the dysenteries of warm climates, we use mercury which generally keeps up a moist state of the skin, this especially when joined to Dover's powder at night. In cases where the pulse is good and skin rather hot we may give a pill of opium in combination with the pulvis antimoni-
alis, which will often produce an excellent diaphoretic effect.

The warm bath is a remedy of much utility, as it obviates the febrile symptoms, and consequently the heat of the skin, and is, when of a proper temperature, of excellent anodyne qualities in this disease. This remedy has been much used, in the acute stage, for which it seems much better adapted than for the chronic. In all cases, however, chiefly where the abdomen is hard, tense and painful, particularly when the gripes and tenesmus are severe, and according to some where the fever has been relieved by previous evacuations, will we derive much benefit from its use. Part of the beneficial effects which it

produces may be ascribed to the diaphoresis which takes place, this it seldom fails to do, as also taking off the constriction of the skin, thus soothing it and the intestinal canal mitigates the pain and tenesmus, if it fail in these effects, now is our time for the application of a blister, if this last excites strangury the most effectual remedy for the relief of this will be the *mistura camphoræ*, and Dr. Trotter says "its best assistant is æther in mustard whey." Care is to be taken that the bath be not too frequently repeated as it debilitates too powerfully. The patient may at times be greatly benefited by the use of a hip or slipper bath, or in sitting with a blanket about him, over the steam of hot water, this in particular when there is much irritation around the neck of the bladder or in the rectum, this, by decreasing the irritability of the parts, likewise lessens the tormina and tenesmus. Under these circumstances also, we can use a fold or two of hot flannel, which can be easily changed, this will give much relief, in some cases of hemorrhoids. We have seen then the proper use of the bath, as well as diaphoretics, with respect to them it may be proper, before leaving the subject, to observe, that heat externally applied when it does not prove too oppressive to the patient, or the nature of the disease, is a very powerful stimulus, and exerts its influence on the circulation, for it excites the action of the heart and blood-vessels as also the vessels of the skin. We use it externally for producing diaphoresis, we must have our patient in bed, or he can be covered with the bed clothes while sitting up, and then give a sufficient quantity of warm fluids. Diaphoretics subdue inflammatory attacks in the same manner as purgatives, by causing a considerable degree of perspiration, thereby a diminution of the arterial action, but that they do something else is evident, for we could by bleeding effect this more fully, their great benefit is

the removal of nervous irritation from the surface, which when effected tells forcibly on other irritated parts of the system. We very seldom commence with diaphoretics at the beginning of inflammatory attacks as the regimen for them is too stimulating. Evacuating diaphoretics if given accompanied with less of the sweating regimen, will produce a stimulating effect on the general system. In dysentery therefore after the bowels have been evacuated we may prescribe a diaphoretic, paying proper attention to the other items of the complaint.

Fomentations may be had recourse to in those cases in which we cannot use the warm bath, in consequence of the debilitated condition of the patient, or where its too frequent repetition would do harm. For this purpose various are the methods that can be had recourse to, and they may be repeated three or four times daily. The only objection to the application of bottles filled with hot water, or in tin flasks or bladders, is the weight which they may produce on the abdomen. Flannels wrung out of hot water, or according to others, out of a warm decoction of cammomile flowers and poppy heads, with the small addition of camphorated spirits, these being frequently used will relieve the pains and other inordinate spasmodic actions of the alimentary canal. I have a high opinion of a flannel swathe bound comfortably around the abdomen, as we occasionally use in cases of severe cholic affections, this can be heated with hot water or other means. It may be as well to notice that these flannel rollers should be had recourse to from the very commencement of the disease, and we will find them of great service when the vomiting is severe, or where the pain of abdomen with the tormina and tenesmus is great. In all cases of dysentery, and in fine all who visit tropical regions, should have such flannel rollers. The advantages derived from them is great, since

they not only give support to the viscera, but also guard greatly against exposure at night. Every ship of war should be furnished with flannel for this specific purpose, and the men should be obliged at all times to wear them, the belly bands should be of such a length as to encircle the belly twice or thrice. If we fail with fomentations, then blisters are to be used, especially in the chronic form of the complaint, at the same time we have recourse to enemias as formerly noticed, these prevent the bowels at all times in disease from suffering from the distention from flatus. Various liniments may be used for the amelioration of pain and irritation, for such purposes we will find the camphorated opiate one of much utility, more opium if requisite can be added. Others can be used, such as the aqua ammoniæ and oil, or turpentine, or a combination of various narcotic tinctures such as tincture of opium, tincture of hyosciamus or these joined to sulphuric æther spirit of camphor and the tincture of cantharides, with a quantity of the soap liniment. A combination of all of the last mentioned ingredients will form a very powerful liniment and of much service in rheumatic cases, or in most instances in which the pain is produced from nervous irritation frequently acting like a charm.

Such then may be considered to be the modes of procedure in the more early stages of the attack, and I have fully considered the benefits to be derived from blood-letting, ipecacuan, emetics, purgatives, opium, the warm bath, fomentations, blisters, &c. and it is imagined that nothing else is required in the treatment of the acute stage, unless that of calomel, and astringents which will be afterwards considered. After the disease has been cured it not unfrequently happens that the purging returns after two or three days, interval and without any apparent cause. On enquiry we may find

that the purging is owing to a constipated state of the bowels, and this from the period that our patient was free of the other. This should admonish us to be very careful that they should have an open state of the bowels at least every second day, a gentle dose of castor oil and opium, or the sulphas magnesia, we will find well calculated for effecting this indication. As to the diet in the acute stage, it may be only necessary to observe for the present, that it should be light, and of easy digestion, otherwise we would offend an irritable condition of the tube, and be very liable to reproduce or keep up the disease. All spirituous liquors should be avoided, unless in those instances in which the patient has been in the daily habit of using such, then we may select those stimulants which are known to agree best with the nature of the attack as port wine, &c. when it has been cured then a gradual return to a more firm and nutritious diet will be proper.

CHAP. VII.

CHRONIC DYSENTERY.

GENERAL OBSERVATIONS.

In few diseases has there been such a variety of opinion existing as in the treatment of the chronic form of dysentery ; before attempting this it ought to be our business to know minutely, what we have to contend against. Before entering on the subject, it may be stated in a general way, that when any man attacks another on a professional point, he should be sure that his premises are well drawn, and that he has attentively considered the points upon which a diversity of opinion is likely to hinge, this shall be my business, in so far as I am

enabled to do. Theory should give way in many instances to practice, we know that there are several medicines useful, although we cannot distinctly state their *modus operandi*, this proceeds in some measure from the conflicting variety of constitution, but such does not render them less important as remedies. We are aware that wine and other articles act as cordials, or stimulants according to the quantity, opium as a sedative, and that mercury, when administered to a sufficient extent, in most instances causes a salivation, in others we cannot touch the genus, yet we cannot tell the precise manner in which such effects are produced, but that all of them depend on some change of action induced in the parts and system, or both to me appears more than probable, and that they may be possessed of two powers one acting directly on the substance of the part, and the other on the nervous extremities. This however, is conjectural, our ignorance in these particulars does not, or ought not to prevent us from using them, in similar cases to those which experience has shewn them decidedly useful, for it is only in this manner that we can arrive at perfection, or say satisfactorily that such is useful and such detrimental. Why then, in the face of the above, should there be such opposition to the administration of several medicines in this, or that disease, experience dictating to the contrary. When we hear men declaiming against mercury, and others stating that cholera and dysentery are one and the same disease, the latter only aggravated by concomitant circumstances to produce the former, we are lost in amazement, and very apt to conclude that such men could not have attended to the whole facts and circumstances before them. That both disorders are endemic, and epidemic, we are pretty sure of, and that both depend, in some instances, on the same cause is highly probable, but that both should be the same disease, is as

much as saying that bilious, remittents, and intermittents of hot climates, are the same disorder, since they also happen to be frequently, if not invariably, produced by the same causes. Did any one ever witness in dysentery that rapid exhaustion, or fatal sinking, of the animal powers so marked in Indian cholera, I take the two diseases as they exist there, or did they ever witness those severe and excruciating cramps so very often met with in cholera, or did they ever see the vomiting so intense, or did they ever see dysentery prove so quickly fatal. I admit that we have often slight, and severe cases of purging during the presence of cholera, when so, we see that the same causes can produce varieties of disease, this is a good hint when we suspect the existence of this, without the presence of the other malignant malady, as to the proper plan of procedure, for we ought at all these periods to be perfectly aware of the injurious consequences of depressing the bodily powers, and that calomel with quinine and opium are the better remedies under such circumstances. Yet the above individuals may be the identical men who at one time attempted to throw a slur on those medical gentlemen practising in India, on the first appearance of cholera, for being so indolent, that they could obtain nothing definite as to the nature of the distemper. Now, in Europe, such gentlemen have had their turn of it, and it is believed that the information derived from the intertropical regions, is by far the best, and that they have attempted, as far as the others, to trace the disease to its original source. As to dysentery, it may be stated that we are pretty intimately acquainted with its *modus operandi* on the human constitution, although we are unable to cure all cases that come before us. Sydenham believed that there were many species of dysenteries, as there are varieties of small pox, and other epidemics proper to divers con-

stitutions, this is very probable, and these may in some things require a different method of cure.

Let us now consider what may be termed the chronic state of the disease, as also a few general remarks regarding the alteration of structure, and the condition of the body in consequence of such. It has been stated that a chronic disorder is that which has lasted for sixty days, as all acute distempers will be found to have yielded within this time. This is too long a period for the dysentery, for it not unfrequently becomes chronic in a less space of time, for a couple of weeks, or even less, may settle it firmly on the constitution, with an ulcerated state of the bowels, these last symptoms when well ascertained to be present, then I would say that dysentery is chronic, no matter whether this occupies eight days or eighty : it may be difficult with some to conceive a case of the acute sort lasting so long. I am disposed to coincide with Dr. Watt, when he says that “ when re-action is sufficiently strong to accomplish a cure or destroy the patient, the disease is acute ; when it comes short of that object, and the patient labours under the train of symptoms” (about to be) “ described the disease is chronic.—Chronic diseases may be divided into two kinds—1. where it is characterised by a tendency to re-action—2. where there is a tendency to sink. In the first instance the patient’s feelings are at times comfortable. He enjoys intervals of ease and hilarity. If he observe sufficient temperance, his life is supportable and may be protracted even to old age. He is injured by the local irregularity in temperature. His distress arises principally from headache, want of appetite, bile on the stomach, and a tendency to inflammation in some part of the body. Such patients have often a craving for stimulants ; but if indulged, the re-action excited makes them pay smartly for the of-

“fence. These either put the patient on their guard,
 “or they convert their complaint into acute diseases.
 “Some people when they find themselves out of order,
 “get drunk, the experiment is a dangerous one, but it
 “sometimes succeeds.” The following appearances according to Dr. Good, may be considered as fairly denoting the chronic state. When the stools are frequent, and fæces in appearance to natural are passed, attended by dejections of pure or grumous blood, with severe griping tormina and tenesmus. Relapses frequently end in this stage, and many have I seen arise from an error in diet, the food being too stimulating, or drink, or from exposure to wet, with a multiplicity of other causes. As the chronic form proves exceedingly troublesome to the patient, as well as often harassing in the last degree to the medical attendant, it becomes us to redouble our efforts to attempt to cure this while in the acute stage. There must be a vast diversity to be met with in different patients; since there is such an extent of surface liable to be attacked, it may be proper to enquire into some of these.

When there is a discharge of muco-purulent matter in the dejections, we might be apt to be lulled into a non-efficient mode of procedure, regarding this as the result of inflammation, and not produced by an erosion or loss of substance, for we know that such can be furnished in some instances without an actual loss or much alteration as regards the solid texture of the parts. But in all such cases there is great danger from whatever cause this proceeds, as there must be either a high state of inflammation in the parts or erosion, under such circumstances there is frequently great pain. This discharge only holds true in regard of other mucous membranes, for when met with as proceeding from the intestines, we will in general find that there is either erosion or ulcera-

tion of them, this then should put us more on our guard. When the dejections contain a sort of glary mucus, we know that the parts capable of furnishing this are the glands and mucous follicles, and that there is as yet no ulceration in existence. The glands of the intestines long resist the inflammatory action, and are in all probability only irritated to increased activity by being "lodged in an inflamed texture." The discharges when serous or watery the villous tunic will be found to be implicated, this may take place from a very slight cause, we are informed by this that the tube is but little excited, when so there is some fibrin also thrown out, in the same way as happens in those cases of stricture of the rectum or colon, these cause considerable irritation. The parts furnishing the yeasty discharge, or those more immediately resembling excrementitious matter, will be found to be the mucous glands and follicles, by remaining sometime in the intestines the finer particles are taken up, and it very likely undergoes some chemical action, this they may furnish in consequence of an inactive state of inflammation in themselves, or in consequence of the adjoining texture being more actively engaged in such a process. Such a state of these parts must therefore be bad and unless we can quickly remedy the evil the patient will soon sink. In some cases we find the bowels so excessively irritable as to part readily with whatever has been taken by the stomach, this may proceed from the muscular coat of the bowels now participating in the excited condition of the tube, which may be communicated by various causes, such as the ulceration penetrating thus far, this a dangerous period, and if not soon relieved may speedily produce death. When this occurs in other cases unconnected with ulceration, it shews that there is an attempt at the establishment of an active state of inflammation, particularly in those

cases in which there is native strength, for whatever "greatly deranges action may induce inflammation." In cases in which fibrin is met with, such shews a state of high excitement, of the villi, the glands and mucous follicles and more properly belongs to the acute than the chronic form of the disease, and is another example of a highly excited part with a mucous lining furnishing it, as takes place in croup. In other cases we meet with a sort of bloody discharges, I apprehend that this is not really true blood but a distinct production, in others again we have it of that chocolate appearance already noticed, such indicates not only great debility but danger, as such indicate either the actual existence of gangrene or a near approach to it, and owes its presence to an altered state of the blood oozing through the vessels.

I have mentioned that fæces appear to be discharged in the chronic form of the disease, these however are not regularly formed, although to all appearances they have the consistence of them, for they in general want the smell which is characteristic of regularly formed or secreted stools, some believe that in many cases these are acid, and of this I have very little doubt, as we often meet with the dejections sour in smell and of a frothy consistence like thick yeast. This acid is said to be azote combined with oxygen, when present in any quantity, and it has been said to be the cause of dysentery, such cases we frequently find difficult of treatment. Sir John Pringle positively declares, that an acid exists in the fæces, and he calls it the feculent. Dr. Trotter quotes Homberg, and says that he has not any doubt of its identity with that of nitre as it deflagrates on live coals and also constantly takes fire in the retort as often as distilled. Whether there be an acid actually present or not, in the particular case under treatment, we must be careful not to mistake this appearance for a loaded state of the bowels, more

particularly the smaller, since this might lead us to the adopting measures highly injurious, in our giving repeated doses of purgatives so as to clear them of the supposed onus : thus we would do more harm than we could well rectify for sometime. The disease in this state, and being in duration for a length of time, and the patient dying, we not unfrequently find on inspection the intestines, throughout their whole tract, all but empty, covered in many places with patches of ulceration, as also layers of mucous amongst the folds. The fact then seems to be that these discharges are partly a secretion from the altered condition of the parts, and partly the refuse of the food, as to the former, we must adopt some plan of treatment better calculated for the cure than small doses of purgatives, for this condition of the parts will not yield to any purgative unless it has an alterative property, it follows then that it must be attacked constitutionally, and that calomel is the proper remedy, will afterwards appear. I have mentioned a bloody discharge passed with the stools, many believe that this is pure blood, it is imagined that it is a sort of secretion from the intestines given out in somewhat a similar manner to what takes place in gleet. The intestines being possessed of a mucous covering can as easily produce this under certain circumstances as a discharge takes place from the nostrils or other parts in consequence of exposure to cold, or the application of gonorrhoeal matter to the urethra, or in short wherever mucous membranes are found. The discharges are modified in certain ways according to the parts attacked, or under certain circumstances of body, at first, when the disease is of an inflammatory type, there can be little doubt, but that when a reddened appearance occurs in the stools that this is blood. Such occurring in the chronic form, and to much extent, I question as to its

being purely blood. When blood appears we generally observe it of a more deep red appearance and easily distinguishable from the other. Besides, after a time, blood coagulates and this does not, in fine then there is no circumstances to prevent us concluding that such is poured out from the blood-vessels themselves, and it may be the more serous portions mixed with a reddish tinge something perhaps as occurs in other instances, as that of the menstrual discharge. When we take into account the variety of parts supplying or pouring secretions into the different portions of the intestines, these of different forms, we may easily account for the different forms met with in the dejections. Dr. Good says that chronic dysentery may be regarded as a gleet of the larger intestines, produced, as urethral gleet is, by a morbid relaxation of the mucous glands of the parts affected, and accompanied by that sort of irritation which is the usual cause of increased secretion of debilitated organs. In many cases, it has been seen that the chronic stage may be kept up for a long time, merely from habit, and in such cases Dr. Trotter says, that opium by overcoming this habit will enable the natural actions of the intestinal tube to recover their former propensities. It is imagined that there is some mistake in the above, for we will in general find that there is some cause, either local or general, for the continuance of such secretions, independent of that produced by habit and debility, for wherever there is action of this nature we must have a something inducing it, thus keeping up the irritation of the parts. As to pain being an indication of the existence of ulceration of the intestines, M. Andral states, "nothing is more common than an absence of every kind of pain in cases in which numerous ulcerated spots cover the inner surface either of the ileum or of the cæcum, or of the colon, while we frequently see

“ patients complaining of sharp abdominal pains, where
 “ the gastro enteritic mucous membrane is not inflamed.”
 Such then is the dilemma we are placed in, but independent of all this a discriminating practitioner will be soon able either to conquer the disorder, or detect the probable termination of the complaint.

If I am desired to state in what chronic inflammation consists the question cannot it is presumed be answered better than by the following. “ It consists chiefly in
 “ the existence of the simple inflamed texture or structure, without the activity of the action. There is turbulence of the vessels, particularly of the veins, and
 “ the part is altogether more vascular, as well as slightly
 “ swollen, from the continuance of those depositions
 “ which took place during the active stage. It does not
 “ act like a healthy part, neither does it act exactly like
 “ an inflamed. It bears perhaps the same relation to
 “ acute inflammation that the smothered but not extinguished fire does to the blazing pile. It is productive
 “ rather of teasing irritation than of actual pain, but as
 “ it interferes with the due performance of the functions
 “ of the part, whatever that may be, it must always be
 “ more or less injurious, and besides it is liable to sudden attacks of acute inflammation, and in one of those
 “ we may have the part more injured, and suppuration or
 “ obstinate ulceration produced.” Now the chronic state of dysentery with an inflammation of the bowels, is always liable from its long continuance to injure the parts greatly, and if of long duration must always be adding bad to worse, and will, unless checked gradually, undermine the powers of life. The subduction of the natural stimulus of the intestines helps to keep up this state now in existence, and as long as, the system has not power to aid the parts, or when this is too great, so long must they remain in this condition ; they seldom re-

main in *statu quo* for there must be either an amendment or the opposite. We may therefore see the necessity of being sparing of the vital fluid in many cases, and to abstract no more than is absolutely requisite for the subduction of symptoms in the acute stage, under the present state there is a long process to be gone through ere the parts or system can in any chronic case be brought to a healthy standard. In very many chronic states of disease, if we can palliate symptoms for a length of time, then the system is gradually gaining strength, so that it is in the end able to combat with the complaint. Here, however, the greatest care is required, for, by the least irregularity, back fall the parts into a worse state than before, and if there be an acute sort of attack superinduced then we have a further deposition of lymph, and an additional induration of the intestine. Let us now turn our attention to those remedies which are calculated to produce beneficial results in the removal of such states of the canal, or to prevent such from occurring. I shall first advert to the use of calomel, and now take under review what it is capable of effecting in any state of dysentery, and the circumstances under which we can safely employ it. Notwithstanding the disputes still in existence as to the utility of this remedy, as a general plan of procedure in Britain, it is to be hoped that in these pages it will be fully proved to be the *sine qua non* in intertropical ones. It is presumed that a prejudice has been existing, for a very long period, as to its inutility in European dysentery, and now it may be only necessary to state that the most strenuous brawlers, or anti-mercurialists, do not scruple to use it in other cases of high inflammation of mucous membranes, as in severe cases of croup and others, in which, if the inflammatory action was not speedily destroyed, one of two

things must ensue, either the death of the part or patient. There is no great difference existing in intertropical countries, in very many instances, between the progress of the inflammation in dysentery and that of croup, nay, both are inflammations of mucous membranes, and when highly disordered throw out fibrin. Even the French have little hesitation in employing calomel in large doses in at least one instance of inflamed bowel. Calomel, in our own country, is given to very young children labouring under croup, to the extent of five or six grains, every two or three hours, here then we have not any hesitation in using the remedy extensively, but it will be proper to take up the subject in a regular form.

CHAP. VIII.

SECTION I.

CALOMEL, WITH OTHER MERCURIALS.

In the first place it may be proper to notice what a late author, Dr. Abercrombie, has said in the speaking of calomel as a mode of treatment. He considers all those who use the remedy as empirics, or at all events the practice empirical ! much could be said on this point, but it will be better to leave the author, and others of his way of thinking to their own meditations, and at present allow the observation to be that of a fretted mind. Such men ought rather to give encouragement, when in their power, if they only attentively perused the different papers which have appeared, than attempt to throw a blunt javelin at those who have braved the effects of climate, by the most of whom, if not considered as a specific, yet it is indispensably necessary in the treatment. Without being dogmatical, it may be proper to call to mind, the expression *non-interesse quid morbum faciat, s ed quid tollat*. Can they explain the reason why peruvian bark will sometimes cure attacks of acute rheumatism, or at

times intermittent fevers, the action of the one remedy is just as much understood as that of the other. They may call the practice empirical, and so may they with all other medicines, the real *modus operandi* of which we are but little acquainted with. If they were to put lock and key on the pharmacopeia, and only serve out those medicines of known operation, how few would there be for disposal. This practice may be empirical, if they choose, and although we may be told *cognitio causæ morbum tollit*, yet we know that the bare knowledge of the cause, cannot assist us in very many instances, even in alleviating disease, such as consumption, hectic fevers, and many more complaints under certain states. We may with propriety come to the conclusion that he who sufficiently well understands the general rules of the profession, will not hesitate to make use of this, or that remedy, although he cannot theoretically explain its action, in particular, if it has met with the support of truly scientific men, in whom we can place confidence for veracity and true discernment. Woe be to him who proceeds to intertropical climes, with little or nothing else in his noddle for the treatment of dysentery, than gentle doses of salts and senna, the lancet and blisters. The tropical diseases, for which mercury is greatly, if not chiefly depended on for their amelioration, or cure, are dysenteries, fevers, liver complaints and almost all those cases in which there exists great excitement of the system and irritability of stomach. In many of these cases, provided nothing constitutional forbids the use of mercury, the quicker the patient is brought under the influence of the medicine, from internal administration, the better chance of a return to health. The French practitioners at the Islands of Bourbon and Mauritius, so much as I have seen or heard of them, have a great aversion to the use of calomel in dysentery, in fact do not

seem to comprehend its general utility, confining themselves to ptisans, the exhibition of gentle laxatives, with astringents, and have very frequently long and protracted cases, to say nothing of the other ills. I recollect the description given me by some eye witnesses of the condition of the French seamen and marines who were in 1830, landed at the former Island, after their attempts on Madagascar, this is well known as a noxious coast at certain seasons of the year. Dysentery and fever were rather abundant amongst these men after a few months service on this coast, the expedition was probably it a stand still, for some time, owing to this cause, and the dilatory practice pursued in the treatment kept it in all likelihood, still further in the back ground. Now had they used the scruple doses of calomel at the very onset of the disease, the native strength of many, and the lives of not a few, might have been preserved, more especially as they were lately from Europe, of this I speak from personal observation in these climes, and can from experience recommend it as the one affording the greatest chance of success. I am well aware that the reigning dogma of the schools, is not to give mercury in any case in which there is real acute inflammation present, or in any inflammatory disease as it gives to the blood the buffy coat, how can we say that such takes place from the mercury, and not from the fever, besides, there are other states of the body unattended by inflammation, or the non-exhibition of calomel in which such an occurrence exists. Even granting the premises, can any one positively declare that such an inflammatory action is present from the first, in any case of dysentery, I hope that it has been shewn that such is not the case, besides if so, we must subdue nervous excitement to prevent a further spread of the calamity, and that mercury is pre-eminently adapted for this, will be

satisfactorily explained. Are the slanderers of this practice aware of the fact that mercury never raises the pulse, until a large quantity be in the system. It surely from this might follow that the calomel could be most advantageously used in all cases of intertropical dysentery at least, and more particularly at the very onset, be it always recollected that each case of dysentery should be treated as actively as if it was a high fever, for by pursuing ineffectual measures, it but too frequently ends in organic lesion of the intestines. Again, what will the anti-mercurialists say as to those cases of yellow fever, or bilious remittents of hot climates, which may in many points of view be regarded as belonging to the class phlegmasiæ, from experience we know that the most successful plan of procedure is to make the mouth as speedily as possible sore, independent of the state of the pulse, and other febrile signs. Thus we prevent congestion from taking place, which would be sure to do so independent of our bleedings, purgings and sweatings, thus mercury, by equalising the nervous system, bestows in this manner its antidotal influence on the sanguiferous; besides do we not observe that calomel acts in scruple doses like a charm in allaying that severe vomiting which occurs in many of the fevers of warm climates. I may observe that if the pulse be very quick and full, we will not get the mercury to act so soon on the system, as when it is moderate. Nor will it do so when the pulse is very small and quick; suppose one hundred and twenty, this holds good in many cases of disease, and may be easily explained when we consider that the pulse when very quick shews an enfeebled state of the constitution, but to the prosecution of the subject.

Much has been advanced by various authors as to the proper doses of calomel, some there are who give it in large doses, two or three times daily, while others in sma

either, as often or more frequently. The last method is in many cases objectionable, for if we have one object to gain, this should be done as quickly as the nature of the case seems to demand, and there is no use in tampering with the remedy. In many cases therefore by large doses, we have a direct sedative effect produced, and this at once, for, as before noticed, I do not believe that it is possessed of any stimulating powers until a large quantity is in the system, and it begins to shew its constitutional properties, if it is in possession of any such properties, this is something like a full dose of opium soon over. It may have a local power in this way, but then this is the subduction of a high degree of stimulus, and only maintaining that near to the natural standard of the part, if we give a scruple dose to a healthy man no unusual sensation is produced. In giving the scruple doses, we will often have to express our admiration and satisfaction as to the charms of the drug in its relieving vomiting and irritability of the alimentary canal, and the whole system, which could not be effected by any other, or even a combination of remedies. Such benefits cannot be obtained by two or three grain doses, unless when very frequently repeated, and they remain on the stomach, whereas from the larger doses we have only a stool or two produced, and the smaller many, this takes place by the speedy subduction of the irritability of the intestines by the one method of procedure, which cannot be expected to be accomplished by the other. As to the question who was the first who gave large doses of the medicine, little benefit would result from the enquiry, suffice it to say, that Dr. Charles McLean was the person who first attempted to establish the principles of its administration, in something of such doses many years ago in India. Then we have Dr. James Johnson, who is certainly entitled to the

thanks of all who practice in hot climates. There were some long before these authors who were not afraid of administering it in large doses in several diseases. Sydenham says, when treating of French pox, that he gave at times in the cure of it scruple doses of calomel, which he repeated twice a week, and he adds, if the "salivation" abates before the symptoms disappear it must be "heightened by giving now and then a scruple of *mercurius dulcis*." It was now and then the practice in the seventeenth century to give large doses of calomel without either reason or rule, they gave it as a *dernier resort*, they knew it was not a poison; they had, however, no true or adequate idea of its different properties, according to the extent of the dose. Dr. Trotter mentions a medical gentleman in Dominique who gave very large doses of mercury to a patient labouring under yellow fever, who was attacked with the "black vomiting and every other appearance portending speedy dissolution," a drachm dose was exhibited and the patient soon got well, after an enormous discharge of almost black fæces. Much more could be added on this subject, but this would swell these pages to an unnecessary length, without adding to our practical knowledge. One grand blunder seems to have been committed, that such a practice was not generally adopted, much of this again is attributable to the misapplication of the remedy which brought it into great disrepute; perhaps as much as any thing else was the French Legislators taking up the question, on the use and abuse of mercury and setting heavy penalties on those who used and continued to give it to any extent. Mankind are not always to be blinded by such proceedings, but there will after a time be found a few, who boldly take the field against such prejudices and maintain its proper rights. Therefore, from a want of due discrimination, and because it will not cure

all forms of the disease, in *all climates*, and in every constitution, we have the remedy again losing ground. This may, in some measure, proceed from our teachers at Home not being sufficiently impressed with the intrinsic merits of the medicine as regards tropical diseases, such, never having practiced in tropical climates, cannot know its great utility, and judging from a few prejudiced individuals who give but an indifferent account of it, consequently this renders them callous, there consequently follows a great disregard in respect of the proper administration of this most useful medicine, and it is to be hoped that it will, when properly administered, again rear its cheering influence, and bestow on mankind those benefits which it is so well calculated to afford. Experiments have been made on criminals to shew the bad effects of the administration of large doses of calomel, but there are none in which it ever proved injurious, when proper measures were taken to see it fairly administered.

I am fully aware that a multitude of objections can be brought against the practice of employing large doses of mercury for the cure of certain disorders. But to what do all these amount to—nothing more than a mal-application of the remedy. I know that a man, or any class of men, when long exposed to its influence suffer greatly, and it proves deliterious by weakening the animal and vital powers, this is under extremely unfavourable circumstances, such as those cases of criminals, or artificers, who are compelled to work amongst it, in consequence of their crimes, or, on the other hand, for daily support. What other substances would not do so under these circumstances equally capable of acting as poisons, since we find all those who are employed in the smelting of lead, silver, &c. feel sooner or later the baneful effects of such work. I am well aware likewise that those

who have been for a length of time under the influence of the remedy as medicinally given, are exceedingly irritable, and that a very little noise disturbs them. When such injurious consequences are likely to ensue we surely can give up its use, and have recourse to other more appropriate remedies, such as a change of air, diet, and even wine in certain cases may be very proper. I am also aware that it will be said that the large doses in the constitution may produce, under certain states, violent inflammation, nay gangrene, also that palsy may sometimes take place, to prevent this, in some measure, the mercury should be well purified of the lead, which it contains not unfrequently. What, let me ask, does all this prove, why nothing more than the mal-administration, or that there are a few solitary cases in which some of the above occurrences may take place, this proceeding from an improper attention on the part of the prescriber, the patient, or both, thus, from erroneous data, is the medicine brought into disrepute. In contrast to the above might be produced the thousands and tens of thousands who are every year saved by this inestimable remedy. Such, however, are never taken into account, and perchance one unhappy case in a district may ruin, for a season, the just praises of the medicine. We may not unfrequently hear of one or two patients being every now and then cut off by another remedy, but such is only ascribed to the mal-application of it, and mercury receives no saving clause of this kind. In the former instances we push as boldly as ever the practice, but, as respects mercury, practitioners again have to gradually steal it into their practice, or a new set of medical men being introduced begin again the use of it. The solitary case is never forgot, men, women, and children have all heard of it, and as for taking calomel, why we might as soon advise as many

grains of arsenic. Why should mercury suffer so much and not the other remedies,—strong prejudice is against it, the gentlemen of the gentle laxative mode of procedure, take care not to suffer in their pockets on this account, and whatever pays them best they are sure to stick to, right or wrong, such a *soothing* mode is always sure to gain on the female part of the creation, there may be another reason for this, that as the medicine is so comeatable, every man and woman before sending for the Doctor think that they can either prescribe for themselves and families, the cases becoming worse the medical attendant is called, and he is not generally informed of what has before been given, then he begins the attack when after the exhibition of a dose or two, forth breaks a profuse salivation, then he is blamed, and the guilty parents improperly escape the odium which should be thrown on them, and not on the other. Much more could be said on the above, enough however is advanced to shew the misapplication of the medicine.

The proper administration of the remedy in question, depends on a multiplicity of circumstances, such as the nature of the disease, in some instances the nature of the constitution, and the circumstances under which we have to treat the case. Surely no man would give the same quantity to a person labouring under a severe attack, as he would do in another of a much less intense nature, for we may fairly conclude that if it requires so much to subdue such and such symptoms when very severe, that half or a fourth of that quantity should be sufficient for other cases of a more mild form, upon these principles do I intend to proceed, as regards the quantity per day, and it is believed that these premises will apply to *all* climates, in the mean time a passage may be introduced from Dr. McLean, bearing on the point in question.

“ Let us suppose a person wholly unacquainted with the
 “ laws of living bodies, applying powers to them ; how
 “ can he be expected to produce a given effect ? Over-
 “ looking the vast variety of degrees between the state
 “ of health, and the highest state of exhaustion, he
 “ would probably prescribe one grain of a solid medi-
 “ cine, when he should have prescribed twenty, or twen-
 “ ty when he should have prescribed but one ; he would
 “ give twenty drops of a fluid, when he should have giv-
 “ en two hundred, or two hundred when he should have
 “ given but twenty. He would repeat the medicine but
 “ once, or twice in the twenty-four hours, instead of every
 “ hour, or half an hour, according to the duration of its
 “ action. He would use the strongest power instead of
 “ weakest, and the weakest instead of the strongest. He
 “ would not make any distinction between the delicate fe-
 “ male, and the robust male frame ; between childhood
 “ and youth, and youth and old age, between recent and
 “ long standing diseases. He would not even know
 “ how to make allowances for inveterate habits. In such
 “ hands no success could be expected any more than
 “ from a mechanic, who should employ equal powers to
 “ raise unequal weights, he might sometimes indeed be
 “ right by chance.” Those who have properly attended
 to this subject will see the force of the above, as also
 that they will seldom fail in the removal or amelioration
 of certain diseases when they practically employ such
 powers as is in their list of remedies. If they be unsuc-
 cessful it is not in all probability their fault, but that of
 the complaint over which we may have no controul, for
 there may exist some extensive organic lesion over
 which no medicine can have any effect. Such in some
 measure happens to be the state of affairs in Cholera of
 the more malignant type, in many cases of which, from
 the very commencement of the attack, the nervous sys-

tem is so much oppressed that no power or stimulus can rouse it to a proper condition. We ought also to recollect the opinion of Dr. Hunter, when speaking of the use of mercury in syphilis, he says that mercury can cure the disease, but not the disposition to it for the removal of the action from the parts attacked is different from that of the disposition. It is one thing therefore we see again to remove the cause of a complaint and another to combat the effects produced, or likely to be so on the system or part of it. Here is a disease over which mercury was all but deemed a specific, and is trusted to by many of the present day, and I think justly for the eradication of the malady, yet we know that there are a few anomalous cases every now and then occurring in which it cannot drive the venereal disposition out from the body, but this does not deter us from the administration of it in other cases, neither should it in dysentery.

An important feature, to be attended to in the cure of dysentery with calomel in hot climates, is that the disorder very seldom recurs, this in particular if the body be pretty stout and the weather dry, such at least is my experience as regards the sea. If however on a fresh exposure some months after, there is no reason why they should not be as subject to other attacks as the rest of the men. During three years experience on the Cape of Good Hope station, a great proportion of which was spent between the tropics, and now nearly as much in the East Indies, of the many cases of the disease thus treated, I believe only two or three had relapses of a truly dysenteric character. Our seamen being chiefly in the prime of life, with good constitutions, and the prompt recourse to remedial measures may in part account for the happy result, but it is apprehended not entirely. Even granting this, it follows that the practice is ap-

plicable to ships under the same circumstances of climate. The disease, on the other hand, when treated with small doses of salts frequently repeated, or the gently laxative mode, or the sudorific, will not unfrequently be found to return, presenting relapses on the least exposure to cold or damp or wet, this too at the interval of weeks. It is reasonable to suppose that this would be the case, as when the neutral salts are almost solely employed for the cure, the bowels are for a considerable time after liable to be affected by such changes of temperature, so that they readily act when any thing like an exciting cause is present. The cure of such being effected on their very first application, by the administration of a few scruple doses of calomel, so as to save as much of the patient's strength as possible. When now combated in this manner, it was less liable to return, whether this proceeded from mere care to dress and a better regulation of their conduct, cannot be sworn to although the result is as above given.

In thus entering on the subject of calomel, it may not be improper in a great measure to pass over for the present the greatly disputed point as to its real *modus operandi*, this will be attempted towards the close of the article, and I will only at present attempt to do it that justice which it seems entitled to claim. Dr. Burns says “ when the means for arresting acute inflammation have been fully used, and so far perhaps “ successfully, but the part is in a hesitating state, the “ new organization still remaining and prove on the “ slightest cause to a renewal of the acute inflammatory “ action. It may be instantly asked whether any medicine capable of altering the action could be employed, as for example mercury—prudently administered it completes the cure of inflammation of mucous “ membranes, which sometimes neither bleeding or

“blistering could do. That we watch the effect, and if
 “we find it to produce injurious excitement of the sys-
 “tem, or of the organ, it must instantly be abandoned,
 “and in no case is it to be pushed to a debilitating ex-
 “tent.” I may as we proceed, state so much of its ac-
 tions as will enable us to draw just conclusions as to
 its fitness in this disease. Many are well aware that
 mercury has been used as calomel, only with the in-
 tention of evacuating the contents of the alimentary ca-
 nal, now, how does it accomplish this. I have stated
 that it seems possessed of a local power, and that it is
 in consequence of this that the above takes place, and
 that by reducing the peristaltic action when too great, or
 bringing this to a proper state when too little the result
 takes place. It follows then that its operation must be
 on one of two powers, that of the nervous system or
 muscular coat of the intestines, I suspect that it acts in
 the manner stated as to the reduction or increase of ac-
 tion on the nerves of the part primarily, and without, in
 many instances, influencing the general system. We
 know that it has been used for the purpose of acting on
 the liver, and evacuating the super-abundant bile or for
 calling forth this secretion when deficient, or for the
 restoration of any other secretion, which has been arrest-
 ed by disease, or for correcting these when vitiated. Now
 such effects may be produced in one of two ways, prima-
 rily on the parts themselves, or secondarily through the
 medium of the constitution, in each of these cases
 it is imagined that this takes place by some
 power communicated to the nerves of the parts, and
 if we push the remedy too far then we have an irritable
 state induced, from the organs or system becoming in a
 manner saturated with the medicine, and in this manner
 enabled constantly to stimulate its own nerves, or its
 substance, as well as other parts in the sphere of its ac-

tion, hence we may have disease produced by a metastatic action in various states of the body and in its several compartments. So that we see the danger of saturating the body with the mineral. That, however, it restores the various secretions to their natural healthy standard, there can be no doubt, and for these purposes would I advise its administration from the very onset of the attack, as it is the only medicine capable of fulfilling so many useful purposes. For effecting these ends various have been the modes adopted as regards the quantity, or how often it should be repeated, or again whether it ought to be given in combination or not. Whenever such a diversity of opinion prevails we may rest satisfied that its proper administration is not yet satisfactorily understood, and that clear rules have not hitherto been laid down, such may with more propriety be illustrated by practical inferences than any theoretical controversy.

One cause of the failure of mercury, or calomel, in many cases of this disease, depends on the inadequate doses administered, without paying proper attention to the severity of the attack, and the intervals of time these should be repeated. When the disease is severe, and a very small dose, that of a grain to four is given, we cannot expect the wished-for result, as well might we give to a very hungry man, one to four spoonfuls of food, and expect this to satiate his appetite, in the generality of either cases no such thing could be expected to ensue, for the stomach having tasted of that which is capable of affording relief, craves for more, this excites a new condition, or at all events does not subdue the old, and before any permanent good can be expected, it must have adequate doses; else an increase of the distemper. In small doses we will also find calomel to fail, for here the powers of the body are weak, and much below the

healthy standard, consequently incapable of taking up much of the medicine, so in like manner will we find this to be the case in those instances in which they are greatly above par. Thus we see that debility however induced, or from the improper employment of purgatives, an irritable state of the canal thereby produced, small quantities of the medicine are improper, since little of it can be taken up. There are few if any who can distinctly say, what are the real powers of mercury, that these are manifold seems highly probable, this is more particularly the case, since the diversity of the human constitution is such, not only as regards its healthy state, but also that of disease, as perhaps to baffle all our enquiries at least for the present, and this difficulty is increased, in some measure, by the difference of climate, as also the difference of seasons. Viewing it in a great measure as acting on and through the medium of the nerves, we may gain much to aid us in the treatment of many diseases. Various therefore as have been the conjectures with regard to the operation of mercury on the body, there can be but little doubt, that when given in large doses in active dysentery, it has a decidedly sedative effect, this is a fact which may remain undisputed, scruple doses therefore are the more likely quantities to produce this effect, and as before remarked it may act just in a similar manner to the difference between large and small doses of opium, but attended in its after consequences with quite different results. Some may be inclined to view its operation as something analogous to that of astringents when given in scruple doses, for it stops the purging, tranquillizes the nervous system, thus relieves the gripes and tenesmus, in this manner the exciting causes of the disorder are for the time being lulled into a state of inactivity. Thus the irritability, being in a great measure overcome,

the secreting vessels are soothed, then there is not so much of the fluids poured out, thus the disease is checked but in a somewhat different manner to the operation of astringents, these last act by giving tone to the vessels, as well as constringing their patent mouths. Now astringents do not cure this irritability, but only put a stop for the time being to the further pouring forth of the secretions so abundantly. Astringents are improper in the acute stage for this very action causes the secretions to accumulate in the vessels of the intestines, thus from the stimulus of bulk are they again called forth into activity, hence a renewal of the irritation and an increase of the disorder, now under more unfavourable circumstances than before, as by repeated attacks the parts are weakened, and apt to take on the inflammation debilis, with a consequent tendency to depositions in the inflamed texture, hence are with difficulty cured. We should seldom or ever have recourse to such remedies in the acute form of the complaint : this, however, is not the case in the chronic stage, as here the parts and vessels require tone, which is thus afforded by the very remedies so improper in the first stage. Calomel has no such tendency as we have just stated, it corrects the secretions, proves a sedative to the intestinal canal, and general system, removes thus the tormina and tenesmus, soothes the secreting vessels themselves, thus there are many sources of the malady at once removed by the operation of one medicine alone, the fluids are now gently carried along the tube and collecting in the rectum, are expelled with less pain, and thus our case is in a fair way of doing well, if we do not interfere unnecessarily or give up the use of this inestimable remedy too soon.

At the very onset of the attack, and after a mild purgative has been premised, or not, as may be thought prudent, we endeavour to soothe the irritation of the system,

as well as that of the secreting vessels by the exhibition of calomel alone. Opium, as we have seen, is less effectual than the calomel for this purpose, since the latter has more extensive influence on every portion of the system, its powers being equally permanent, and more can be expected to take place, for it not only allays inordinate action, but at the same time rectifies the tendency, that there is to a renewal of the disorder. The opium only in a great degree lulls to rest the irritation of the *sensorium commune*, thus its influence is in a great measure extended to the nervous power of the parts, and thus its operation is more secondary than primary, and it does not act on the secreting vessels unless in the manner of an astringent, which, as just shewn, is very detrimental, particularly on the first accession of the malady; as we have seen the calomel extends its influence over all these places, and its benign powers are felt throughout the entire frame. As to the combination of calomel and opium, this much at present may be stated, that as opium acts more immediately on the encephalon and nerves, it will be most usefully administered in such cases where there is much fever, this attended with high excitement, venesection having been in the first instance premised, if thought advisable, and as the calomel will have a more decided influence on the secreting vessels, besides correcting the probable bad effects of the former, as also being in possession of a sedative power of itself, the combination will on these accounts be most useful. But where the intestines are chiefly implicated, and the general system but little disturbed, then the calomel alone is certainly the preferable remedy. To have the due advantages of their conjoint operation, we will require to watch attentively the extent of this, and when they begin to fail, then the dose must be repeated, so that the

parts may not a second time be allowed to take on an increase of action, the proportion of each depends on the extent of the excitement to be overcome. We will not unfrequently have to notice the calomel alone, put a period to the dysenteric attack after a couple of scruple doses have been administered, often have I witnessed the disease overcome by four of such doses, then a gentle purgative completed the cure. Let us not be too bold with purgatives immediately after the purging ceases, but we ought to wait patiently the interval of from twenty-four to forty-eight hours ere we have recourse to any such, when if our castor oil be not good or disliked, we will find a good substitute in the combination of rhubarb with ginger and a blue pill.

Has calomel an anti-septic power? Few may be inclined to doubt, but that in some instances of this disease it has an analogous action, since after two or three days continuance we see it change the nature and smell of the most offensive and putrid dejections, when we may then sometimes mark them of nearly their natural appearance. It may therefore be said that it has something of anti-septic powers over living parts pouring forth such nauseous productions. We cannot, in the majority of instances, expect such changes to be so speedily produced, for when the disease has been long harassing the patient, such a benefit is not generally obtained until the mercury shews itself for sometime in the constitution. We may naturally enough expect that many of these cases will be near speedy dissolution, and that nothing can change the action of the parts, if any medicine will do so, such as calomel in pretty large doses in combination with opium, for here we have another state of the system to deal with, and now we want the very properties which were objectionable before, here they are almost imperatively demanded with the

aid of astringents. Calomel is the grand remedy, providing there is nothing of a constitutional nature forbidding its administration and the patient not previously subjected to a course of the mineral.

As to blood-letting and calomel much has been said, and, it is thought, much to little purpose. It has been stated, and generally admitted, that venesection was a sedative and mercury a stimulant, and that the employing these remedies in the same case was blowing as it were hot and cold with the same breath, or that we had recourse to phlebotomy with an idea of its powers, and then calomel to counteract its effects. General experience in the treatment of fevers, dysenteries, and other states of high excitement in tropical climates, gives a decided negative to the above reasoning, for we do find that nothing of the kind ever takes place in any constitution, that is not already saturated with the medicine, or in which there is not some innate antipathy as to its reception. We need not be astonished at this when we consider that, in high states of excitement, it is but too frequently found that we cannot get the body under the influence of mercury. Calomel in large or scruple doses, has a decided sedative effect where there is great irritability of the system, and in many instances more powerfully so, than opium. I have already stated what every one will find as a general if not invariable result in any severe disease, and it may be added in any fair state of the system, that mercury never raises the pulse, until it begins to shew its constitutional powers, then it may stimulate. Some may say, that given to the extent of from four to six scruple doses, during the first forty hours it will soon shew its constitutional operation, and hence stimulate, now there would follow a renewal of all the more severe symptoms, and under a worse condition than before. We will find that no such

thing will take place for we have two points to bear in mind, the one is, that mercury is with difficulty got to act in a constitutional manner, in these cases of high excitement, and these may be the only ones proper for its exhibition in this manner, the other is, even granting that such was so, is not the force of the malady broke, at all events it should have been so, if we bled to a sufficient extent and attended to the other items, now the effects of the mercury are expended on the restoration of all the secretions, and in this manner much is carried out of the body, and hence all its constitutional disturbance is only imaginary, for such we see is actually proper and requisite. Is this not what we find to be the general operation of the medicine? That when attended with bad properties, such proceeds from mal-administration or more likely from some actual trespass of the patient himself, it is thought these points are more fully explained in the Essay on Cholera. But that calomel in large and small doses may have some local action as a stimulant, seems highly probable, I have ventured the opinion, that such is of this nature, it affords that degree of healthy stimulus, necessary to the proper performance of the actions of the parts in reducing that which is above par, or in bringing into a proper condition that which is too low, and that it maintains these powers for a certain time according to the dose, the duration of the disease, and the quantity in the system. Calomel in large doses is not proper in all cases of the disease, particularly those of long standing, here we do not, or ought not to wish a speedy operation of the medicine, but aim at that which is gradatim produced. We have seen then that mercury may act as a local gentle stimulant to the secreting vessels, which open upon the internal surface of the intestines, and thus solicit from them the offending particles, which they may contain, and which may in

debilitated patients or state of the parts, be the only thing keeping up the irritation, consequently the purging. In many of such cases then, the mere unloading the vessels by removing the irritating cause, will certainly put the parts into that condition fit to return to health, provided no depositions or other changes of texture have taken place. We may be again told that this can be done by other remedies more aptly fitted for this purpose than calomel, and that purgatives or venesection will do the same. To this it may be answered that blood-letting, although it removes a stimulus from the general system, and also in a great measure from the organs themselves, yet the subduction of this, does not cure the tendency to the disease, for the parts are still in possession of the original cause, although mitigated, yet it is again capable of re-producing the former symptoms when re-action takes place. Hence the subduction from the general bulk of the circulation only lessens a part of the action, but cannot remove entirely the cause: purgatives have something of a similar operation, and as before stated will leave the vessels as full as they were before. The calomel, however, being more of a general remedy, as well as from its beneficial local action, is much more properly adapted to the cases in question. To pass over for the present its producing ptyalism, and the other various modes of operation, let us confine our attention to its actions as more immediately connected with dysenteric affections, and we may have reason now to conclude that its beneficial properties, when properly administered, in severe cases of the disease, depend chiefly on its sedative powers, such must be in pretty large doses, which we will also find of great benefit in many other severe complaints; and that it has also an alterative action at the same time extended to the various secretions which are poured into the bowels, whether these be from the stomach,

liver, pancreas, or the numerous ones throughout the whole tract of the intestinal tube. By its soothing influence, it also has a marked effect in relieving the fever when severe, by its soothing operation on the nervous power. Thus by changing the condition of the vessels, and the other parts involved, the remedy is well calculated to inspire us with confidence, if there is any such to be placed in any one medicine, it must surely be calomel, especially in hot climates. We will find that the change in the action of the several parts takes place sooner or later, according to the idiosyncrasy of constitution, as well as the duration of the disease. Hence it follows that when the exciting cause or causes are removed, the result of its operation is soon shewn, the burning heat while at stool, as also the tormina and tenesmus become less severe, or entirely cease, and thus the attack is brought to a final termination.

There are a few who attempt the calomel plan of treatment, but do not prosecute it to the extent necessary, and at the commencement give a few small doses, or one or two large ones, but they leave off long ere the cure is complete or the system under its influence. Such are some of those whom we may hear of as having tried the calomel and failed! this mode of procedure is productive of little good, and may in the end be productive of much harm. Since by taking away in the first instance that which tended to soothe the parts, they in a manner become angry orasperated at such treatment, of course there not unfrequently takes place, as might be expected, an increase of the symptoms. I have already pointed at the general principle which should guide us in the administration, it ought to be given in such doses, and at such intervals, as the urgency of the case requires, in general not exceeding scruple doses for the more severe

forms of the disease repeated at proper intervals of from four to six hours, of course for minor degrees of the malady, smaller doses will be required, always bearing in mind that when the dose is not sufficient to lull the tormina and tenesmus after being repeated three or four times, we are sure that it is either given in too small quantities, or that there is some irritating cause within the bowels to be removed, which when accomplished, we will in general find that it effects a cure, provided there be no organic lesion. In some Ships that conveyed convicts to Van-Diemens land in 1829 or 1830, I forget which, the cases of bowel complaints were numerous, thirty to forty in one instance on the sick list at once; and although the Surgeon of this ship had been, for sometime previous to this charge, between the tropics, and had treated a great many dysenteries with calomel, yet in this instance he pursued a somewhat different mode, than his former experience warranted. He thought that they were merely bowel complaints arising from change of climate and diet caused by checked perspiration. At first under this impression he had recourse to the febrifuge treatment, but in a great proportion of cases failed at a radical cure. Immediately on this he had recourse to calomel when he now succeeded in curing all, and it was truly astonishing how quickly these yielded.

Many are in the habit, not only in the acute, but also in the chronic form of dysentery, of giving small doses of calomel in combination with other remedies. I may take the acute form at first under consideration, and have only to say that such a mode of procedure is in general bad practice, unless under the circumstance of fever, when as we have seen it may be advantageously combined with opium, this however not in small quantities, for where we have a desirable object to obtain, and if it takes a cer-

tain proportion of the medicine to produce a given result, the sooner this is thrown into the system the better. Under these circumstances therefore, I would always prefer at least from ten grains to twenty repeated two or three times at the very onset, in this manner we will find the disease soon benefited, nay it may yield at once, and in general without having recourse to any other medicine unless perhaps a dose of Dover's powder at night, and a little castor oil in the morning. Bleeding at the very onset I consider in general injurious, unless when symptoms are present imperatively demanding the use of the lancet. I have witnessed the scruple doses cure the most robust men attacked with the complaint, in which there was very severe griping with tenesmus, and frequent calls to stool, in fine who had every symptom of the disease, yet venesection was not had recourse to. Two of the cases alluded to occurred from the drinking largely of cold water, when the body was drenched with perspiration. They were part of a boats' crew who had been pulling at a boat race while we were lying at Port Louis, Mauritius, they came first to the winning place, got on shore in the above state, and indulged freely in drinking the cold water from the tempting water spout at the landing place, such being suddenly thrown upon the system soon produced a violent purging to all appearances resembling dysentery. One of these men soon recovered by the administration of only a couple of scruple doses of calomel, one scruple being given at the interval of every four hours, with a full anodyne draught at night, had a good night's rest and was well in the morning. The other case was more protracted, and assumed the truly characteristic appearances, but got well without any other medicine than calomel, and a gentle purgative towards the close. No bleeding or purging being thought of in either of these cases, as they were

stout and robust many medical men would have bled largely at the very onset, and might have pursued the ordinary routine of the anti-phlogistic treatment. Here, however, it was dispensed with, and the good qualities of the medicine soon overcame all the bad effects of the disease. Many cases I have met with occurring after bathing, this being had recourse to when the body was covered with perspiration, and presenting the regular dysenteric characters, all of these cases were cured in the same manner by the exhibition of calomel, without regard to the constitution of the patients, I mean in so far as regards venesection, no other medicine was required, unless perhaps Dover's powder at night, and towards the close of the disorder, a gentle aperient, either of rhubarb and ginger, or castor oil. There were other cases proceeding from the same cause at the same time, who did not present the characteristic symptoms of the disorder, but were more properly diarrhæa, strange as it may appear, these attacks were not so readily vanquished as those of a more determined aspect, such might in some measure be attributable to the calomel plan not being so rigidly pursued as in the others. In very many instances, it was very satisfactory to notice the antidotal effects of a single scruple dose of the medicine when given by itself. The tormina and tenesmus disappearing as if by a charm, and the patients seldom failed to express their satisfaction for such seasonable relief.

Some practitioners prefer laying the calomel on the tongue and desire their patients to rub it between this and the roof of the mouth for sometime previous to swallowing it, and imagine that in this manner it is more quick and efficacious in its operation, besides the system comes speedily under the influence of the remedy; some on the other hand say that a local action is more likely to take place about the mouth and fæces. As to the be-

nefits derivable from the proceeding, I am of opinion that much benefit is at times derived from this mode of administration. In all cases of the acute form of the disease, for internal administration I prefer the powder to pills, for it is imagined the former comes more quickly into operation, for in this manner it must come in contact with a greater surface of the intestines than the pills can possibly do, besides the latter are more slow in their operation, since they must require some time ere they are dissolved in the stomach, on this account they ought always to be newly prepared, for the more speedily the medicine is diffused over the surface of the stomach and intestines, the sooner may we expect its anodyne qualities exhibited. In the form of powder it will be more apt to pass the pyloric orifice than the pills, since they may under circumstances be detained there for a very considerable time, ere they can pass and if the canal be exceedingly irritable they may pass through unchanged, this they are more likely to do when very old ; besides, as formerly supposed, if there is any advantage to be gained from its local action, in the form of powder by its immediate presence it is there for this purpose. Some think that it is judiciously combined with opium, so as to be retained longer in the superior portion of the alimentary canal. It is believed that no advantage can result from proceeding under such an opinion, and especially when the disease is not seated in the smaller viscera. As above stated, I prefer the powder for internal exhibition, so that we have it diffused more effectually and speedily over the intestines, so that it comes in contact with more of the tube than the duodenum or stomach, and thus reaches portions it is as capable of benefiting as the upper portions of the bowels, besides we have it taken into the system from many points at the same period. After the irritability of the stomach has been

allayed many commence the treatment with a gentle purge, such as the sulphas magnesiae, this in inflammatory attacks may be preferable for many reasons, one is that it often sits well on irritable stomachs when few other medicines will, after its operation then they begin the calomel and judiciously continue its administration until the disease be either cured, or until the mercury shews itself in the system, when so, they may think it proper to give another mild purgative, so as to prevent the constipation that might otherwise arise, this is a mode of practice attended with much success. One advantage derived from the administration of the laxative, after the exhibition of the calomel is thought no longer necessary, is that it will carry out of the bowels any of the particles which may be lying in the canal, thus preventing a further absorption, and consequently an increase of the ptyalism if such be present. It also carries off irritating substances which by their presence might be apt to induce a renewal of the attack, which might even take place from the stimulus of bulk alone. Some are more inclined to allow the patient to remain a day or so after the cessation of the administration of the calomel, ere they venture on any laxative, however mild, this also is a very proper plan of proceeding, much, however, depends on the nature of the attack, for if the intestines have been very irritable during the latter period we must under these circumstances be very cautious as to the early use of laxatives. Were we, as unprejudiced men, to reason on the efficacy of any remedy in the cure of any acute and active distemper, we should certainly give the preference to that which cures with certainty and despatch, *cito et jucunde*, than to select those of a more tardy nature, particularly when it has been proved to be so by intelligent, and discriminating persons of the medical profession. But alas! how many there are of

opposite opinions, these they maintain either in honour of their masters, or as the opinions they imbibed while at their studies. From either quarter we may allow much discrimination, but then, this practice is not applicable to the treatment of intertropical diseases, nor is it to the generality of mankind even in Britain, as their favourite ideas and prescriptions more immediately hinge on the better classes of society. I have, however, to observe of calomel under any circumstances, when administered in a proper and judicious manner, as regards quantity and purity, that it will be found to be the most powerful of all other remedies, and the one best adapted for this complaint. We have seen many instances in which a few doses of the medicine have completely put an end to the severer forms of the disease, which in many instances no other remedies could accomplish, and this in particular when the system does not strongly sympathize with the disease.

To return to the point regarding the combination of other remedies with calomel. My experience is rather on the negative side of the question, as many other medicines when in combination with it, seem to impair its activity, as for example opium, which as is supposed deadens too much the animal powers, or stimulates too forcibly according to the quantity given. In either case it may appear an injudicious practice, for in those instances in which the dose is large, the calomel will be less quickly taken into the system, or in the other where the quantity of each is small, or where the sedative effect is soon over, the medicines are too quickly carried out of the body, or is apt to be thrown off by the skin or urine. Thus the effects of both remedies are improperly expended on organs that they were not intended to reach. If we could get any other remedy than opium which yet might act much in the same manner, and without pro-

ducing headaches and a tendency to the increase of the heat of the body such would be exceedingly useful. Dr. Trotter was in the habit of administering pills composed of three grains of calomel with four of assafœtida, every four hours, till they had freely opened the bowels, this plan he tells us was attended with great benefit, by expelling the flatus and relieving the tenesmus, not only had they this good effect, but frequently brought away a number of round hard lumps, the expulsion of which gave instant relief, and he thought it a great step towards the cure. I think that to revert to the combination of assafœtida with a calomel would be attended with the happiest effects, particularly in those cases in which we do not wish to administer opium, from its properties of inducing headache, &c. this could be employed in all forms of the disease, at least in all the acute stages. How far would a combination of calomel with extract of hyosciamus, or extract of conium, answer for fulfilling several useful indications in the treatment. The powder of assafœtida with calomel we will find extremely serviceable in all spasmodic affections of the alimentary canal. Many anti-spasmodics may often be combined with calomel, and with much advantage. At night it will be proper, in very many cases, to administer anodyne draughts, and these will be more properly composed of a number of the anti-spasmodics, such as the tincture of opium, hyosciamus, sulphuric æther, mistura camphoræ or in its place the liquor ammoniæ acetat. If on the other hand a powder be preferred, then from fifteen to twenty grains of Dover's powder, and five to ten of blue pill, will be found admirably adapted for this purpose, and will seldom disagree with the patient. I do not like opium in combination with calomel, unless when the latter gripes, and where there is much nervous irritation of the general system. In such instances, as the first named, we

must not join too much of the opium to the other, else we may induce a diminished action in the powers of the absorbent system, in this manner prevent the speedy operation of the calomel, besides we may bring the part into a state of debility, by reducing for the time being below par its nervous power, in this manner the other vessels which depend on a due maintenance of their powers, will be thrown into a reduced state; under these circumstances, the combination with assafœtida will be highly useful. It is a good practice if the patient comes to us over-night and there be no necessity for blood-letting, to commence the treatment with a grain and a half of opium, three or four of the powder of antimony, and six to ten of calomel, by this means we allay the irritation in the bowels, and prepare them for the exhibition of a gentle opening medicine in the morning. If the malady does not appear to yield on the very first, after the operation of the above remedies, then we cannot too soon have recourse to calomel, according to the severity of the disease, and continue this until the disease yields, or until we think there is as much as we can with safety give. If the griping, independent of this, should now and then return, we may suspect that there is some hardened fæces or other irritating cause, which will be well removed by a mild purgative, and at night follow this up with a dose of fifteen grains of Dover's powder. Then next morning we may again commence the calomel, if the system does not already shew signs of being fully under the influence of the medicine, when we should cautiously reduce the doses. It has not escaped the observation of some, that calomel will not salivate so readily when combined with opium as it will do when freely administered by itself, those cases that have been treated with calomel and opium, are by far the worse to manage, especially when salivation takes

place, this I give from personal observation. There yet remains something to be said as to the combination of calomel with the sulphate of quinine, this, especially for intertropical dysentery, and indeed for every case of the disease wherever met with, as seeming to depend on an endemic or epidemic cause. By referring to the article sulphas magnesia, something will be found on this point, I may only add here that where blood-letting does not seem necessary, or where it has been employed, we will gain much advantage from a proportionate dose of calomel, with three to five of quinine, four or five times a day. Those who object to this most appropriate plan of procedure, on account of inflammation of the intestinal canal, cannot know the true nature of the generality of such diseases. What will they say to the exhibition in other states of parts debilitated perhaps by the continuance of the disease, or will they admit such to be useful in liver affections, after the more acute symptoms have been overcome. We know well that the cause continuing in operation will not yield until some power of sufficient stability be used capable of overcoming the disposition in the system, so neither can we expect it to yield in this form of attack until the aggravating cause be vanquished, more will be said on this subject when we come towards the conclusion of the Essay.

If the dysentery has been treated fully with calomel, or other mercurial preparations and is long in yielding, we may then suspect that there is ulceration of the bowels, and that the disease is chronic, when the patient may suffer much and for a length of time. If he recovers, this will only be after great care, and prudence, on his part, as to the regular regime, relapses being not unfrequent, however we have other remedies in our power and we ought not to despair. My reasons for the early re-

course to calomel will appear more plainly from what follows. I like to save the patient's strength as much as possible, which is only to be accomplished by a speedy termination of the disease. This is certainly a point of great importance to all, but it is so in a higher degree to those the defenders of our rights, and particularly to seafaring men, where the services of all are so much wanted in cases of emergency, otherwise many an important point would be lost, by a great number of our men on the sick list with dysenteric attacks. We must also recollect that this disease, in its advanced stages, in warm climates, is extremely unmanageable, and that by tampering with the patients in the acute form, not a few valuable lives are lost, whereas, had the disease been properly treated at the very first, we would have had fewer chronic cases, in which, in too many instances, we can do but little good, particularly when ulceration, or other organic lesions of the intestines commence, sloughing sometimes not unfrequently follows rather suddenly even in the primary stage, in particular when we fail with blood-letting and purgatives, and keep up the daily gentle laxative mode. It may be asked what plan of procedure have the antiphlogistic practitioners, now, for these stages of the disease, as above given. It is believed that any they may bring forward, which has not mercury for its basis, will not only be detrimental, but in general very few recoveries. For now the powers of the body are weak, and but little able to bear up under any plan more particularly that of gentle laxatives, well might such patients exclaim, for pity's sake some cordials give, for we alas too weak for purging grow. It may now be very properly asked why such practitioners have delayed the use of calomel so long, and now have recourse to it in the chronic state. Calomel should be given as soon as the force of the febrile symptoms has been broken, or mitigated,

by blood-letting, then we commence the calomel and opium, when after a time we leave the opium out of the prescription. There is nothing of any consequence which they can advance against this practice, and in particular, in those cases of the disease occurring in those who have lately arrived in tropical countries, as to the other instances they will soon be brought into notice, in many instances of the chronic form it unfortunately happens that we can do no more than gain a gentle palliation of symptoms, and thus let them slide quietly out of the world. Under all circumstances, when it is deemed proper that the calomel plan of procedure should be adopted, the sooner such is commenced the better. There is no use of preparing the system for its reception by the former absurd methods of low diet, bleeding, purging and the like. It is much better to use it as Sydenham says "when the body is strong and brisk, and so abler to resist the enemy," than when it is weakened by bleeding and low diet; those therefore who do not adopt the mercurial plan as proposed, early, will certainly lose many patients. I have already pointed out the cases in which it is proper to have recourse to blood-letting, and this as soon as symptoms imperatively demand the use of the lancet. In such violent cases we give a scruple of calomel every three, four, or six hours, according to circumstances, and we will rarely find the distemper resist the third or fourth dose, having now broke the force of the disease, we can then have recourse to less of the mercury, thus gradually reducing the scale according to the intensity of the distemper. Here we use bleeding and calomel both as sedatives, and, not as has been supposed by many as stimulants, mercury has no such constitutional powers until the general system feels the force of the mineral.

There are, however, cases which we will meet with

that do not come before us until the ulceration of the intestines has actually commenced, it has already been stated, that in many of such cases, little can be done. If, however, these patients have not been under the influence of the calomel or blue pill, or not salivated, the sooner we have recourse to the remedy the better, provided there be no idiosyncrasy of constitution to prevent us, or any other disease which would be aggravated thereby. I have met with cases of long standing, where patients were not properly treated, or but sparingly so, with calomel, reduced to a mere shadow, they would regain, after a time, their presence of mind, and some bodily strength by the immediate and continued exhibition of the mercury. On the giving full doses of calomel the tormina and tenesmus would speedily vanish as if by enchantment, now slowly and progressively regain their vigour. I have as yet not met with a single case in which every one of the more urgent of these symptoms did not speedily disappear, particularly when the patients had not been lately subjected to a course of mercury, and but few in which they did not experience great benefit by a recurrence to it, even after it had been left off for sometime. Cases I have seen who were incapable of moving, the discharges passing involuntarily, tormented and harassed to the last degree with severe tormina and tenesmus, much benefited by full doses. The latter symptoms would vanish at once by a few doses, as also the ominous and dreadful sinking of mind would partially disappear, in these instances we must recollect that the system is already moribund and thereby so much exhausted, that few cures can be expected, it is our duty, however, to alleviate as much as we can, for there is no saying whether the hour of this particular patient's existence be at hand or not. I recollect in particular a case of this nature, in which the disease had got so much

hold of the system, that when the irritating causes were removed, the powers of life were at such a low ebb that no re-action could take place. The case may be given in as concise a manner as possible. Early in 1830, while at the Mauritius, I was requested to visit a seaman who had been ill for a long time. About a month previous to this, he had been in hospital for the cure of dysentery, but from error in diet and drink had soon after coming out of hospital a relapse. At the time I saw him, was passing the dejections and urine involuntarily, and of that fatal dark chocolate appearance, was incapable of moving from the place he lay on, the debility being so great, the tormina and tenesmus severe, countenance anxious and hippocratic. I immediately gave him a scruple of calomel, and no other medicine, in less than a couple of hours the tormina and tenesmus had abated considerably; at this time I gave him another scruple dose, which when it had sufficient time to pass on to the intestines, the griping, &c. almost instantly ceased. At night had a good anodyne draught, and during the night was ordered another scruple dose, but from some cause or other this was omitted to be given. When I saw him in the morning, the griping had again returned owing in all probability to the omission of the calomel, the symptoms were less severe, and he now had another scruple which soon after gave him great relief, the thankfulness of this poor patient was great. The fæces, or rather the nasty foetid secretions, were still passed involuntarily, he had however "dosed a little" as he expressed it, in the early part of the night to which he had been an utter stranger for sometime past. Soon after this, he was sent to the hospital, but the poor fellow as might be expected was not long there ere *ê vita decessit*.

In the above case we observe the most distressing symptoms conquered so far as regards the intensity of

the pains, but the disease had laid such deep root on the system that nothing could have saved the patient, since the animal and vital powers were reduced beyond all reaction. Such will we find to be the case in many instances of disease, where when the force of the disease is broke, the *vis medicatrix naturæ* is totally unable to renovate, or even lend a helping hand, consequently the patients must sink. May not the speedy dissolution or sudden sinking of patients who have been long, and tediously harassed with dysentery or any other inveterate malady, and who have been quickly relieved by large doses of calomel or any other powerful anti-spasmodic, be properly accounted for, by supposing that the disease is now the stimulus through which the powers of life are kept going. But on the abstraction of this stimulus in such debilitated constitutions, the shock of diminution which the body thereby sustains is too great for it, thus it falls below par, and is ever after incapable of being roused. Life might in some instances therefore be perhaps preserved for a very short period longer, by not depriving the body of this sort of irritation. But I have said it could only be for a short time as they would have inevitably died from the disease running its regular course; thus then the inference may be drawn that this irritable state of the system serves to keep the living powers in play, which being removed, the curtain is dropped. Many are the cases which could be quoted from personal observation of the most severe tormina and tenesmus being effectually and quickly overcome by the exhibition of calomel, such yielding as soon, if not sooner than in other instances, in which opium had been given for similar purposes, and with this additional advantage, that these symptoms did not return half so readily as when the latter was used, the opium in such cases is only a temporary remedy, the calomel of an universal

action. A question of some moment presents itself for consideration, regarding cases of the above description. Would not some stimulus be of much importance in conjunction with the calomel? It is thought that if any of sufficient power and permanency of action could be obtained, that we would derive much benefit from it. Here then it may be possible in some instances to induce a stimulant action, and as these tormina and tenesmus depend greatly on debility of the canal, this would be of use, such action may be produced by the administration of port wine, the best that can be employed in such cases for various reasons, not only from its astringent qualities, but also from its permanent tonic power, and by five to ten grain doses of calomel, we might save some lives. It is impossible to say how much of the wine should be administered, since this must depend greatly on the effects produced. Here the discrimination of the medical attendant, will have full scope for the proper exhibition of stimulants, for it will require all his attention to keep the action up, after it has once been set agoing, and he will not unfrequently find it a very difficult matter to manage the constitution of such who are afflicted with the causes under consideration. But he ought to remember difficult as the business is and that as long as there is life, so long is there hope, he should not therefore give way to the disease and allow it to overcome him. He should at all times be careful in such cases to begin this plan of treatment the moment these patients come before him, and if they are his own cases from the first, then he would in some degree be blameable if they are allowed to slip out of existence without trying out the effects of this practice, this too as early as circumstances will permit, it is useless to remind him that the longer such a state continues the greater the danger.

I now come to state more minutely the general mode

of procedure in the chronic stage, particularly as regards the proper administration of calomel, blue pill, or any other form of mercury. It is useless to observe that great diversity of opinion prevails on this point, this is not to be wondered at, for when we consider the vast variety of circumstances, under which we have to treat patients, we will easily see that it cannot be otherwise. We have many points to reflect on, amongst the more important of these may be noticed, the nature of the constitution, the diet, the manner of life, the difference which exists between the temperate, and the intemperate livers, the nature of the present attack, the length of time under which he has been afflicted, the difference of climate, &c. such circumstances must always prevent us from laying down any precise laws for the guidance of every or any one. In such instances the abilities of the discriminating practitioner will have scope for these practical inferences, and he who has made it his particular business to study the human constitution, as it is apt to exist under the diversity of climate, must always be the most successful. What can we expect from the administration of calomel, what are the doses proper to be given, and how long ought we to persevere, are very apt questions, these I shall attempt to answer in a general manner, without regard to any particular case, for the present then, other means of alleviation are to be out of view. Do we not find every discriminating practitioner return to its exhibition in some form or other in the chronic stage, this in particular if they have not formerly used it, since they know well that it cannot be dispensed with. Now they require it for those alterative powers, which from experience they know it possessed of, and which cannot be so effectually obtained from any remedy, or any other combination of medicine, in fine, they cannot, in the majority of instances, effect a cure by

any other means. In chronic cases they have no hesitation to push it to the point of salivation, but as before remarked under the most unfavourable circumstances, as now we cannot expect the patient to receive that speedy alleviation, which would in all probability have happened at a more early period, when his body was more susceptible of its actions, and gives us a helping hand in "resisting the enemy." Dr. Ballingall observes "if in the treatment of the acute form of flux, I have refrained from an indiscriminate and as I conceive an unmerited commendation of this powerful medicine, it is only in hopes of being able to urge its employment with double force in the form of disease now under consideration, to recommend an implicit reliance on it in the chronic form of flux, to ascribe to it an almost unlimited power in this disease, and to express an opinion that it will seldom disappoint our most sanguine hopes, a partiality for the use of mercury is as conspicuous in India as the aversion to blood-letting formerly noticed, that partiality is however better founded." Now his liberal views regarding its administration in the chronic form may have led many into the belief that it was of but little utility in the acute stage, and they might think they were warranted in such a conclusion from the words "unmerited commendation" he makes use of; it may however be stated in a plain manner that the use of calomel in the chronic stage in every instance will not confirm us in the "sanguine hopes" which the above passage holds out to our view, but that it is the best remedy we can employ in the majority of instance, I have no doubt. If the Doctor had tried the calomel in the acute stage, according to the principles laid down in these pages, it is believed that he would have penned a passage similar to the above, regarding the great advantages to be derived in all stages of dysentery. As a

point in some degree bearing on the treatment of chronic cases, I may be allowed to instance, those abrasions and other accidents of the legs in hot climates, which if proper measures be not adopted speedily run into foul ulcers, these extensive and deep, often unmanageable, and without the use of mercury, the patient might be in great danger of losing the member. In former days such severe measures were obliged to be had recourse to, as amputation in order to save life, in many instances of simple abrasion, received by some of our men while on wooding and watering excursions. Such simple accidents, in the end requiring amputation, may appear surprising to some even of the present time, but we know where proper measures are not used in an irritable constitution and in a hot climate, such occurrences might be met with even now. These points are well known to Naval medical men, and they know well that it is not the paraphernalia of dressings which will cure such, at the same time I know that much very much may be done by these measures; but it is by a seasonable recourse to mercury so as to overcome the irritability of the constitution, and at the same time change the morbid condition of the vessels of the parts, that we look to for permanent good. The mercury, as it shews its constitutional effects, produces a change in the action of the secreting vessels supplying the nasty ichorous discharge, or according to some, causes an absorption of the matter, which the ulcer produces, both I am inclined to think are correct, in whatever manner this takes place, it is important to us as a fact. When the system shews itself under the influence of the remedy, now is the time for strict attention to the dressings, the condition of the sore is changed, and a healing process begins, which if not improperly interfered with, will go on until the cure is complete. From the known sympathy that exists between the skin

and the bowels, as also the great similarity in the condition of the diseased vessels in both parts it is but reasonable to expect that the same sort of action will take place in the treatment of chronic dysentery, even when attended by ulceration of some portions of the intestines.

Various are the forms in which mercury is introduced into the body at this stage, by different practitioners. Some prefer the blue pill alone, or in combination with ipecacuan or Dover's powder, other small doses of calomel, or this with opium, or each of these in combination with a great variety of other medicines, as the extract of gentian, and many other tonics, according to the particular indication to be fulfilled, others again prefer the ointment by friction, there are those also who give the mercury with chalk. As to this last it is a very mild preparation of the mineral, and one well adapted for the treatment of many cases, for the chalk will act as an astringent, and ant-acid, in some degree, when such indications require to be fulfilled, it will be very beneficially employed, bearing in mind the quantity of the mercury in the preparation so that we neither give too much nor too little. It may be observed that the blue pill mass when good, and being bruised on white paper the globules of mercury will appear, if they do not the medicine is not good, care however must be taken not to mistake the globules of sugar for those of the mineral. For those who cannot swallow these pills, by bruising the substance, we may make an emulsion with sugar. We must recollect the incompatibles with mercury, such are, the carbonate of soda, lime water, &c. &c. calomel is decomposed by soap, copper, iron, tin, &c. So that to have the full advantage of these different remedies we must be careful not to administer any thing which may be apt to interfere with its operation. It is useless to observe that it matters but little, in what manner mercury is in-

introduced into the system, the general rule being according to the urgency of the symptoms. It is also to be recollected that we should not aim at the production of a severe ptyalism, as this would add much to the annoyance of the patient, also to the debility. We ought to give it so, that its operation may come gradually and perseveringly into effect, and that we may have its benefits in a sort of given time, the doses at first may be a little more liberal with the view of checking the mal-actions in the intestines, then a little less, this depends greatly on the nature and urgency of the symptoms, also whether our patient was shortly before this salivated. Thus we will in the majority of instances break the force of all the more urgent symptoms in those "new comers" into tropical regions, on the other hand in those of long residence in these climates, the disease is not so easily managed, for in them we must administer with caution, much however depends on contingent circumstances. We must also recollect that where there is previously in the system a good proportion of mercury we must now be cautious as to the exhibition of more, and have recourse to ipecacuan or nitric acid, at the same time not refraining from the use of the calomel or blue pill, if we think that there is not enough, avoiding the point of saturation, as this would certainly add to the irritability of our patients, especially in warm climates, we should in no ordinary case of the constitution refuse to touch the gums. When an over quantity of the mineral is in the body it is very apt to produce the very action it was so well calculated for removing in the first instance, now it re-acts on the various organs more susceptible of its operation particularly on the slightest change of diet or temperature. There is an observation worthy of notice, which will be found to hold pretty correct in so far as the chronic form of the disease is concerned, it is that

we never can in general depend on a complete cure unless we touch the gums, which shews the system fully under the influence of the remedy, and in general we are not safe until this be accomplished. Not that I believe any good is to be derived from the mere circumstance of a ptyalism, although some do, and are not satisfied until such is present. This, although generally true, is not invariably correct, as a good practitioner would not give any more mercury after he was convinced that the disease was cured, even although the gums were not touched. Cases I mentioned that were cured by three or four scruple doses, and yet no salivation, nor did the medicine manifest itself any otherwise in the system than by curing the disorder, as a matter of course its further administration would have been useless, there is one circumstance alone which has deterred most from the exhibition of full doses of calomel in high states of excitement of the body, they conclude that if it does such and such things in a healthy constitution, or in cases of moderate intensity, it will just as likely do so in any other condition of the system. This mode of reasoning is delusive in a high degree, for we know from experience that no such thing will take place, and I refer such men to the place where the difference of pulse was noticed as to the exhibition and operation of calomel, do such men not give increased doses of other medicines in such states now noticed, why then should they refrain from the exhibition of this mineral in the same way. Oh, they say, it will lurk in the system, and now be apt to produce its bad qualities, general experience does not shew such to be the case, nor is this to be wondered at, for before a sufficiency of re-action occurs the mercury is in a great measure carried out of the body by the various emunctories, and chiefly with the dejections. To those who are easily salivated with per-

haps a few grains of the blue pill, then we must use, as the best substitute for mercury, nitric acid or ipecacuan, with the extract of gentian. Even in those cases where salivation has been produced by a good quantity of the medicine, and it is thought unsafe to push it further, we then begin to diminish the doses so as to prevent an increase of the ptyalism, yet if the disease does not appear to yield much, we will find great benefit from the administration of the ipecacuan, keeping in mind the operation of the commixture, as formerly stated, and proportioning our doses according to the state of the system and urgency of the disease, by which we will relieve the tenesmus, griping and purging, thus cure the disease. The proper exhibition of any form of mercury, in the chronic state, should be more gradual, for we cannot at once change the condition of the intestines, we cannot at once for example by a speedy salivation remove ulceration, or depositions which may have occurred in consequence of inflammation, nor can we speedily change the nature of the secretions, such things are to be accomplished in a slow and progressive manner, by small doses repeated at certain intervals. Such then are the general views for our guidance in the chronic stage, taking at the same time care that our patient have that sort of diet which seems to agree best with him, so that his strength may be saved as effectually as possible.

But there are cases, in both forms of the attack, and these too numerous in which it will be proper to keep up a gentle affection of the gums, particularly where the disease seems to be yielding progressively, and we are not likely to obtain the same ends by a change of medicine, this however may be effected by the proper attention to the administration of mercury, where we know that we cannot all at once leave it off for fear of a severe

ptyalism, being produced from a gentle affection, which would surely result from the sudden abstraction of the mineral under these circumstances, then we will not perchance require to continue with the same doses, but the gradual abstraction of the mineral will accomplish the same purposes, and will be more likely to do so when joined to any of the other substitutes. We will also occasionally meet with patients in whom the medicine does not shew itself even after large doses have been continued for some time, or even when combined with mercurial friction, such cases are not unfrequently combined with severe disease of the liver. We must at all times be on our guard, in any case of the above description, that a sudden breaking forth of the mercurial action does not occur from its accumulation in the system, and thus may bring on some other powerful complaint, we do not want therefore to produce salivation for mere salivation's sake. We ought to recollect that mercury, like digitalis, is apt to accumulate and break forth all at once, thus commit considerable disorder, for this reason have I recommended a purgative every fourth day and we will now see the propriety of this in every case of the above description. Those who talk about salivation being produced in excess by the administration of either large or small doses of calomel, chatter about a phantom which is but seldom witnessed in dysenteric cases, where the proper exhibition of the medicine is judiciously attended to. Amongst the very many dysenteric cases which I have witnessed, I have never yet seen ptyalism excited to such an extent as not to yield speedily to proper treatment, nor were there ever any bad effects resulting therefrom, the patients treated with calomel were generally observed to become stout and robust after its use. I have certainly met with two cases of very severe ptyalism, these were however not cases of dysentery, and

occurred out of the tropics. One of them was at Portsmouth in 1831, the tongue and palate of the little sufferer was severely injured. The upper lip as well as the right and left cheeks, as far as the os malæ on each side to near the tegomatic processes, as also much of the under portion of the nose were all in one mass of gangrene, the under lip was also involved in the disease. The child died in a few days after this occurrence, I have no doubt but the mother in the first instance gave it some "white powders," then becoming worse, a medical gentleman was called, who attempted to clear out the bowels with calomel and rhubarb, who unfortunately being unable to be in constant attendance, another and another was called, and each pursuing the calomel mode of procedure, the young patient about twelve years of age had got so much mercury that at once it burst forth and committed the depredations above described, this from some unforeseen circumstance or peculiarity of constitution. In this case I was informed by the father of the little sufferer that none of the medical gentlemen could solve the difficulty as to why the mortification should take place in these parts, which was attempted to be accounted for in the following manner. I suggested, that in all probability, the ravages as described were owing to the calomel in the first instance of seizing upon the mouth, caused a severe irritation of the gums, this followed by inflammation and then mortification. This was rendered still more probable, when it is stated that the child had a number of rotten teeth, and the gums were tender before the exhibition of the calomel. The other was an instance of a child in Scotland who had a little calomel, this produced such a severe ptyalism as to destroy part of the palate and some of the tongue and I believe a little of the cheek, as to the latter circumstance I do not recollect at this distance of time. These cases

are not given with the view of shewing the frequency of such occurrences, but merely to prove how very seldom now-a-days such things take place. They are adduced on purpose to convince the sceptics, that I am perfectly aware of the pernicious effects of mercury on the human constitution. We ought to be careful that the salivation is not carried beyond proper bounds, and as soon as the gums become sore or tender we must be cautious and guided according to existing circumstances. A discriminating practitioner can in general so regulate the doses as to avoid a profuse ptyalism, and by keeping the gums only slightly touched in the more irritable constitutions, the disease will soon begin to yield, if that be not too long for the continuance of the mercury. I have seen the gums and inside of the mouth somewhat sore from a salivation, but it must in candour be confessed that in no case of this disease have I ever witnessed any bad effects produced in consequence of this, and it may be asked what signifies a sore mouth for a few days, when in all probability we have put a termination to a most inveterate complaint, which by its continuance must have greatly harassed the patient for months, nay in some instances for nearly a couple of years, which will now in the end in all probability destroy him, a sore mouth is certainly of much less importance than to endanger the lives of our patients. Besides there is at least one advantage to be derived from a salivation, particularly in those cases in which our patients are apt to indulge too much in solid food, by thus preventing such, from taking too much of an indiscriminate diet.

Cases of ptyalism arising from the action of mercury, are generally got rid of in from ten to fourteen days, that is when proper measures are taken, and not as is too frequently the case neglect them with only giving a little sulphuric acid and water, as a wash for the mouth ;

I have to the best of my recollection seen few cases last longer. Great benefit is often obtained from gargles of the infusion of oak or peruvian barks, acidulated with sulphuric acid and the like. The best gargle that I can recommend for this purpose, and in particular if the mouth be very sore is ten to twelve drops of the liquor extract. acetat. plumbi, with three ounces of rose water, the mouth washed with this three or four times daily, this seldom fails in affording much relief, nay in some cases acts like a charm. If there are small sores about the mouth then the same quantity of the liquor, to an ounce of the rose water, will be found a most useful application. A soft pencil brush dipped into this, and the sores touched or washed will have an astonishing effect in relieving the pain and uneasiness of the parts, this may be done three or four times daily. There is one inconvenience attending this practice to gentlemen, that when used above five or six times it makes the teeth black, where they adhere to the gums, such proceeds from the oxyde of the metal uniting with some particles of the putrid discharge, this however in all cases soon wears off: the same sort of appearances, we may sometimes meet with on old sores, or in the dressings of amputations, where a blackness is produced from the sticking plaster, as this also contains lead. This form of gargle I have seldom seen fail, and often put an end to the pain of the mouth in a few seconds after its application, and cause the salivation to diminish as if by a charm, this in particular when the constitution does not seem to sympathise with it. I do not here allude to the ptyalism produced by the mercury, for sometimes we will find that there is a something bad in the habit of body, which when it exists generally adds much to the general irritation and now tells forcibly on the mouth, yet even in these instances we will alleviate much with

this gargle. I have frequently seen much advantage derived by the patient putting a small bit of alum into his mouth often during the day, every practitioner has his favorite gargle. It is said that a solution of the chlorate of soda is a good remedy for salivation from mercury used as gargle. A favorite one with Mr. Benjamin Bell in ulcers of the mouth was borax mixed with honey, or sugar and water. It may be observed *en passant* that sulphur purges or even others will have but little benefit in profuse ptyalism. We use astringent gargles therefore and abate the pain of the gums by joining some opium to them. A solution of the argent. nitrat ; in distilled water will often be found highly useful, with this the gums are to be frequently washed, in the same manner as recommended for the sores of the mouth with the lead solution. A most important addition to all these gargles is a free exposure to the air, when there is no dampness in it, this will be found of great service in driving the mercury out of the system, as gentle exercise and exposure does this more effectually than any other means we can have recourse to. It matters not which of the means we use, only the indication being the same, we ought to choose those which seem well adapted for the case. Some say that the ptyalism ought not to be attempted to be checked suddenly, as by this we are apt to drive the excitement upon the bowels, but be this as it may, it must be stated that I have never seen any bad effects produced from this cause alone, and if they who think after this manner had sore mouths, they would be as anxious to have them relieved as any patient whatever. There is one circumstance of importance which our patients should be warned against, it is not to swallow any of the saliva, which I have known done, and with the effect of re-producing the purging, this soon went off on the administration of a gentle pur-

gative. A diarrhæa is not an unfrequent attendant on the above, and strange as it may appear, often gives trouble. Any one will easily see why the saliva loaded as it is with acrid matter should stimulate the intestines, at present in a tender and irritable state. It may also be stated that cases treated in the above manner on ship-board in a hot climate, will be found to become not only stout, but robust and strong after the mercurial action is fairly over. Patients I have seen, who were previously in a weak condition to an attack of dysentery, when put on a mercurial course for the treatment, would soon regain strength, and become not only healthy, but in some instances the stoutest men in the ship. None therefore need be afraid of a discriminating use of calomel in tropical countries, since we have seen that the dread of a severe salivation is only a phantom in the mind of the medico.

Thus then have I dwelt at considerable length on the propriety of the mercurial mode of procedure, and have not arrived at any definite conclusion as to its noxious properties. Previous to entering upon other points, it may not be improper to state a few things connected with the subject, which in fact have been already adverted to, but it is thought proper to give a summary sort of statement as to its general utility. Cases we have seen that yielded long before any salivation occurred, or was likely to do so, others in which the force of the disorder was not broke until such was the fact, others again in which this action was required to be kept going for some time, and a fourth class that could derive no benefit from any plan of procedure. In all severe cases which do not speedily give way, I think that they should certainly be brought to the point of salivation, or at all events the gums gently touched, and keeping them at this point for sometime, when we will find them receive

much benefit from the medicine. There are some who believe that a great many offending particles are carried out of the system by a salivation, be this as it may, the too indiscriminate use of the remedy is not to be adopted, and all I have hitherto advocated is the proper administration of the mineral. Often have I given scruple doses every four or six hours, during the first sixteen or twenty-four hours, and then the attack would begin to give way, then the further exhibition of such doses was abandoned, and recourse was had to smaller ones with other remedies, and in this manner got rid of the disorder. How often have I felt pleasure and much satisfaction in observing the disease yield as the calomel was administered, then, and not till then would it shew itself curable by other remedies. There are many patients who cannot bear small doses, without producing nausea and sickness often oppressive, but who will be benefited by large ones. From our knowledge of the ultimate tendency of the complaint, we ought to choose that medicine which *cures cito et jucunde*, and on no occasion should we tamper with the disease, which would be done by the administration of small doses of neutral salts or enemata, at best they are a very lame practice, and but too often allow our patients to be assailed by the chronic form of the disease, particularly when the malady is of the nature of an endemic or epidemic attack, and curable in the acute stage by the very remedy we are obliged to use in the chronic. Wherein consists the difference let me ask in salivating a patient when attacked, or in the chronic state, now his constitution but ill able to bear up under the nature of the complaint, yet it has been found decidedly useful in the latter, why may it not be expected to be more so in the former. From what has been advanced it is believed that there is no solid foundation for such opposite and really vacillating modes of practice. Is it not bet-

ter that we should begin the plan at once when the system is in all probability well able to be not only benefited by its exhibition, but even to aid us materially in casting forth the disease, and by such means we save our patient's strength, which is sure to be much impaired by the daily drain. As none are afraid of giving calomel liberally in cholera; or in any acute inflammation of mucous membranes such as in croup, or in irites, &c. so let none be afraid of having an early recourse to it in dysentery, for we know well that it is not a poison, but like other remedies it will answer our most "sanguine hopes" when properly used. Many medical men tell us that they can cure almost all cases of dysentery without the exhibition of a single particle of mercury. Such proceedings need little commenting on, and I would be sorry to be one of those obliged to follow out this practice. It is here as it was some few years ago with them as regards the treatment of syphilitic cases, where from the total disuse of the medicine in the majority of cases they allowed many to be brought to the verge of the grave, and there have been others with ruined constitutions, tormented and harassed beyond measure, until they had the benefit of a mercurial plan, when perhaps even then there would some of them slide out of existence. All these things might be avoided by the timely and judicious use of mercury, which has been so long established as the only certain and true general remedy which can be pursued with any determinate and permanent chance of success. I am perfectly aware that mercury will not be able to cure all these forms of disease, this however I urge, that it is ten times more likely to do than any other remedy we can employ, and this too at a less expense of the patient's constitution, or the purse of government. Most, if not all the Naval Surgeons now a-days cure their syphilitic cases with mercury in some

form or other, and seldom or ever are they troubled with secondary attacks, the men much sooner at their duty, and their strength much saved. Whenever the system is under the influence of the medicine, we will generally find both diseases shew evident signs of amendment, and then they progressively yield. I have instanced cases treated on the gentle laxative mode by the advocates against the use of calomel, the consequences were that many became chronic. It is certainly bad practice to allow our patients to linger on from day to day, with the dread of using calomel, in case it *might* produce profuse ptyalism or a hypercatharsis, such ideas like these, the sooner they are banished from medical minds, the better for our patients' good and our own satisfaction, especially in hot climates. As to mercury producing bad consequences in the system in after life, it is imagined that a very great deal of time has been spent in vain on this subject, we ought to be like the epicureans in this respect look to the present good. Let me ask would any man wish to run the chance of a ruined constitution in *early* life in consequence of a *probable* result occurring in the *after* part of it, surely not when he looks around him and sees the many thousands preserved yearly by the remedy, and who in after life never have any complaint distinctly attributable to the mercury, no, no, for we may now reasonably conclude that many diseases stated to have their cause in this, were not at all so, and that they have been brought forward on purpose to shew that the patient had once or twice in his lifetime taken mercury! such deductions cannot be admitted more particularly when we suspect them to be for the support of some favorite hypothesis.

It has been stated that calomel sometimes produces an increase of the tormina and tenesmus, hence some might object to its exhibition on that account. This

however, is of rather a rare occurrence when compared with the number of instances in which it does not do so, and when it does this it will be found to be from the presence of acrid matter in the alimentary canal, or perhaps in other instances from an accumulation of the calomel, such is soon removed by a gentle aperient, when now we can use the medicine without such effects being produced. Besides, if it does not agree the blue pill may, or we may use mercurial friction or join opium to the calomel.

Another objection to the use of mercury is that it cannot in all cases be depended on for the cure, especially in secondary attacks, if these occur soon after the former exhibition. I doubt the premises in very many instances, and if mercury be the most useful remedy in chronic cases, pray what are these relapses but such. If then our patient has not before been fully under a course of the remedy, now is the time, and we may find that the mercury is best introduced by friction. In those instances which have been fully treated in the above manner we may derive great benefit from an alterative course of the medicine, such as perhaps three to four blue pills during the week, with a daily liberal allowance of quinine, and a very strict attention to the diet as well as the bowels. In those instances, occurring at a great interval of time, perhaps twelve months, I do not see any reason why we might not again obtain much benefit from the same mode of treatment, at all events it will be very proper to put such on a gentle alterative course, with the adoption of other measures. The system until it fully recovers from the former attack, and also from the influence of the mercury is always more delicate than what it would be under opposite circumstances, this delicate state of the body might be produced from a variety of causes, now under these conditions we know that the system is much less susceptible of the ac-

tion of mercury when given a second time, than it is in the more robust. Here it may be suggested that our doses should be on this account increased, so that enough of the medicine may be taken up so as to counteract the present state of the disease, which smaller ones under this state could not accomplish, then this may in some measure account for the bad success, often attending a second application to the medicine. Even granting that relapses every now and then occur after the exhibition of calomel, this often proceeds from irregularity in diet or improper exposure, and are not by any means half so frequent as those occurring from the anti-phlogistic plan. I am warranted in this conclusion it is imagined from what takes place at sea, where although the men are exposed to many causes not to be met with on land, yet relapses are of rare occurrence, when proper precautionary measures are observed by the patient and the medico. In relapses also, it not unfrequently happens that such occur from derangement of structure, and some can be saved by no plan of treatment. Dr. Watt when speaking of diabetes says, "we are told of the pernicious effects of mercury on the constitution, but if I were to judge from my own experience I would form an opposite conclusion in cases where mercury was carried to such a length, that the patients have been for two weeks without tasting almost either meat or drink, the cure was most complete. In some instances this was done when the patients were supposed to have suffered greatly from previous salivations, and so far from injuring the constitution, the process appeared to give it a new energy, and the most perfect health has been the consequence. The bad effects of mercury like those of venesection are to be attributed to not carrying the process a sufficient length at once."

Mercury is believed pretty universally to be, not by

any means so useful in the dysenteries of colder regions, this it is thought proceeds from certain causes worthy to be noticed. Without being at all desirous of entering very minutely into this subject, it may be only proper to state that there is some difference between the severity of the cases as occurring in tropical countries, and that of Europe, and that there also exists a material difference in the constitutions of those under both portions of the globe. In the colder regions, it has been found that the constitution is much more susceptible of the actions of mercury than in the warmer. Here then, admitting this as a fact, ought to be one powerful reason for the reduction of the doses, this brings me to the point formerly suggested that the mercury is to be given according to the severity of the attacks, at the same time recollecting the difference existing between these climates. Keeping this in view it follows that we ought to be as successful in the treatment of European dysentery as we are with the use of mercury in the warmer latitudes. There is one circumstance which prevents us having these fond hopes realised, that there is generally more dampness in the air, as well as its chilling effects at night render the human constitution frequently inimical to the operation of mercury, and the period when dysentery is more prevalent here is attended by such states of the weather. The above then may in some measure explain why we are less successful in the treatment of dysentery with the mercurial mode in Europe, than in India, or elsewhere. Before leaving the subject, it will be proper to adduce an instance or two out of the many, in which much benefit was derived from its administration. Dr. Latham speaks of it, not only as acting like a charm but almost a specific, chiefly in cases however where the stools were exceedingly frequent, and consisting altogether of morbid secretions or

blood, the dose fifteen grains with two of opium. Dr. Cheyne restricts its efficacy to restoring the skin to its natural state, this however could be as effectually done with sudorifics, there must be a something else. Calomel is recommended as a powerful anti-spasmodic in watery diarrhæa assisted by the gum resins. Dr. Fergusson found it a useful remedy in those dysenteries, which occurred in Spain and Portugal amongst the troops under Sir John Moore. The disease when mild "admitted of easy cure by mild purgatives, and keeping up their action steadily but not violently, for a few days." It was also cured by diaphoretics, with perhaps equal success. But these were cases which were so "urgent and violent that a power beyond either of these two became necessary to save the patient." This consisted in giving repeated small doses of calomel and ipecacuan, half a grain of the former to one of the latter, every hour, this practice was continued until the mouth was affected with the occasional intervention of a purgative of some castor oil with mucilage of gum arabic, the advantage of this latter combination has already been adverted to. The mouth generally becomes affected in forty-eight hours, "when a solution of the disease might be looked for with confidence. In the aggravated form there appeared one never-failing symptom which always served me as a guide and diagnostic. The urine was high coloured, even green, scanty and frequent, and though there were no other signs of hepatic affection, this was my signal for beginning and pushing the use of mercurial remedies. The deaths from the disease, in the regimental hospitals, where the greater part of the sick were treated scarcely exceeded 1 in 200. Many of these of course trifling but all were dysenteries, and shewed the diagnostic symptoms of tenesmus and of mucous evacua-

"tions, without any admixture of bile or fæces." From the above then we see that the remedy in diminished doses is well calculated for the treatment of dysentery in Europe, and ought never to be lost sight of, even independent of what some prejudiced individuals may say of it, should we fail by the other modes, then in no case should we hesitate to have recourse to the calomel, this if the disease continues longer than a week, by which the cure will be completed, provided there be no organic lesion. Thus having fully considered the efficacy of the mercurial practice, as regards all states of the disease, the constitutions assailed, as also the difference of climate, I may now be allowed to draw the business as to its internal administration to a conclusion and now recapitulate in as concise a manner as possible its *modus operandi* in this disease.

As to the *modus operandi* of mercury I shall only take into consideration what appears to be its *sensible* operation in the curing of dysentery. It appears to me that many have dwelt too much on its supposed chemical actions, as well as those of other medicines, and various operations of the human frame, thus would they fondly reduce the animal machine almost to the condition of a crucible, in which they could compound the effects of various remedies as well as the phenomena of life, and in this manner, as they imagine, can they easily and satisfactorily explain the various complicated laws of nature. There is a great difference, however, between the various actions of organic matter and those of inorganic life, and it may follow, that chemical laws are in perhaps too many instances inadmissible as to the solving of the problems belonging to the former. I do not affect to throw a slur on the noble science of chemistry, or on chemical practitioners, such would be a most outrageous act, but this much may be stated, that we have

in many of our proceedings, permitted ourselves to be guided a little too much by these laws. Again as to those minute theorists who draw their subjects to hair breadths, not much practical advantage is to be gained from this, as they thus leave us without any resting place. Here I do not mean to urge that this also has not in a few instances aided us in the unriddling a small portion of the phenomena governing organic matter, but I mean to say that their deductions cannot help us as to the explaining the *modus operandi* of many medicines. Let us then judge of the latter articles by the *sensible* effects they produce, from which we will gain more practical knowledge, than we can expect to obtain in any other manner. In these Essays it has been my business to state points which may lead us to practical conclusions, this, either as regarding the operations of medicines or the phenomena connected with the particular disease, and I have not aimed at originality, although many may think there are a few circumstances deserving consideration. To return to mercury, what remains to be stated on this subject will be short. Some think its good actions, or qualities, depend solely on its relieving the constriction of the skin, and in this manner are the bowels benefited; this although extremely useful, as before noticed, cannot be the only operation of calomel, for we do not find that sudorifics are attended with the same advantages. That it is not as a purgative is proved from the fact, that these medicines do not produce the same good result. That it is not on account of possessing both these properties, is proved from a combination of the two plans, although they do cure, yet this is not so quickly as calomel, and cannot be depended on in the chronic state. That it is not on account of its producing ptyalism is proved from the fact, that many, very many cases are cured, long ere this takes place. That

it has a specific action on the parts, seems somewhat problematical, but is not proved, for, if so, why does it not cure all acute, or the majority of chronic cases. On what then do the good qualities of this medicine depend. I have stated that it operates as a sedative of a certain class, this it keeps up at a certain steady uniform point, and it is not like opium whose operation is soon over, but it tranquillises the whole of the intestinal tube, at the same time producing an alterative action, and is more durable in its effects than the medicines of the latter class, which two operations tend powerfully to the resolving the attack, besides, part of the calomel can be spared for a gentle purgative, thus the three operations combined produce much good. Upon what part of the system does it chiefly exert its influence, it may be answered on the nervous, upon which all the other powers, and operations of the body chiefly depend for the due and efficient maintenance of their actions. To such a conclusion am I led, when it is seen producing the same good without its being administered internally, as by friction. This too we see takes place in the treatment of old ulcers, or other irritable sores, in any part of the body where, it first soothes the nervous irritation of the several parts, which when done, a change occurs in the secreting vessels, and if the body be healthy they soon become well. Here then is another point to be attended to, the mercury by rectifying the state of the whole nervous system, either reduces this when above par, thus equilibrium is produced throughout the entire body, and no one part has a state of nervous action beyond that of another, as compared with their vitality, or, on the other hand in weak patients it does the same ; but then we must wait for the recruiting powers of the system to supply the deficiency, which may require months for its accomplishment, therefore as often as we give mercury or

leave it off the same actions may for sometime be expected to be kept in duration. Mercury therefore may be placed at the head of those medicines, possessing a constitutional and local power. Although guiac and opium are both constitutional and local remedies, yet they are more, for they are also diffusible, therefore, they cannot be much depended on in the curing of any disease requiring a permanent action. When we give a blue pill, as before noticed, it does not possess a diffusible power, nor does it raise the pulse until a considerable number of them have been taken, and where there is a great quantity in the system, we see then its stimulating operation, and along with this it diminishes the tone of the general system, so that each part is possessed of an equilibrium of vitality commensurate to its operations, and in this manner do deranged organs return to their healthy standard, provided there be no great disease about the vessels of the part, so that the replenishing process can be fully carried on under these reduced circumstances, but if we have any cause interfering with the operations of nature at this stage of business, it is easily to be seen that a new irritation must be the result, and that the mercury now in the system may be inadequate to quell this, or it may even under certain states add to it. It may be added that mercury has never been discovered in the blood, although it comes out by the skin, which may be easily ascertained by taking a peice of bright gold and applying this to the temples while in a state of perspiration, it will become coated with a white amalgam, this may be a method by which we may ascertain the presence of mercury, when it does not shew itself by affecting the gums. Thus then have I briefly stated, what may be considered its action in dysentery, and it is noted again that there is no one remedy with which I am acquainted possessed of such powers.

I have stated that, at least in Indian maladies attended with high excitement and irritability of stomach, mercury when first exhibited does not prove beneficial, in acting either as a local or universal stimulant, and that previous to these actions, it requires to be sometime in the system. The above, as it runs counter to the opinions of a few talented and celebrated professional gentlemen, it is requisite that I should modestly give my reasons for these conclusions. In dysenteric affections of a severe kind, I believe that calomel in scruple doses operates something like opium, and that it acts *primarily* on the nerves, either of the stomach or general system, and in addition it has a more permanent sedative effect. It has been stated that the benefits derivable from large doses of mercury depend on a mechanical, chemical, or local operation, or perhaps all three combined, and by mixing with the viscid tenacious mucous it renders this more susceptible of being thrown out, consequently less adhesive to the intestine, and also that it reduces the vascular action of the parts. Such no doubt in the majority of severe cases will, when properly administered, be found to be its actions. In my opinion, however, these are not the *primary* but *secondary* steps in the proceedings. This I advance even when it is considered that if small-pox matter, or that of chancres be triturated with calomel, these animal poisons lose their power of infection, which evidently shews some innate or specific action possessed by the mercury. If however, we administer the medicine in dysentery, and act on living materials under the impression of its producing something like an analogous action we only deceive ourselves. Does it not necessarily follow from this view of the subject that the more we introduce the sooner should a cure take place, since it will mix with more facility with the viscid secretions, and thus rendering them of a dark grey co-

lour, they are in this state more easily brought away by some mild or gently tonic laxative. That a chemical, mechanical, or local operation is not its primary or sole operation may be inferred from the fact that mercury by emunction, although more slow in its operation, yet sometimes speedily accomplishes cures. Here not a particle of the medicine is given by the mouth, consequently cannot operate in the manner supposed, hence its good qualities must tell in some other way, which I believe to be in the first instance by quelling the inordinate action of the nervous system, which in proportion to its accomplishment the other chain of effects, as above noticed, follows step by step. No other medicine of anodyne qualities can do the same since none have the power of acting on the secretions or secreting apparatus of the system like the mercury. Was its action chiefly local we should from its internal exhibition expect the greater part of the benefit to be first of all expended upon the smaller intestines, where the disorder is of less frequent occurrence than in the larger, particularly in the Island of Ceylon, where in severe case we will very frequently find that two or three scruple doses, removes the tormina, tenesmus, and severe pain of abdomen, as if by a charm, and long before we can believe it to be present, at least in any quantity to produce its effects in the manner above stated, this especially when we consider that from the length of the intestinal tube, and from its weight the greater proportion of the particles, must necessarily adhere to the sides of the canal, and thus but little in the first instance will reach the lower intestines. If in diseases of high excitement, or in others less acute, or chronic, such was the action of calomel when given in large doses, it should follow as now noticed, the more that was thrown into the system in a given time the sooner ought we to have our views gained, so far from this be-

ing the case we know that larger doses than a scruple do no more good further than if the twenty grains were only administered, and that under all circumstances we frequently require to wait for days or weeks before there is a successful termination to the business. Let none imagine that we are to continue the scruple doses during all this time, as none but madmen could think of such a mode of procedure. The moment our object is effectually gained in the subduction of the general nervous excitement, and we observe the calomel shewing itself by a change of colour in the stools, a more pure bile, or have reasons to suspect from the quantity in the system that it will soon do so, then we ought to look to the other important items of the treatment.

In what manner does mercury relieve or reduce the vascular, or inflammatory action, or congested state of the alimentary canal? this it does by relieving the general excitement of the system and stomach, thus giving tranquillity to the whole of the tube. The anodyne effect is chiefly exercised on the sentient powers, this being the nervous system, of course when relieved we have an altered state of the secretions, and a more steady distribution of the blood, not only to the whole body but in a high degree to the parts. We see that an excess of nervous action in any part, causes a greater supply of blood, and this being at all times very liberally supplied to the alimentary canal, produces on these occasions an improper secretion from the mucous coat, hence the tenacious and viscid mucous which is produced by, and contained upon the internal lining of the canal, this in all probability depending in a great measure on the peculiar cause of production of the malady. It follows that by changing the peculiar action of the nervous irritation, we solicit a return to a healthy standard, and mercury I believe to be the best medicine for this purpose. Hence

in proportion to its relieving the excitement, so will we have a more natural secretion and freer flow of pure bile, with a consequent separation of the viscid mucous, as well as the subduction of the vascularity or amelioration of the inflammatory process. I believe that according to the particular excitement or cause of production of bowel attacks, as it operates on the nerves, so have we some change or modification in the nature of the secretions, for according to this may we have an increase, decrease, change, or even suspension of them, hence the frequency of the tenacious mucous, which is met with in the chronic, and acute maladies of the East, since so many of them depend on a certain modification of the universal cause, and hence also the great utility of calomel. This however depends on the state of the nervous system, whether it is capable of being benefited by mercury or not, for we know that there are certain conditions of the system in which this does not take place, but in those diseases where we have high excitement of the general system, or parts, we will find them greatly benefited by large doses, for as I suspect that in no case can there be such states present, without an action of the nerves, to be benefited by the mercury, for if they continue to suffer from previous injury we cannot have high action, but in place of this we may have a demi-acute or chronic malady, but never one that will speedily destroy vitality.

If calomel only acted in a chemical, mechanical, or local manner, what prevents us curing all cases, this is not the case, and the reason I give as follows. It may be asked even on my own hypothesis, why mercury does not at all times effect a cure by its relieving nervous excitement. To this an answer may be given, that, after a time, and from frequent repetition it seems in a great measure to lose its influence over the system and parts, and that like some other medicines at times it

requires an increase in the extent of its exhibition, ere we can have the benefit, which so frequently attends its first exhibition, in all primary attacks. Whether this proceeds from the change effected in the constitution by a residence in a hot climate, or from the repeated administration, or from both, is not exactly the present question, for we do know that under such circumstances, in many instances the fact is so; each of these causes then I believe produces some change on the nervous system, as a torpid action, either on the part or the whole body, or both, and before this can be overcome it requires an interval of good health, however long this may be ere we can expect permanent good from the exhibition of a third or fourth course of the metal. If we persevere under these states with the mercury, what can we expect but that it will shew from accumulation its stimulant or irritative action, when it comes to act at all: for this is what we will find to be the case in the states of the system supposed, thus without doing good it produces an irritation, without its primarily relieving the nervous irritability, or restoring the secretions. This is as might have been expected, for by its not relieving the irritation of the nerves, it cannot get off by the several outlets, thus it accumulates, and adds greatly to the existing evil, for here we have its constitutional effects in an irritable body, the damage therefore will be great by a perseverance in its use. Therefore it is to the early restoration of the secretions that we are mainly to look for effectual relief, and in proportion to these being put in order, which can only be done by a proper regulation of the nervous system, so have we the injurious effects of the medicine carried off before it can accumulate to such an extent as to shew its bad properties. In several acute and chronic disorders the benefit derived, is in proportion to its free passage through the

various emunctories, but if these outlets have lost their power of being soothed or acted on, so in the same proportion, as a matter of course, do we expect benefit. The calomel then cannot be expected to be so useful, in a third or fourth attack, as when exhibited in a first or second, where the parts and system have suffered but little, generally speaking, unless where the disease was severe in the first instance and badly treated with salts or other purgatives.

The reason why the bowels are so difficult to regulate in many instances of a primary, secondary, or tertiary attack of dysentery, or other severe maladies, from the administration of mercury may be explained on the following principles, and, for the sake of illustration, I take cholera as an example, or even a previous severe attack of dysentery. I however select the former, as it is that malady in which we not unfrequently meet with the intestines most obstinate, resisting all remedial means for months, nay years. The nervous power of the canal is so much injured and debilitated, from the previous assault, as to be incapable of giving sufficient energy to the parts, hence an inadequate secretion, and the debris of the food is the great source from which the dejections come, hence we observe the stools scanty, from a want of a proper supply of the other important materials, which may be certainly looked on in the light of secretions, consequently this last being in a bad or disordered state, we cannot expect a natural condition of the alimentary dejections. The nerves, therefore, being incapable of supplying a proper degree of energy, the parts being weak cannot discharge their healthy functions, and in consequence of this state, are more liable of being acted on by various causes, hence the frequent bowel attacks we meet with under these circumstances, and the liability will continue so long as they have not a proper

supply of nervous energy. An important inference may be drawn, that the nerves are the regulators of this action, from the circumstance of their enormous supply to these parts, and that if any accident occurs to injure them materially, we have a decrease in the action of the secretions and regulation of the circulation, they are therefore most abundantly and carefully provided, were they supplied for the mere purposes of vitality, a twentieth part would suffice as we see in muscular parts, which have not important actions to perform in the processes of respiration, secretion or assimilation of the food. We cannot therefore suppose that they are supplied from all the important parts of nervous supply, for the sole purpose of vitality, for when one portion is unfortunately injured from accidents, we observe the secretions of the alimentary canal to suffer in proportion, and they continue to do so until a restoration takes place, when this occurs how soon do we observe the natural processes occur. Now, in a malady of the nature of cholera, or severe dysentery, where we have such a demand on the nerves of the part or whole system, it is easy to see how difficult they will be to manage in each succeeding attack, in which the operating cause has been very extensive from the first. Hence mercury often fails from its not being possessed of that power, which it had at first before the nerves had been injured. The secretions then are deficient or bad from a want of nervous energy, which may take time, and other medicines to improve.

SECTION II.

FRICTION WITH MERCURIAL OINTMENT.

Some have been partial to mercurial friction for the cure of dysentery, as well as other diseases, believing this to be the best manner of introducing it into the body.

It is imagined that this practice, although useful, will not be found so effectual as the internal administration of mercury, since in the latter instance we must always be aware how much goes into the system, and the direct quantity can be more correctly applied and its effects better regulated. There are, however, certain circumstances under which friction will be useful, such for example the sickening effects, the calomel may have on the stomach, or where this is so irritable as to reject all medicine, or in other instances in which we suspect it to run quickly through the bowels, even in cases of irritable stomachs, a full dose of the calomel might be the best remedy for allaying such. When we want the calomel to come to the surface, then we may join some antimony or opium, and the warm bath, so as to produce a diaphoretic effect, in this way it will not be so liable to run off by the bowels. When small doses of calomel are given, and they produce nausea or vomiting, we may join it with musk which will tend strongly to prevent this, if not so, then we must have recourse to the emunction, for this very nausea and vomiting might induce a degree of morbid excitement which might hurry the case on to a more fixed state or a fatal termination. In such cases a scruple dose might have an opposite effect, but where we are unwilling to venture on such, then the plan under consideration will be the best, there may be other states of the body in which we cannot have recourse to the internal administration, while the external application will be highly useful. Then, according to the urgency of the case, a drachm of the strong mercurial ointment is to be rubbed in, twice, thrice, or four times, daily, according to the urgency of the symptoms. Dr. Gray did this until he excited a salivation which he kept up for a week or longer, the patient spitting an English pint daily, and this with much benefit. "I can safely

“ aver, that, in this way mercury has not only very of-
 “ ten succeeded, after the failure of every other remedy
 “ and mode of treatment that could be devised, but has
 “ even rescued some desperate cases, when no amena-
 “ ble hope of recovery could be entertained.” Dr.
 Burns says “ that if the disease was severe and long pro-
 “ tracted a very gentle course of the mildest preparation
 “ of mercury, viz. friction with the ointment was of ser-
 “ vice.” Mercury will not stimulate the skin when
 spread upon flannel, leather of a soft texture, or any
 other convenient article we may take advantage of this
 by applying it under the armpits or other places and
 over the whole a piece of oiled cloth so as to keep the
 patient clean, in this way it will be introduced without
 rubbing in. When the friction is chosen then he ought
 always to do this himself as by this means the system is
 sooner got under the influence of the remedy, this is
 more applicable to syphilis than the present disease.
 The inunction is not at all times useful, for when we con-
 sider that in other cases of disease, that the introduc-
 tion of the medicine in this manner not unfrequently ex-
 cites purging, with severe griping pains, sometimes at-
 tended with mucous stools, we must be careful to watch
 its effects and guard against these consequences. In in-
 stances where such is suspected, we can lessen the quan-
 tity and have recourse to those remedies calculated to
 obviate such unpleasant effects.

Such is the diversity of opinion entertained by medical
 men as to the use and abuse of mercury, it is believed
 that little advantage would be derived from dwelling
 longer on the point, I will give a remark or two ere we leave
 the subject. When a patient is under the salivation, if
 he is able to get up and walk a little he will get much
 sooner well, and by the daily exercise of a few hours add
 much to his strength, and that of the bowels in particu-

lar. There is something consoling to the minds of patients when they are allowed to walk about, since they naturally conclude, that they are not so bad as if they had been confined to bed. Under such circumstances they might have imagined that the disease was much worse than it really is, thus by lying in bed they become hot, and fretted, with an irritability of mind and body and get less speedily strong. Those who are too weak for walking, will do well to have themselves dressed according to the climate and be provided with firm mattresses to lie on during the day, without any bed covering, by attending to these points we add considerably to the patient's comfort. There are many cases of a chronic nature, in which we can adopt no mercurial plan of treatment, in such we must have recourse to other remedies about to be noticed. The mercury cannot be given in any form perhaps for the following reasons, our patient may have been long labouring under the disease, and now his system is so much under its influence, as to be improper to push the medicine further, in such debilitated constitutions. Another instance is that of scrofulous patients when it is known that the smallest particle of the mineral, might be apt to produce such disturbance, which we could not soon if at all rectify : or another case may be that in which the patient may have been long labouring under disease of the liver, previous to the dysenteric attack, and may have taken as much as can do him any good, and the further exhibition of it improper, besides the mercury, already in the system, might be the cause of the purging from mere accumulation. There are a few other cases in which we dare not venture on the use of mercury, as from idiosyncrasy of constitution, and the known effects which the former exhibition of it produced, if they were ever known to have taken any. It is now time to

turn our attention to those other remedies which will allay the irritability of the system generally, as well as that of the alimentary canal. Some of them may even be employed with considerable advantage during the exhibition of the mercury, or even as a substitute, or be thought indispensable adjuncts to the mercurial action.

SECTION III.

MINERAL ACIDS.

In those cases in which we find mercury in some form or other does not agree, or those cases in which we dare not venture upon its administration, it is fortunate that we have such medicines as the nitric and nitrous acids to use, there are many cases of successful cures, or ameliorated states of the body, which are to be placed to their account. It is now a long time since Dr. Scott of Bombay introduced the nitric, as a substitute for mercury, in many diseases, as syphilis, hepatitis, intermittent fever, &c. and this with great advantage particularly in worn out constitutions, at all events, when this is given, much less of the other is required. A drachm, in divided doses, during the day, has produced salivation in the course of six or seven days. The acid therefore seems well calculated for the chronic stage of dysentery, in which we cannot well give mercury, or at all events in such small doses as not to promise much chance of a cure. It is possessed likewise of valuable tonic and astringent powers, by which the progress of the disease is retarded, at the same time we give strength to the system. Therefore, in combination with mercury, it enhances its value much, and we avoid some of the inconveniences said to be attending the mal-administration of it. In its exhibition, we attend to the circumstance of robust patients bearing more than those of opposite conditions,

of the body, we take care therefore to give the acid in such doses which may be adapted to the difference of constitution, and according to the duration and intensity of the attack, one great benefit is as just noticed that more advantage is derived in the broken down constitution than in the more robust. The following method of administration has been recommended. \mathcal{R} Gum arab. drachms iv aqua menth. peppt. \mathfrak{z} viij. acid nitric vel nitrosi \mathfrak{z} ij—iij cochlearia magna. omni. hora. sumed—adding as much syrup as will make it palatable ; care must be taken to defend the teeth by drawing it through a quill, glass tube, or any other convenient article and the mouth well washed after. Magnesia or soap should not be taken during the administration of the acid, as these are given as antidotes for this medicine, when swallowed as a poison. The nitric acid is with great propriety added to the tincture of opium, and thus administered in such proportions as requisite, three or four times during the day, three or four drops of the former to ten of the latter may be a fair proportion, or we may give more of each when thought necessary. Some prefer the muriatic acid in combination with the nitric, in conjunction with opium, and will be found highly useful in all bowel complaints attended by purging, and a weak state of the body. These acids are most advantageously combined with other tonics, by which the virtues of each are much improved. The mineral acids will be found of the highest service in all cases of bowel complaints of a chronic form, nay, are most usefully given at times in those of a severe inflammatory nature from the first, in which we may not be enabled in time to throw in enough of the calomel to controul the action. The cases chiefly alluded to here are those in which the membrane like process, or substance, or a portion of the intestines seems to be thrown off. In such cases pretty

large doses of the acids, such as from ten to twelve drops for the first three hours with a scruple of calomel and little opium, will be found highly serviceable, we must take care therefore not to carry the exhibition too far, by this means we will allay much of the irritation. In those cases of frequent relapses, which occur from the effects of climate, or in which the liver is much deranged, we will find the most beneficial results from the continued use for some time of the nitric acid mixture with opium, but a change of climate is the only sure means of recovery. Some prefer the nitrous acid to the nitric, any of them will do, only recollecting the relative strength of each. The nitro-muriatic acid bath will be found of some service particularly in those cases in which the liver is engaged in disease, it may be used as a pediluvium, or for sponging the body, the proportions are three parts of muriatic to two of nitric. Take an equal proportion of this mixture with that of water, this forms the dilute acid, the bath is in the proportion of three ounces of the dilute acid to a gallon of water. When used it often pricks the skin a little, such is of small moment as this soon wears off, and may be used twice or thrice a week, or oftener if required, by this means we have a comfortable state of the skin produced, this acts sympathetically on the intestines and liver, producing a favourable change there. The nitric acid forms an excellent beverage for the patients, and is beneficially used in any case in which we want tonic remedies, and as the best substitute for mercury. From a consideration of the remedies usually employed in the treatment of dysentery, it will be seen that we have many medicines capable of fulfilling many indications of a beneficial nature, and that we may often substitute the one for the other. I must state that this as a remedy of general utility in preference to mercury I would not use, but would certainly

give it the preference in all cases, in which our patients either refused the mercury, or in which we could not give it from peculiarity of constitution, this too in combination with opium or any other astringent metallic medicine, since we will find those of this class add greatly to the powers of one another. It is here therefore, as with purgatives, that medicines of similar properties are usefully and successfully combined, each practitioner can proportion the doses according to the circumstances of the case, and he must bear in recollection that nitric acid is sometimes very apt to salivate quickly, when taken to any extent during the twenty-four hours. I do not intend to enter further into the properties of these acids, as to the surprising manner in which they recruit the strength and the great and manifest advantages to be derived from their use, every medical man is already sufficiently well acquainted with their general properties, and I have only to add that they will be found useful in all chronic cases of the disease.

CHAP IX.

SECTION I.

TONICS AND ASTRINGENTS.

The warm bath and fomentations have already been noticed, I now proceed to the subject of astringents and tonics, &c. It has been observed that in convalescence where there is chiefly debility of the intestines with little griping and free stools, opium will be found preferable to any other remedy. Always keeping in mind that according to the urgency of the symptoms, and the duration of the disease, if the patient has been in the habit of taking opium, we must proportion our doses accordingly, for we know well that the system becomes habitu-

ated to the medicine, accordingly, therefore to the length to time as that of some weeks so must our doses be. As to the use of tonics and astringents they are not to be employed until free evacuations and the inflammatory symptoms have in general disappeared, and when the proper time comes the following may be used, viz. cinchona, quassia, cascarilla, and the class of tonics, according as each may be calculated to fulfil the intention required. As astringents, catechu kino, logwood and the like, it may be added that in tropical dysentery, no great dependence is to be placed on these remedies of themselves. They are however useful adjuvants, especially in the colder regions, where we can place much confidence in them. The chalk mixture with as much tincture of opium as may be proper, will often prove of much utility. In the cases requiring the use of astringents we will frequently find that they may be usefully combined with other remedies than tonics, I allude particularly to the class of aromatics, from which we will find much benefit, particularly the aromatic confection, or the conserve of roses, these add greatly to the comfortable feelings of the stomach, which is on very many occasions a point by no means to be omitted. Many are the cases of purging occurring after debauches chiefly, which I have put a stop to, by attending to this alone, by administering some comfortable aromatic mixture with a glass of wine, or often, for the men some spirits, as the tonic benefit extended from one end of the alimentary tube to the other, the disorder would very soon feel relieved. Opium when in combination with any astringent, increases its virtue to such a degree, that it is not to be obtained in any other manner, the dose need be so large when so conjoined. Lime water has been successfully employed in many cases more particularly, where there is acidity of the first pas-

sages. There is about three quarters of a grain of lime, to an ounce of the water, the acids, tartrates, alkalies, &c. are incompatibles. Alkalies are sometimes added to make it move to the skin, and milk disguises the taste of the water most effectually. If magnesia and lime water be taken with food on the stomach, the action is not so rapid as when there is none, it is a tonic and astringent, and may be administered with much benefit even to children with bowel complaints. Lime is endowed with a constitutional and local power, and seems to run to the kidney. On board ship we will find great benefit from the use of quassia, it is the best tonic supplied to men of war, more especially when it is made into an infusion with orange peel and the like. Dr. J. Johnson praises it, but other practitioners say, that they do not depend on it so much as he did, be this as it may, there is no doubt of its being in possession of excellent qualities, we must be aware that at times it is apt to produce flatulency, and even diarrhæa. Such being the case we are cautious in its administration under these circumstances, by adding small doses of the sulphate of zinc to the infusion, we render it much more powerful. Medical men may however take their choice of the class either of tonics, or astringents, or use them in combination, according to the indications required. We know that each class has certain properties in it belonging to that of the other. Dr. Thomas, in particular, recommends a strong decoction of logwood, with the barks of the pomegranate and cherry tree, as a good astringent drink, from which his patients seldom failed to experience great relief. Logwood is possessed of a good deal of astringency, water takes up about an eighth, and spirits almost entirely the whole of its active properties, in the form of powder it is almost insoluble in the human stomach.

As to bitters or tonic medicines, it may be stated generally, that they will be found more useful after the strength of the disease is broke, or perhaps when nearly cured, as previous to this they might be apt to produce a distressing flatulency. If we prefer gentian, and the stomach is weak, the tincture is the best form when joined with astringents, it is a good substitute for the barks. Colombo root is very frequently used, and seems to be a bitter, particularly well adapted for recruiting the patient's strength, we use the bitters in all forms of the disease for the amelioration of those who have suffered long and severely from dysentery. Colombo is weaker than quassia, but more agreeable, in the form of extract it is most useful, and we can use it in place of the extract of gentian in combination with ipecacuan. Dr. Perceval speaks highly of this root in dysentery, and all ailments of the alimentary canal, where there is a superabundancy of putrid bile, the addition of a little ginger improves it very much. Bitters have the power of raising the pulse, and may be looked on in the same light as we would view the diffusible stimuli, they are much more feeble in their operation than these. They correct morbid secretions, and restore the tone of the alimentary canal. In dysentery depending on an endemic or epidemic origin, or with any thing like symptoms of intermittents, we will find the angustura and simarubra of much use. The bitter principle is very fixed and the best form for exhibition is that of powder, when we trust to their power solely, rectified and proof spirit takes up the aromatic quality. The cold infusion is the best of the watery preparations, wine does not extract more of the bitter principle than water. By combining two or three of these substances, we will perceive that they possess greater powers than when given singly, as in the advanced and chronic stage there is a tendency

to acidity some absorbents will be useful, as the chalk mixture, lime water with new milk, or combined with opium as formerly noticed, these besides acting as absorbents will prove astringent. In those long and obstinate chronic cases, we ought to make our patient drink daily a quantity of lime water, as in this manner we may sometimes effect a cure, it is a good medicine, and ought generally to be given as part of the patient's drink. It may be observed again that as there is too apt to exist organic lesion of the intestines, many of these remedies can do little more than palliate symptoms, therefore they should only be used in this way, while we use others of a mere powerful nature, capable of producing a healthy structure, suffice it to say that the various preparations of kino, catechu, in combination with opium, will often be found useful. I formerly gave a good prescription in the introductory part to the treatment, when adverting to those who boasted of specifics for dysentery. The African kino differs from catechu in not containing any mucilage, the Botany Bay variety is that which is generally used. When we can depend on the catechu being good, we will find it a mild, but at the same time a powerful astringent. It is more efficacious if the evacuations be too frequent, when the cinchona, is administered for the cure of those dysenteries complicated with intermittents, ten grains to a scruple of the electuary with some barks will be found highly serviceable. I may give a formula from which I have seen the best possible effects produced, acting like a charm, and putting an end to a most ruinous discharge, nay actually was a great means of saving a patient's life who was apparently within a few hours of dissolution. This patient, my friend Mr. Stiven, Assistant Surgeon, and myself, had put on a course of blue pill, Dover's powder

and the sulphate of quinine for a few days previously to the ordering of this mixture.

Rx Tinct. catechu	℥ss	
Tinct. cinnam. comp.—	℥ss	
Tinct. opii	℥ss	
Creta ppt.	℥iiss	
Confect. aromat.	℥iiss	
Sulphat. quinine	gr. xxx	
Aq. menth. pip.	lbj	M.

An ounce of the mixture four times a day, and if the purging increases six times, this was in addition to the other treatment. The patient had been perspiring most freely for the last two days, but he had not swallowed a *couple* of doses of the above ere this ceased. The purging stopped next day, and the rapid recovery was gratifying to every one. He was directed at the same time to have his body sponged with the nitric acid solution, but this he did not use, until the sweating had disappeared, from our being unable to procure the acid.

The acetate of lead in solution, or in pills, may be employed for the particular purpose of stopping severe purging when of long duration, although many will no doubt hesitate ere they give lead in any form for the cure of bowel complaints, yet I may say that we will seldom experience any bad effects following its administration, especially when combined with kino, catechu, and the like. To every four or five grains of the acetate of lead, we may add half a grain of opium, and make it into a pill with conserve of roses. All the preparations of lead are possessed of a certain degree of astringency. Lead, first acts as a stimulant, then its secondary operation is sedative, when long given it diminishes the tone of the system, this is not an invariable deduction, for most frequently it proves a direct sedative, but when given in too large doses they are apt to stimulate and do damage,

therefore a cautious use of the pills is necessary ; water especially when hard, should not be given for drink, after taking these mixtures of lead, as it will decompose the lead. When there is a frequent discharge of fæces, or matter in appearance to such, and the disease of long standing, then is our time to try small doses of the sulphate of zinc, combined with opium, which will be found an excellent formula in many instances. High tonic powers have been ascribed to zinc, and we will derive great benefit from half grain doses in combination with quinine or the barks in complicated cases of dysentery with intermittent fevers, when so combined less of the bark will be required. The sulphate of zinc joined to sulphuric æther is a strong sceptic. The sulphate of copper is also highly astringent and may be used in small doses. The sulphate of alum has been used, but as in large quantities it seems to have a purgative effect, we ought to be careful, it may be combined with the zinc in small doses, and with much advantage had recourse to. These remedies are to be looked on as not only astringents but tonics of the higher order, and all the astringents and escharotics when administered in small doses have a tonic power. Against the purging which occurs in phthisis we will find the following of much use, one grain and half of the sulphate of copper with an equal quantity of opium made into a pill, two or three of these to be taken during the day. It may be mentioned that we will find one grain of sulphate of copper with half a drachm of sulphuric æther twice or thrice a-day very useful in checking the colligative sweats, no sugar should be used in the making of these pills. Copper is more stimulating than astringent, and resembles in this respect the preparations of iron. The astringents when given in small quantities have the power of strengthening the absorbent, particularly where there is

great debility when it is proper to combine them with diffusible stimulants. Opium is the best medicine we can use in combination with astringents, for it in this manner renders them more active. The kino tincture with lime water answers very well as an enema. In some cases of debility and purging we may give small doses of the *nitras argenti*. it is a good tonic and astringent, and may be made into pills with the extract of gentian, half a grain in each, the doses are to be increased gradatim and in the same manner left off. During their administration the patient must guard against common salt in his diet as this by forming a *muriate* or liable to do so, will render them inert, this medicine when properly administered produces no bad effect on the system or any manifest increase of the circulation. In the more advanced stages of the disease we will do well to try the zinc and alum in combination with opium and the acids according to circumstances, or the sulphate of zinc and alum alone, two or three grains of each, three or four times daily according to the urgency of the symptoms. Tonics in the convalescent stage are not to be forgotten, the chief of these seem to be the quinine, *cascarilla* and a few others of the more pleasant and light order as they will sit easy on the stomach. The exhibition of these must be regulated by securing free evacuations, and finding that there are no inflammatory symptoms of sufficient magnitude, which might be increased from their administration. Dr. Trotter observes, that riding on horseback with other active exercises, and flannel clothing have done more in the chronic stage than any other remedy with which he is acquainted. As to anomalous appearances, these must be met with according to circumstances and by appropriate remedies. If with typhus fever then the remedies usually adapted for the curing of such will be more imperatively demanded, than when any of these occur uncombined.

If the dysentery occurs in consequence of scurvy, then the scorbutic patients must be treated by those remedies calculated for its cure. One great care must be to prevent an unnecessary expenditure of the patient's strength, as we have in a manner two disorders to attend to, and when the scorbutic symptoms are removed, we will find the purging will soon cease. It is said to be a fact, and it is curious, that the sulphuric acid has no effect over the sea scurvy, the citric acid cures it, whereas the last has no power over that occurring on shore. When dysentery occurs, attended by intermittent or bilious remittent fevers, or as the sequelæ of these, we will find the quinine and calomel plan of procedure particularly well adapted for their relief, as well as the other remedies already noticed. Here I may be allowed to introduce a case in point. On the 9th March 1834, Mr. J. D. was at Trincomallee, attacked with the endemic fever of the country, at this time very prevalent, a great number of the natives dying from a purging which was the general termination of the type of the fever. It is curious that although the fevers of the country, have a near resemblance, yet in some seasons they are more of the intermittent than remittent form, this last species of the disease most frequently attended with the above consequences although there are some seasons in which it is not so likely to occur as others. Our patient from being a resident had in former years several attacks of the fever and latterly laboured under diabetes. In the present instance had used for the relief of the fever the quinine with occasional purgatives. On the 19th April while in a convalescent state was attacked with severe purgings which were of a bilious caste, as well as many appearances to be met with in the more marked cases of dysentery. On the 23d was visited by a surgeon from on board a ship, who, upon the instant prescribed, right or

wrong ipecacuan, with blue pill thrice in the day. I must observe that the formula was in great repute amongst the practitioners of Bombay and Madras at this period, but in combination with the extract of gentian, where in all probability he heard of its utility, and like a new coat was determined to produce it on all extra occasions. So severe were the injunctions of this personifier of *Hippocrates* with regard to diet, that the patient could get nothing in the shape of aliment for upwards of a week, yet the dejections were numerous during the day. The family understanding that no food was allowed, only gave him congee water and tea! even when he asked for arrow-root or sago could not obtain any of these articles, the answer was, the doctor does not permit us to give you such! The pills during this time produced such irritability of stomach with nausea and sometimes vomiting, to such a degree, that it was unsafe to go on with them, yet he persevered in their use until the 2d of May when I visited him in company with my friend Mr. Stiven, and found him according to his statement every day becoming worse, weaker, and weaker, now was restless in the extreme, could not remain comfortable in any position more than a few seconds, was very sick, with a constant and distressing nausea, and not only an inclination to vomit, but he did so several times in our presence, telling us at the same time that every thing fluid, either as tea or congee water, was almost immediately rejected after swallowing it, these being the only things in the shape of nourishment he could get a hold of. Having heard his story and examined him, how applicable did I think he might ejaculate, for God's sake some cordials give, for I alas too weak from purging grow. He complained of no pain in any part of body, unless some tenderness about the anus, on coming to examine the abdomen

there was no pain excited in any part of it unless under the false ribs of the right side which he stated to be painful, ever since the manipulation of the former medico, where he had pressed so exceedingly hard, as well as another Assistant Surgeon of the ship who was with him, in order to convince themselves that there was no disease in this viscus, the liver was now in consequence tender to the touch, and he very properly would not allow it to be teasingly examined, such a *modus agendi* was certainly more than the patience of Job himself could endure, was at this period every half hour at the commode. Under such circumstances it was not surprising if another plan of procedure was recommended, and from this example let us learn not to adhere too inflexibly to what some may be apt to term a zany stupidity to the ipecacuan mode. We ought on no occasion to be bigotted to the merits of any practice which does not give under these state of affairs instantaneous and speedy alleviation, and we will find that the ipecacuan practice will in no case of great severity of intertropical dysentery do so. The example before us, being one of life and death, tampered with too long, the following was immediately given, one scruple of calomel made into bolus with aromatic confection, this was again repeated in four hours, these had soon the effect of allaying the irritability of stomach. The following pills were also prepared for him R pil: hydr: ounces i. pulv: Doveri, gr. x viij. sulphate quinin: scruple ij. M. et devid. in pill xxiv. one of these every four hours, and every night twelve grains of Dover's powder. For diet as much sago and arrow-root, which ever pleased his palate, as he could now comfortably take, with a glass or two of port wine daily. Continued this plan till our next visit, on the 4th May, and now found the purging subsiding, having not had a stool for several hours previous, he was lying on a sofa, weak,

irritable and apparently morribund, with a collignative sweat, over chiefly the upper portion of the body, as also an incoherency of expression. Now the mixture mentioned at page 288 was ordered, and to continue the pills as formerly, he disliked wine and spirits, was ordered some wine negus. The body to be sponged with the nitric acid mixture, night and morning. The mixture of catechu aromatic confection, &c. really acted like a charm, for he had not swallowed the first dose above three quarters of an hour ere he felt its beneficial effects, he was so much convinced of the utility of the medicine, that in an hour from swallowing the first, he took the second, omitting the wine. The perspiration went off, now there was a pleasant and comfortable feeling about the stomach, with a re-action of the vital and animal powers, his friends said that his countenance was now quite altered from its former caste. The next day the purging stopped, was then able to take a glass or two of wine daily which he relished, as also some solid food, still ordered to continue with the pills and mixture as before. The day after, took some castor oil ounces ss without permission, in order to open his bowels, fortunately this operated easily, and brought away a formed stool. We must not on these occasions have a too quick recourse to purgatives, as this is very apt to bring back the former purging. On the 6th, we again visited him, now was astonished at the really sudden and unexpected change, he was sitting in the sofa, and said he could sit and talk for hours together without feeling fatigued. This was certainly one of the quickest recoveries from such a severe dysenteric affection that any one could ever witness. In another two days was walking about, and as he expressed it, seemed to be a man risen from the grave, the bowels regular and the appetite rapidly improving. From the above we may learn many useful hints in ad-

dition to those embodied in the case. This patient had not used mercury for many years previous, and stated that no medical man could salivate him, although several had tried this during his long residence of eighteen years. In this instance however the mercury shewed signs of being in his system, for he complained of a bad taste in his mouth, with a soreness about his jaws, and there was an evident increase of the saliva. We also observe the utility of combining quinine with the mercury in those cases of an intermittent type, or in those instances of purging occurring after fevers of an endemic or epidemic cause. Now he could retain his urine, which, in consequence of the diabetic symptoms, he could not do for a very long time previous to the present attack, the urinary organs being so weak. We should never tamper with any dangerous malady of a hot climate, and particularly with dysentery, for they generally become speedily very bad, and soon place the patient's constitution in jeopardy.

In order to restore the impaired tone of the intestines, some have advised the use of the cold bath, but this entirely depends on circumstances. If the patients be very weak, such a remedy may be very prejudicial; and it is imagined that a better plan would be to sponge the body. If however a glow of heat follows on a first application, then it may be resumed, but not otherwise, as it will be found to a certainty to disagree. A pedilivium of the nitric acid may be most advantageously used, this may be of various degrees of strength, as from two drachms to six, or even to two ounces of the concentrated acid, to about four or five gallons of hot water. The feet may be bathed in this mixture for ten or fifteen minutes, which will in general produce a gentle glow over the skin. If we prefer sponging the body, then with the same mixture

rather of the stronger form, we wash it well over with this. It has been said that much benefit is derived from this plan, and I can have no doubt of it, for it not only acts beneficially here, but also extends this feeling to the intestines and liver.

If the discharges from the anus be of an unusually bad smell, and curdled as it were, then we have every reason to suspect ulceration of a very serious nature, various remedies have been in vogue for overcoming this, we may find that an injection of the solution of the chloruret of lime, one drachm to the pound of water will alter the state of these alvine discharges, this form of enema may be used twice or thrice daily. Some advantages may be gained from this remedy if the ulcerated portions are only in the rectum, as, from its stimulating and cleansing properties, it may at least produce a change in the parts, by producing a clean surface. It has been tried in cases of the above description, as also in those instances in which the secretions were unusually foetid, and with the happiest effects, in altering the odour of the stools. This is a point of importance in so far as it will render them less likely to offend the irritable portions of the gut besides its cleansing properties. Although this is the effect it produces when thrown up, yet I cannot say any thing as to its disposing the sores to heal, it may do so in some cases, lime water, when used as an enema, seems to have the power of dissolving animal mucous. The carbonasigni has been used for the purpose of rendering the secretions less offensive, and administered in the form of pills, it is also supposed, but I believe without any foundation, to produce some favourable action in the state of the ulcers. In these cases of chronic dysentery, we will derive some advantage from the administration of the balsam of copivi and give it either in large or small doses according to the effects

required, its properties as a purgative was formerly noticed. Dr. Pemberton says that if the discharge of fæces be unusually offensive, and that ulceration has taken place, we will find the following useful. R. balsam copaib. M. xij vitell. ov. qs. aq. cinnam. aq. distillat. â â drachm vj. sacchar. alb. scruple ij. M. ft. Haustus quarta vel sexta hora sumendus. If there be great prostration of strength we may use the following R. balsam copaib. m. x. vitell. ov. qs. decoct cinchona ounces iss. Tinct cinchona drachm i. M. ft. Haustus sexta hora sumendus. The stomach it will be found is better able to bear the quinine, than the barks, especially when there is much irritability, or where the latter excite nausea. If the tenesmus be severe we may add some liquid laudanum to the former, and use it as an enema, and it will be found to be a pretty good one. The enemas should be in such quantity as the rectum can comfortably bear, and as they cannot reach ulcers high up, we must therefore place our main dependence on general remedies of which perhaps the quinine, and a proper exhibition of other tonics with port wine, will in all probability do more for the patient than any thing else, and in none of these cases ought we to omit the careful administration of blue pill, or calomel. If the purging be frequent, and resembling coffee grounds, a speedy recourse to large doses of calomel with tonics, this may even now be of little good, as the patient is in too many instances beyond the benefit of medicine. If, however, the disorder has not assumed this formidable appearance, we will succeed best by a gentle restorative course keeping the bowels in as regular a state by the exhibition of gentle laxatives such as castor oil in combination with the balsam of copivi, in the proportion of a drachm of the latter to half an ounce of the former, and in particular by drinking the

chalybeate water, and paying strict attention to the diet and strength.

In those instances of ulcerated bowels we may do well to have the benefit of the ipecacuan plan with the extract of gentian, with or without the blue pill according to the urgency of the case, in this manner may we often accomplish cures of ulcerated bowels, this is the idea of some. It may be asked how can the ipecacuan without the blue pill, does so, this is not certainly from any specific virtues which it possesses. It produces a sort of torpid action in the state of the intestines, thus by giving a greater quietus to these parts, it may in this manner allow them time to resume their healthy functions, but that it has any other power, I am indeed sceptical on the point. The blue pill being in combination, when it can be safely ventured on, shews us the vast utility of mercury in some form or other, for by the progressive and cautious administration, we in general gain our ends. There is one point to be attended to in the administration of ipecacuan, that, in those cases in which there exists much prostration of the animal powers, we must be exceedingly careful how we debilitate them further, as by this means we may be deprived of the opportunity of throwing in as much nourishment as may be required, thus the patient may be ruined merely from the deficit of nourishment, since we know that ipecacuan will destroy for some time the process of digestion after a hearty meal, even in sound constitutions.

SECTION II.

CONVALESCENCE—DIET.

In addition to what has been stated on convalescence a few further remarks may be given. In very many cases of the chronic form of this disease, we have much

to contend with as regards the deranged state of the digestive organs, being so capricious and vacillating as often to require our best attempts in keeping them in a proper state. This proceeds from some causes which it may be proper to notice, the system may act on them thus they will be thrown into disorder, particularly when there is a change in the state of the atmosphere and from many other causes. Then, in the second instance, this disturbed condition of them acts on the dysentery, then we have the purging renewed, or the purging may at another time produce disorder of the stomach. Such instances are always perplexing, and let us do what we can, we must lose many of them. Since the powers of life are much below par and every other attack either of the intestines, or derangement of stomach, reduces them still further, or during the interval of renewed attack the disease may become so firmly fixed as to become incurable, even when a step or two is gained towards this they lose more by the next relapse, thus they go on from time to time until the system is fairly ruined, a change of climate is the best thing possible for such people, even with this we often will be unable to do any good. There is one thing that we are to be particularly cautious about in all chronic cases, and in all convalescents, as regards the abuse of purgative medicines, if any thing can do harm they will especially if they are of the drastic sort. Nothing but the mildest laxatives should be resorted to, our object being not to purge, but rather to keep them gently open, thus by a discriminating use of them we will have all the advantages they are so well calculated to afford, in aiding the restoration of the tone of the body. If so much caution and attention are required in the management of those who have not been addicted to an irregular life, how much more is imperatively required in those instan-

ces where such is the case, this is evident to all. In the broken down habits from whatever cause, either from age, hardships, climate, &c. we must be careful that no more diet be allowed, and, in particular, spirituous liquors, than may be absolutely requisite for the support and recruiting the system. As we will meet with cases where from former habits, spirits, &c. are required, any excess must be guarded against, if more is necessary than seems admissible, with the nature of the disease, we may find that opium, as formerly stated, lulls the sensations, if so, then this may be very properly substituted, as a portion of the allowance, in lieu of the quantum of spirits abstracted, thus rendering less of the other more destructive stimulus necessary, and when the disease is cured, we can gradually reduce the quantity of opium, by this means perhaps cure him of drunkenness also. Let none imagine that by getting intoxicated, when labouring under severe attacks of dysentery, and keeping the action up for a week or so, that they will have a chance of getting well. I known of an instance in which this was done several times in succession, and attended with success, but these experiments are extremely dangerous. The wines or spirits should be allowed only as cordials, but then these are not to be too frequently repeated, when so they will be very proper remedies in many instances, the patient may have the choice of such as he likes best, provided we know that it is not likely to disagree. For those who have been in the daily habit of drinking wine after dinner, we may with great advantage choose either the black or white peppers since they do not raise the pulse, or heat the body, and they will be found a good substitute for the wine or spirits. After dinner, therefore, we may give a good dose of pepper, thus rendering much less of the other stimulus requisite, and it may even when in health break them of

the pernicious habit. Another object is to have the patient's mind as tranquil as circumstances will permit, when then he is enabled to sit in bed or walk a little, the conversation of some friend will be highly proper, thus by engaging his attention, he is kept from thinking on his condition, and we should recollect that a bad state of mind produces a bad state of body, which destroys greatly the powers, therefore in no instance should he be left to brood in gloomy silent despondency. Our object ought also to be to remove all causes of irritation, whether proceeding from internal or external sources. We also endeavour to put a stop to all ruinous discharges, such as colliquative sweats, purging, or any thing capable of inducing exhaustion of the system, for as long as any of these continue, we may be certain that our patient is fast losing ground. Pain, when excessive, or severe exhaustion, do as certainly destroy the part or system if not relieved, as a dose of arsenic, with this difference, that the one is more speedy in its operation than the other. If hectic fever be present in any dysenteric case, although not hopeless, yet it is nearly so. Such hectic states of the body seem to depend in a great measure on some morbid condition of the whole nervous system, therefore by directing our treatment to this quarter we will do much good. For this purpose opium seems well qualified for allaying and checking paroxysms of the hectic fever, we will find that the acids generally are of much service also, they should be given at distinct intervals, as the vegetable acids neutralise in some measure the effects of the former, but the mineral are the best. The doses of any of these must be proportioned according to the severity of the disease. In hectic fever of this sort, the state of the body is this, there is an excess of action, from a diminution of the sensorial powers, as well as debility of the

organs existing, producing a general irritability of the body. Such being so, opium is certainly the best remedy for quelling this irritable state of it, and in unison with the former views tends to allay the further increase of these morbid secretions. There is something to be attended to in the proper administration of the drug, it ought to be administered, with the same ideas as we give wine in typhus fever, at such intervals, and in such quantities, so as to keep up a constant action, or more properly the continued mitigation of the excess of this. It will not do therefore to give a dose at bed time, then leave the patient alone until next night, such practice is attended with decided harm, hence it is requisite to administer at stated regular times. Thus we will find that in those cases, which are to be benefited by its exhibition, they will soon shew signs of amendment, and may at length gradually return to a healthy state. But, under the circumstances of dysentery, the instances of recovery may be rare, for there is now in all probability existing some organic lesion of the intestines, which no medicine can restore, however by a discriminating administration of opium, we will render the patient's existence more tolerable, and soothe the passage to the grave.

The length to which these remarks have been drawn prevents my saying much on the diet. It may be observed generally that much, very much depends on the patients in this respect, for frequent relapses are by no means of unfrequent occurrence, by the too great indulgence in either eating or drinking. From the very commencement therefore the diet should be light and of easy digestion, and without being taken in too great quantity at a time, for the bulk, even from light food, would almost as certainly stimulate the tender intestines as the exhibition of a purgative. Another point is, that the species of diet should be so chosen as to leave but little residuum, and

no substances should be selected which are likely to become putrid. The patient's strength will therefore be well supported by sago, arrow-root, tapioca, eggs, tea, chickens, beef-tea and the like. In this list we have a sufficient selection for stomachs in the weakest condition. When we cannot get enough of nutriment introduced by the stomach, we may be enabled to do some good by throwing some beef-tea into the rectum, which will be very speedily absorbed from this quarter, many patients have been nourished for days together in this manner. As a general rule, all ardent spirits must be strictly prohibited, unless under the circumstances noticed, in some cases we will find a little wine, or a little brandy well diluted with water very useful, such however but very seldom in the acute stage. Wine is to be chosen which is less likely to become acid on the stomach ; and in all probability good old port is the best that can be employed, since it also possesses astringent properties. Another important item as to diet is that it should never be such as to cause flatulency, or such as may disagree with the patient. Vegetable diet as producing flatulency, and having a tendency to pass off quickly by stool, should be sedulously avoided in almost every case. Nothing but spoon diet, and this of the lightest sort, should be given to weak patients with bad digestion, care being at the same time observed not to allow them to become too low from this cause. Patients with a better digestion may be allowed something more substantial, care always being observed that they do not indulge too much, enough of food should be given so as to support the system, under such a harassing disease as dysentery, as to drink, water is not proper of itself, but we should always have some demulcent ones, a good rule perhaps would be to have the chill taken off them, if the temperature be such as to cool the water much. All oily

or fatty substances should be cautiously avoided in all stages of the complaint, perhaps more particularly in the early part of the business, as these substances have a tendency to produce a lax state of the bowels. Advantage at times may be taken of this circumstance, and when we find that our patients have a tolerable digestion they may be given with the view of acting as alluded to. It is thought more prudent to have recourse to castor oil, than to expose patients to the injurious consequences they might produce. As moderate heat is generally desirable for convalescent patients, we should choose that form of clothing best adapted for the climate, so as to prevent the effects of sudden chills, flannels should therefore be preferred, and should be laid aside with caution. Exercise, after the patient has reached a due degree of strength, is of the utmost importance, since nothing tends so much to recruit the exhausted state of the body more than this, it is therefore particularly well adapted for all complaints of the bowels. The chief of which, when circumstances will permit, are the riding in a carriage, or as already noticed on horseback, when sufficiently stout to manage such, or even walking in the open air, or any other mode, so long as proper precautions are taken not to be too much exposed.

CHAP. X.

STRICTURE OF RECTUM.

This subject, as an attendant on, and produced by dysentery, is of sufficient magnitude to require something being said. I have to observe that in all cases of chronic dysentery which remain for a long time obstinate, we may justly suspect disease of the rectum,

in addition to the ulcerated state of the bowels. A stricture here produced by this complaint is of by far more frequent occurrence than many medical men suppose. There are a few, no doubt, who will attempt to deny that it can occur at all, yet they are but few, others again may say that such may take place, but this so seldom as to be unworthy of notice. Without delaying to ridicule the notions of the one, or enquiring into the truth of the other, I shall endeavour to point out that it is of so frequent occurrence, as to demand our strictest attention, when the symptoms about to be detailed are present, nor is this to be wondered at when we consider the daily irritation on the lower portion of the canal, sufficient to cause strictures under any circumstance, our wonder should be why such is not of more frequency than they actually are. I am fully persuaded that in dysentery, at least a few years ago, the distressing symptoms attending the latter stages of the disease, were too often ascribed to other causes than the real one, and from hence it followed, that very erroneous measures were adopted. I have little hesitation in saying that many patients have died from this distressing complaint who might have been saved by a proper plan, had the real causes been known.

When the dysentery has been of long duration, attended by frequent relapses, or a vacillating state of the purging, this at one time ceasing, then shortly after re-appearing, and this perhaps several times in succession, we ought instantly to examine the rectum, and satisfy ourselves that there is no stricture, we may most likely under these circumstances meet with one a few inches from the external orifice, which is the cause of the whole disturbance. If a patient has a dysentery of a twelve months standing, we ought in all such cases to examine the state of the rectum, more particularly when we learn

that the purging becomes worse in moist and damp weather, with an increase of the discharge, as from half a pint to a pint, attended also with a recurrence of pain and tenesmus, and three to four, or more of such stools during the day. In addition to the stricture we may have chronic inflammation, or extensive ulceration of the coats of the rectum, which cannot get well until the above be removed. If the discharges be at this particular time of the weather, of a gruinous consistence or something resembling coffee grounds, or if the dejections alter much according to the nature of the climate, or temperature assuming a variety of colours, then the existence of permanent disease of the rectum may be suspected, and on inspection we will in all probability find either a thickening or ulceration of its coats attended by stricture, this occasioned by a thickening of the coats in consequence of the irritation which has been going on for such a length of time, such always in general becomes worse, until we induce a healthy state of the canal. These points are but little attended to by some medical men, and in place of directing their attention to the proper quarter, they continue to give useless doses of medicine in consequence, are generally foiled, in their fruitless attempts at a cure. Almost the instant the rectum is cleared of the stricture, the discharge in general ceases, shewing clearly that parts when irritated by any foreign cause will produce a ruinous discharge. The prostate gland is often irritated and exceedingly painful in consequence of the extensive disease of the bowel, with frequent micturition and but little comes away. Elastic gum bougies are the best for accomplishing the removal of the stricture; they may in many instances produce severe pain on first introduction, but to this the patient must submit, and after two or three trials, it will be found that he can bear

them much better and retain them for a greater length of time, when we may often entrust them to his own management. As the stricture is gradually overcome and a proper attention paid to the state of the bowels, the appetite which was deficient before, he now begins to recover, obtains sounder sleep, to which perhaps he has been a stranger for some time; and as the cure progresses, recovers his former vigour. This then should be our conduct in all cases of long standing, and our success depends in a great measure on the attention bestowed. It is at times a painful proceeding to overcome strictures of the rectum, there is nothing then like a calm resignation and determination on the part of the patient. The bougies may be introduced once or twice the first week, and so on according to circumstances.

I may be allowed to introduce an important case, at least it was so to me, of stricture occurring in an irritable state of the alimentary canal from dysentery occasioned latterly by the administration of drastic purgatives. Since the patient's arrival in India to the present period (May 1832 to February 1834) he had been vexatiously annoyed with severe irritability of the intestines and had three separate attacks of dysentery, these gradually yielded after an interval of two to three weeks, also suffered from fever, but of a mild nature, and latterly from cholera. During the intermediate periods the bowels were always irregular, sometimes obstinately constipated, at other times the opposite. Previous to the occurrence of the stricture of rectum this patient was attacked with severe pain, about the scrobiculis cordis, with tenderness of the abdomen, slightly increased on pressure. The pain of chest was not exactly acute, but rather more of the oppressed feeling, as if there had been a heavy weight attached to the lower portion of sternum. The pulse during this time was slower than usual and the

heat of skin variable sometimes above the natural standard. Fever was present although not indicated by the state of the pulse, the thirst was severe, and continued so for some days, as also the headache. The bowels had not been open for three days previous to this, even then the stools were constipated and scanty. In fifteen hours at divided intervals, the following was administered, two compound colocynth pills, these on former occasions always used to operate—castor oil ounces ss.—another couple of compound colocynth pills—croton oil two drops, last of all the sulphate of magnesia ounces iss. When these medicines first operated they brought relief, but after a short time there was hypercatharsis induced, the patient was at the commode every half hour for upwards of eight hours. This state was attended by most severe pain of the bowels, with partial cramps of the lower extremities, the skin felt cold, and there was much the appearance which exists in the state of collapse in cholera. However, on covering himself well with flannels, and Dover's powder given, a perspiration was produced, and every thing went on well for a time. The patient, himself a medical man, had long before the present attack suspected the existence of stricture, but from its not causing much inconvenience was not led to examine the parts. But on his recovery from the above found that the stools were variously formed, sometimes small round balls, at other times flattened, such appearances led him to suspect the actual state of things, he was moreover further confirmed in the idea when he felt at stool, that the feculent matter would sometimes at first not come from the under part of rectum, but from a place above the prostate gland pretty far up. There now could be little doubt as to the real nature of the case, and in particular when the feculent matter was found to be lodged, some way up,

and not at the bottom of the rectum, this was some time ere it came away, when so it would be flattened. As to the patient passing formed fæces which was sometimes done, this can be easily accounted for, when we consider the repeated use of laxative medicines, he was in the habit of taking in order to preserve a regular state of the bowels, consequently the fluid deposits escaping the stricture, collected in the under portion of the gut and were discharged formed. In this case then we have much irritation existing in the bowels long before and after the last attack, independent of that produced by the general system. This capricious state of the intestines could scarcely be unattended with other affections, accordingly there were pains of the loins, and about the lumbar vertebræ, as also stretching down the fore part of thighs. The straining at stool was distressing beyond measure, which produced other uncomfortable feelings, which added greatly to the previous irritable condition of the rectum. There were also several small fissures or cracks in the skin at the lower portion of the coccygis, small as they were they caused some annoyance. The appetite up to this time, since being in India, was by no means good, since the digestive organs were acted on by the constant capricious state of the bowels. Such then are a few of the attendants on this very distressing complaint, others of a more distressing sort remain yet to be noticed. I am thus minute with the description of this case as the symptoms and history of the disease as here given, will be found pretty nearly to correspond in all cases of stricture in the rectum.

From the irritation in the gut, it was no wonder that the urinary organs came to participate in the general irritable state of the parts, and during the previous dysenteric attacks, this was frequently the case attended

with a slight retention of urine, at other times a most uncomfortable and painful desire to void it. The patient often obliged to make five or six unsuccessful attempts, and when he at length succeeded, only a few drops would come away, at other times it would flow in a small stream. This is a very distressing attendant either in dysentery, or in stricture of the rectum, and when the urine is voided, it is often heating to the canal and high in colour, so as to stain the linen, he was obliged to void it in the erect position as any attempt to do so at stool brought on the most uncomfortable sensations, with a bearing down of the gut. There was also very frequently an uneasy sensation at the bottom of the rectum, as if the gut had been filled with lead, with a very uneasy state of the neck of the bladder and prostate gland. These parts were so uncomfortable while at stool as to prevent any attempt at passing the urine while in that situation. The legs and thighs would often feel cold, and as if they were about to suffer from cramps, these sensations went off on being rubbed with the volatile liniment. In addition to all that has been stated, this patient was severely tormented with large hemorrhoids, so numerous as to encircle the whole orifice, and they extended a little into the gut, one of them in particular two or three times, swelled to the size of a small egg, and completely blocked up the orifice. These attacks of the piles occurred several times and let it be remembered, they are not unfrequent attendants on the disease under consideration, and will not in many instances yield until the great cause be removed.

When such symptoms are present as above described, or only part of them, attended with a purging of the brownish sort we ought instantly to examine the rectum, where in all probability the existence of the disease will be discovered. In such cases then let us recollect we

cannot cure the disease in general but by local remedies, no palliating mode by medicine will be found of much utility. Nothing but the mildest purgatives should be used in such cases, and I cannot praise too greatly the proper employment of enemata in this condition of the lower portion of the gut, when the pipe can be introduced without much pain. The enema used in the present instance was lime water, with the addition of warm water, so as to make it feel comfortable, alternated with that of zinc lotion. The rectum, when they were first used, was so irritable that it could not bear above four or five ounces, this was instantly rejected with considerable force. After some days perseverance much more could be borne, without any such uncomfortable feelings. These often brought away a good quantity of glary mucus, mixed with muco purulent matter, on the introduction of the finger when the enema was thrown off, the mucus could be found adhering to the internal coat of the intestine, and was easily separated from it. After four weeks continuance in this manner, things were much improved, the secretions of the parts being altered, and some natural feculent matter was passed, the injections were used twice a day, and the intestine was now in a fit condition for the attempt with the bougie, which owing to the irritable state, was not as yet attempted, and had the stricture been of a spasmodic nature, the cure might have been completed in this manner. That first used was of a moderate size, on its introduction it went pretty well into the orifice of the stricture, which last was good six inches from the external orifice; when however it was passed a little further on, the pain was pretty severe, and when it was passed through the whole, the pain seemed to fly along the fore-part of thighs like a shock of electricity, and in the back and loins was pretty sharp, a general perspiration breaking out on the

body. After the lapse of three days, still using the injections it was re-introduced and did not excite so much inconvenience so that by gradually enlarging the instrument I had only to pass it about fourteen times when the malady was completely overcome. During the use of the bougie the hemorrhoids went away almost entirely, it might be a good practice then when they are not irritable, to try the effects of compression with a short bougie adapted for that purpose and by a steady perseverance, clear the rectum of them entirely. There was one difficulty with which I had to contend and that was the procuring of good bougies, this was surmounted by making one of wax and oil with a piece of calico, when it was thought proper to enlarge thus it had only to be smeared with more of the mixture, and this it was gradually increased to the proper size. There was a follower of Esculapius on board who had a gum elastic one, and although he promised to lend it, yet this, from what cause I do not exactly know, was never forthcoming. I have a remark to make ere quitting this important subject, and it may prevent many from laughing at their folly. When one medical man affirms that there is a stricture, the other should not be credulous and doubtful, more particularly when he is informed of the symptoms as above given. The finger is not the proper medium by which we can in very many cases detect the existence of a disease of this nature. It would be preposterous and evidently presumptive to imagine that such who advocate this means of procedure, could detect a stricture which lay at the distance of from six to seven inches up the rectum. Independent of all the symptoms described another medico had actually the effrontery to state in the presence of others that no stricture existed for he could not find it with his finger! nay, persisting in the statement, although he was informed that another medical gentleman had actually passed the bougie through it.

CHAP. XI.

DYSENTERY COMBINED WITH DERANGEMENT OF LIVER
OR OTHER BAD STATES OF BODY, AND CONCLUDING
OBSERVATIONS.

It may be proper to say something as regards the occurrence of the disease, in consequence of, or union with, deranged states of the liver in its vitiated secretions. It is imagined that it has been pretty clearly shewn that dysentery does not in general depend on any derangement of the biliary or hepatic functions, at all events as a principal cause. Such opinion, however, is entertained by some, but from what has been stated, in another part of this Essay, it will appear that the liver has been often blamed when on inspection after life has become extinct, no disordered texture could be found. I do not mean to deny that this may not sometimes be a cause, or that the one may be an exciting cause to the presence of the other, and that they can both be in existence in the same constitution at one and the same time, and am inclined to hazard the opinion that the dysentery, when of long duration, especially in hot climates, does more frequently cause liver affections, than the latter the former disease. From this we may conclude that diseased liver is neither a general cause of dysentery, nor even necessarily an attendant on the disease. In this I am borne out not only from my own experience, but also that of others, who have had much to do with the treatment of each. Those living an irregular life in hot climates are of course more frequently the sufferers from this cause, although they may escape for a time, yet this is not always to be so, for the climate sooner or later tells forcibly on these constitutions. Hence it is that the old sailors and soldiers so frequently suffer, and from their frequent exposures to malaria and other causes, such cannot be

wondered at. The free liver from these exposures and excesses feels sooner or later a lesion to its functions, from which follows derangement of stricture. We will not unfrequently meet with cases arising from the causes noticed even in the more robust habits of body, but then the purging does not so generally assume the distinct marks of dysentery, and they are often very troublesome to manage. At times we may observe a truly dysenteric stool, while the next will be more of the character of diarrhæa, and continue so for a few days when an appearance of the other attack will now be exhibited and remain so for a day or so, again it puts on the character of the second, and we will find the purging in such, often influenced by the state of the weather. If the atmosphere changes from dry to moist, in every probability there is an alteration in the condition of our patients' stools, these, from being of a strictly bilious nature, will now suddenly appear dysenteric, or perhaps a very dark offensive discharge, or at other times attended with a burning heat when passed, so hot, as at times to be compared to melted lead running through the anus, or there may be a want of biliary matter. They may when passed have on their surface a foaming or frothy appearance, resembling the working of yeast from a cask. All of these states evincing a vitiated or depraved action, either existing in the hepatic function or that of the intestines. Such are often extremely difficult to treat, frequently baffling all modes for their relief, and when we consider the nature of the constitutions who generally suffer from such, we may have an easy solution to this apparent difficulty. If we succeed in allaying the fever which is a frequent attendant on such cases, as also the purging, the patient may remain well for a fortnight or so, and now we may be apt to conclude that all is right, and an ultimate chance of recovery is entertained. Such

hopes are too often only visionary, as a new state of the atmosphere, or some irregularity in the diet, or the usual food happens at the time to disagree, or from an over dose of the bottle, with other inaccuracies forth breaks the purging as virulent as ever. Thus the patient goes on from month to month, and unless we recommend a change of climate, which it is our imperative duty to do, he may be inevitably lost. This, although the great chance, yet may not in every instance have the desired effect, since the greater portion of the lower intestines may be so extensively diseased, that no medicine can remove it. In these cases the liver, when pressed on, will feel in some one portion more tender than another, or we may observe a little more fulness in the hypochondriac region, thus we can call the patient's attention to the seat of the disease, which he never before suspected, or, if he did feel it a little tender, thought it was so trivial and slight as to merit no attention. Even supposing there exists no tenderness or fulness in the region of the liver, yet we may gain some information as to its probable condition from the state of the mind, recollecting at all times that this may not in every instance lead us to a correct idea of the cause, yet in general we can draw some important deductions which will lead us to a correct hypothesis. In hot climates it is pretty well known that the mind is greatly influenced by the diseases of the liver, so it is also with disorders of the alimentary canal in general. The one may and does often act on the other reciprocally, this derangement takes place in each, which when established aggravates considerably the general disorder. These facts so well known, would afford but little instruction to dwell further on them. If our patient be irritable about trifles, if he imagines most men are inimical to him, with the other abundant train of hypochondriac sensations more or less

present, we may in such, have some foundation for believing that the liver is disordered, or that there is some alteration of stricture going on here, or in some other important abdominal organ, much also in these cases is to be learnt from the nature of the discharges.

In these instances in particular strict attention must be paid to the rules laid down, as any deviation however small on the patient's part will render all remedial measures, so far as medicines are concerned, of little or no avail. We will also find some difficulty in selecting proper remedies for each particular case, as they must be chosen for combating particular symptoms, and this too only for the time being. Of the great abundance of remedies recommended in this Essay for the chronic stage we may be enabled to adapt many to the individual case. We will find in all such cases great benefit from the nitro-muriatic acid bath, or the sponging the body frequently with this, and should never be omitted in any case. The nitric acid as drink should be pretty liberally allowed. The calomel plan of treatment formerly detailed, may not do in every instance in this state of the disease, although much benefit will be derived in those cases in which we have not used it to any extent, providing there be nothing forbidding its administration. In other cases we must use it as our chief remedy, at the same time not forgetting the other important indications which require to be fulfilled, thus advancing step by step; this is more imperatively the case if our patient has been much harassed by disease. The continued administration of small doses, will now be much more advantageously employed than the larger, for here the disease is by no means so violent in its nature as the true dysentery. As we require more particularly, its alterative properties and not so much its local virtues at first, the blue pill in from three to four grain doses in

combination with ipecacuan, Dover's powder, or opium, or even with rhubarb, will be found very useful for daily exhibition, although in this manner at times it may be found much less likely to answer our expectations than when given by itself, if an opiate be necessary this should be given at night. Thus by acting cautiously and gently on the system we at length gain the wished-for advantage, and can carry it to the point requisite. As the disorder is of a constitutional nature, we must certainly give the system time to recover from the morbid cause or causes existing in any organ or set of parts, thus by the continuance of the blue pill entice the body to a healthy renewal of its functions. The plan of procedure may be compared to the treatment of an old ulcer in which we know we cannot get the parts to heal all at once, but must advance step by step, although this should occupy a couple of months or more. If for example we give large doses of calomel or any other remedy of known efficacy capable of stopping the purging at once, the effect produced can be for a time only, as the cause remaining, this on the cessation of the action of the remedy, would instantly almost, cause the purging to be renewed, in this manner then we would harass our patient without doing much good. The more appropriate plan is therefore to pursue the cure slowly and securely, thus the various actions must be broken piecemeal, by attacking them *seriatim et gradatim*. Tonics, which are well fitted for supporting the strength, at the same time that they allay the irritability of the intestines, by lessening the discharges, ought to be chosen, and we will find small doses of the metallic ones highly useful in this respect. The diet must be nourishing, taking care not to exceed, for the patient has often a tolerable appetite, and although he may not seem-

ingly indulge, yet there must considerable nicety be observed, for the bowels will not suffer that smallest excess or irregularity to be committed with impunity. If, in some of these cases, we think that there will be less injury done by keeping the mouth sore for a length of time, than by an indulgence in food, then we may take advantage of this, as there is not so much to fear from spoon diet, thus in the interval the intestines becomes better able to resist. There are other cases, and these the most numerous, in which we will find that the purging is not kept up from any irregularity of the diet; these are to be greatly benefited by the tonic plan throughout their whole progress. In such the disorder is no doubt kept up from a laxity of the parts, and their secreting vessels, much after the same manner as a gleet is occasioned. Care is to be taken that we do not push these measures with indiscretion, for although a disease of debility depending on derangement of hepatic or alimentary secretions, or both, we know well that we must not over-excite weak parts or the consequences will be an attack resembling acute inflammation on a diseased part, which when overcome they are left much worse than before, and now we may not have the means of subduing this as the powers of the system are very much below par. In all such instances then it must be by cautious and prudent progressive advances that we can gain any thing like permanent good. Much care and attention is required, on the part of the patient himself, that he does not incautiously expose himself, to night airs, moisture or any of the other acts of insubordination so frequently alluded to, for a relapse in general occurs in consequence of such, we will do well to keep constantly in view the rules proper for the treatment of chronic hepatitis.

A case or two briefly stated may now be introduced.

While at the Mauritius in 1829, I attended a patient on shore, who complained of severe purging and griping, with tenesmus, there was a little blood passed with the yellowish stools as also mucus. Stated that he had been for two or three days previous to this, subject to a little irregularity of the bowels. Had enjoyed almost uninterrupted good health for the three last years, was plethoric and stout, much addicted to the bottle. At the time of visiting in addition to the purging he was feverish in a high degree, had considerable thirst, the belly was tender, on examination in the region of the liver, found slight tenderness there likewise immediately below the ribs towards the middle portion; of this he was not aware until the attention was directed to it. In consequence of the fever and the irritation of the bowels being considerable, he was immediately bled freely, then I gave him an ounce of castor oil with thirty to forty drops of laudanum. When I visited him in the evening, expressed himself greatly relieved by the venesection, and the oil brought away four loose and foetid stools. Now gave him in bolus ten grains of calomel, five of the pulvis antimonialis and one and a half grains of opium, this procured some sleep, but he stated that it was not refreshing. Next morning the calls to stool were by no means so frequent, and the other febrile symptoms less severe, the tenderness of the liver not quite so great, ten grains of calomel four times during the day and at ten at night a good anodyne draught. Next morning wonderfully improved, to continue as before, in the evening was so much better, that he got out of bed and walked about for some time, the purging had all but ceased, he now thought proper to indulge in some wine and water, thinking there could be no great harm in it. In the morning the feverish symptoms had returned with the purging and tormina, was freely bled, after this continued much easier. Con-

tinued the calomel plan for three days more with an anodyne draught at night when the mouth became slightly sore and the dysenteric symptoms vanished, the liver during the whole of this time gave no trouble, and the tenderness had all but disappeared. A residence in the country was now recommended so that he might be quiet and recruit the bodily powers, gave him the most positive injunctions as to the diet and drink as also the requisite exercise. In the mean time His Majesty's Ship *Tweed*, of which I was Assistant Surgeon, sailed on a short cruize and we did not return for several weeks. On the moment of our arrival was sent for, when I learnt the following. He had returned from the country a short time after our departure pretty stout. Shortly after, had been heedlessly regaling with some friends and freely engaged in vinous potations, and riding much on horseback. His former complaint of griping and purging returned, with pain on pressure in the region of the liver, which he felt greater than before. Under these circumstances consulted some medical person who advised him to drink brandy and water, this of course being so much in unison with his own wishes, and advised by a medico, he partook of it most willingly. After a short time finding he got no better on this plan, consulted another who put him on proceedings diametrically opposite to the former, now he was allowed nothing but ptisans. A third was after a time consulted who put him under calomel but now to little purpose. All this time the purging continued harassing and reduced greatly, none of the medico's ever thought of paying that strict attention to the state of the liver which was absolutely requisite, until a fulness was observable, which gradually increased in size till there was a tumour as large as a goose egg but much more extensive at the base situated below the false ribs between the ensiform cartilage and between

the anterior and middle portion of the ribs. Some may be surprised at the above insidious nature of liver attacks, those who know the nature of such in some portions of the globe, know well that this is by no means of unfrequent occurrence, nay more that patients have been known to walk about with this insidious sort of inflammation, or destruction of the texture of the liver who knew nothing at all about an abscess forming until it almost actually shewed itself externally.

In this state I saw him on my return, and had been sent for on purpose to know whether it was proper to open the tumour or not, which was perfectly soft and full of fluid, now greatly reduced in strength with a hectic flush and a most anxious countenance. I advised the immediate opening of the abscess, which was accordingly performed next morning by his medical attendant, when there was discharged at least a couple of pounds of most offensive and foetid pus with a good proportion of thick coagulable looking substances. The purging during the remaining portion of his life continued, but less severe at intervals, and varying in colour, and consistence. As the strength was rapidly declining, and now that he had much to contend with, in respect of two ruinous discharges, I advised that his diet should consist of gentle tonics, such as beef tea, arrow root, with a little port wine and water, as he craved much for it, and also the infusion of quassia with the sulphate of quinine. The tincture of catechu and opium, which was to be changed at intervals to the pills of zinc, this as the general indication was followed. I did now take the management, but the advice given was always put in practice. During the treatment other astringents were used, for as he got tired of one mode of the medicines, recourse was had to others. After some time he seemed to rally a little, and the purging in a great measure

subsided. By the repeated use of anodynes at night it was endeavoured to make his existence as comfortable as possible. The hectic fever with hippocratic countenance became more evident as the disease progressed. This patient lived more than three months after the second attack and for a considerable time from the opening of the abscess, which in the end was fast getting better as regards the quantity of daily discharge, this decreased to about an ounce or so in the twenty-four hours, which continued for a short time after it had been opened, at nearly a pint daily. A few days previous to his dissolution, he appeared to be fast gaining strength, and the bowels well under the controul of medicine. Again this most obstinate and foolish man thought that a little proportion of wine than his limited allowance would not materially affect him, and at one time swallowed a couple of glassfuls, and a little more soon after this, soon sent the system into a state of excitement which could not be long maintained, as there was no permanent stamina remaining, in consequence of which he soon suffered for his folly. Had he paid rigid attention to the injunctions laid down for his guidance, as is incumbent on every patient, he might have had some chance of recovery, although under the present state of affairs this must have been but small. From the above we may observe that dysenteric symptoms may be produced and kept alive by derangement of the functions of the liver, which on being restored to a natural condition by proper medicines, the purging yields very often so soon as the system shews itself under its influence. And in the second place the bad consequences resulting to the non-attention of proper diet, and also that relapses from these causes may not unfrequently terminate fatally. We may also learn how insidious liver complaints are in par-

ticular in intertropical climates, and I have been informed that at the Mauritius such affections will at times advance to large abscesses, without exciting any attention on the part of the patient to the primary seat of the malady. Cases of this nature may at times be met with here, where little or no previous intimation of their approach is given, until they actually appear externally, and I have said that it has been known that patients have been walking about without being aware of their danger until such positively presented under the false ribs. We also see the unsteady state of the mind as portrayed by the anxious countenance, and inattention at times to all rules, such was greatly exhibited in the present instance, and he could not be bound down by any law, although he had more than once been convinced of the penalty he was liable to, if the least departure from them was permitted.

Another instance may be brought forward, it is the case of the master of a merchant vessel. This patient had been much addicted to excesses in drinking for three or four years previous to the present complaint, and was much harassed in mind, owing to various losses he had sustained. The purging of the bilious caste, mixed with blood and mucus, was considerable, as also the tormina and tenesmus. Would be for weeks at times, intoxicated, this of course aggravated the complaint, which had now been in duration for upwards of two months. On examining the region of the liver there was no pain, but an uneasy feeling about it, but he never complained of this, unless when it was touched. The febrile symptoms were slight and had the purging thrice stopped by calomel with an occasional purgative of rhubarb and ginger, which I prescribed for him. Previous to the last attack had been intoxicated for nine or ten days, when there was a renewal of the above symp-

toms but more intense. Now had pain in the region of the liver, and slightly so at the top of right shoulder, he was put on a course of blue pill with Dover's powder at night, this continued for a few days with but little apparent advantage, and, although cautioned as to the bad consequences of drinking, yet I entertained strong suspicions that he had still recourse to the bottle, and omitted his medicine, the former he told me generally alleviated his sufferings for the time being, this however in place of doing him any good, gradually exhausted his animal powers. I had another medical gentleman called in attendance, and at this period the stomach was so irritable as not to retain any thing of food even of a mucilaginous nature. The bowels were not so easily controuled as formerly, although he complained of slight pain in the region of the liver when pressed on, yet I did not imagine that there was any thing serious to be apprehended, and gave in opinion that this was a secondary or sympathetic affection in consequence of the disturbance in the alimentary canal. The other practitioner was of a different opinion, we however agreed perfectly as to the plan of procedure. Every thing we could do was done for allaying the irritability of the stomach and bowels but all to no purpose, for he died in a short time after. On inspection the liver appeared remarkably healthy and was more firm than usual, there was nothing else to be observed about it. This disappointed my confrere, for he had confidently stated before opening the body that we should find this viscus deeply engaged in disease. The bowels were slightly inflamed, particularly the larger. The stomach on its internal surface also a little reddened, as also a thickening of the intestines about the duodenum, for want of time, the brain was not looked to, and all the other viscera of the abdomen appeared healthy, unless a

slight enlargement of the spleen. Here then is another case in which a patient breaks through all laws which could be devised for his guidance. It was at one time suspected by the mate of this vessel that the master had taken poison of some sort or other, how far this may be correct I know not, he lived several days after this was reported to me, the irritability of stomach and the bowels particularly towards the latter period continued unabated, and nothing could be got to remain. In all probability this man perished in consequence of the severe exhaustion and shock of diminution given in this manner to the nervous powers, and more particularly am I inclined to look at the case in this respect, when it is considered he never rallied from his last debauch. In this instance many no doubt might have expected that diseased liver had been the exciting cause of the purging, but on inspection it did not appear to be so, we have certainly more reason to conclude that the viscus was sympathetically affected from the disturbance in the bowels, and that the pain at the top of the shoulder and the region of the liver, might be produced in consequence of the disordered state of the duodenum, the nerves of each portion participating with those of the other, as well as from the general disordered state of the system. The gall bladder was nearly full of a darkish green coloured bile, less viscid than that passed by stool, which was of a more brownish black appearance.

Many cases of a similar nature, arising from causes of intoxication I have met with, all of them difficult and troublesome to manage. It may be observed that the worst cases to treat are those which do not assume a strictly dysenteric form from the very commencement, frequently taking on more of the character of diarrhæa than dysentery, there is one species of the first named

disease described by others which puts on most of the above symptoms, in place therefore of classing purging as arising from disease of the liver or its vitiated secretions, under dysentery it is thought that such would be more properly classed under the *diarrhæa mucosa* of Dr. Good. In many such cases when fully formed, especially in a hot climate, we can do but little good, unless our patients strictly obey all our rules, as to diet, exercise, &c. and if they expect to obtain permanent advantage such they must do, otherwise they will be subject to continual relapses, which will in the end be sure to destroy life. It has also been noticed that the sooner a change of climate is ordered for such patient the better, even in this he may be too late, but where circumstances of expenditure will permit he ought to have it. I recollect well a case of a Captain Stewart who had an attack of what may be called *diarrhæa dysenterico vel mucosa*, for a few days he would have the purging of a bilious caste, then it would change to the true dysenteric, and then again to an intermediate state. Such a perverse and obstinate patient I have seldom witnessed, for he would confine himself to few if any of the rules laid down. Had been for a few days attacked by purging before he complained, when he did so it was with some difficulty he would take the medicine ordered, as he had been in the habit of taking some famed nostrum for the cure of a purging. He likewise was labouring under disease of the liver, yet continued unknown to me to take the favourite medicine, which was found after his death amongst his clothes. Under these circumstances it would be in vain for any medical man to prescribe, for unless the patients put their chief reliance on what the medical attendant advises, when he is of known ability, it will be of but little use, and this more particularly in a hot climate, and under such obstinate attacks as the pre-

sent. The constitution which is greatly reduced by the climate, and frequent debauches, is not to be treated in the same manner as we would be apt to do in those cases occurring in a more healthy atmosphere. In the former every case should be rigidly attended to, not only on the part of the practitioner, but also the patient should take care that no improper exposure on his part, or any unjust advantage be taken so as to lead the medical attendant into error. It is rather an odd circumstance that very many patients take a delight in attempting to mislead medical men, by giving an erroneous statement of the symptoms of their disorders. This is not an imaginary error for in the end it will tell forcibly on themselves, whether this proceeds from ignorance, or want of inclination on the part of the patient I know not, this I do know that many instances of the sort are to be found, more particularly when they know that certain remedies are likely to be administered. The insidious nature of bowel affections should put every one strictly on his guard, and he ought not to be surprised at the vast variety to be met with, some of which no doubt will at times baffle his best directed efforts. These observations more immediately apply to attacks of the liver in combination with those of the bowels, the character of the insidious nature of which is only to be gained by long and tedious experience. We may not unfrequently meet with cases in which there is a slight purging of some duration, causing considerable trouble, these as depending on the climate should always have the benefit of a change of temperature, and we will find that many of them demand our serious attention, for on inspection of some of these, we might find that the bowels particularly the larger were glued together as it were with much inflammation, yet during life nothing of the sort was suspected, in others again extensive patches of ulceration.

In such as they occur, generally in weak patients, the system has not the stamina for active inflammation, nor yet for a renovation of its powers, and therefore if the proper measures be not pursued, they must sink from the effects of this chronico-acute malady. When however the strength is such as that we can use venesection, then our dependence is to be placed in that, with a blister over the region of the abdomen, or the tartar emetic ointment, with the administration of calomel and blue pill, so as gently to touch the mouth, and this must be done quickly, for here as well as in every part of this Essay I do contend for saving the patient's strength. We must not, be it recollected, attempt to tamper with such cases with administering salts and senna, until we have satisfactorily ascertained that mercury is of no further utility, now we can employ astringents and tonics with a proper attention to the bowels, previous to the change of climate. The gently purgative plan is by far too much in vogue with many practitioners of the present day.

In drawing these remarks to a conclusion there is a point or two yet for consideration. As a general observation it may be stated that in the same diseases, we must attend in the treatment to the different circumstances under which they may occur. Let us for example take two places at the distance of from fifty to one hundred miles apart, the disease raging in each. At the one place it may be more violent than at the other, accompanied by a strong tendency to inflammatory action, with general disturbance of the system, whereas in the former the opposite of the first state may exist, does not therefore each require some modification of treatment, the one strictly anti-plogistic and the other the reverse. This shews that there can be no general plan laid down which will answer in all cases, those who attempt such must be foiled, if there is any general procedure of more

universal application than another, such must be the calomel or blue pill, which will be found to answer under all forms and circumstances under which the disease appears, unless perhaps in the regular scorbutic dysentery; here even, it may be given in small doses but with attention, this more freely, however, when our men are on vegetable diet. If it be the land scurvy then the sulphuric acid and other remedies generally used in such with small doses of blue pill or calomel may be given. Now a dysentery or fever may be prevalent on board a ship, and the men may be under very different circumstances as to the nature of their attacks, and will require difference of treatment, a squadron at sea collected from different parts of the globe, must have the disease presenting a variety of appearances. In some the patients may require a long course of medicine, whereas in others they are less obstinate and yield readily to a single dose of Dover's powder with a gentle purge or two. This proceeds from no want of inattention on the part of any medical man but merely from the nature of the patients' constitutions, and each under the same circumstances would be just as successful as the other. Some of the ships after long service in a hot climate, may have just joined while others may have done the like after being but a short time there, these things are also to be taken into consideration. Others may have been a long time at sea living on salt provisions, consequently a tendency to debility or scurvy, therefore under each of these circumstances we will find that each particular ship requires some modification of treatment. It is perhaps useless to observe that in many such instances were we to pursue the strictly anti-phlogistic plan, we would to a certainty injure much, the cases being apt to assume the chronic stage. Such then may be the diversity of circumstances under which we may meet with dysentery.

that the discriminating practitioner will be guided by no certain general rule as applicable to the treatment of every case, but will to a certainty adopt that which seems best calculated for fulfilling the particular indication required, according as the constitution of the patient and other circumstances seem to require. In this manner would I in some measure attempt to reconcile the great discrepancy of opinion which has so long prevailed as to the proper plan of procedure. Some bleeding powerfully, and depending on the febrifuge medicines, others administering much of purgative medicines, and others pursuing a medium course, yet all comparatively successful. Such things in a great measure depend on the peculiarity of the constitution, not only of the patients but also of the atmosphere, we must therefore be guided by the concomitant attendants on the disease. The opportunities of our patients obtaining the necessities of life should direct us greatly as to the proper plan, some may think I refer here to the precarious life of the seaman, but no, to every individual it therefore becomes us to advise with judgment and proper discrimination.

AN
ENQUIRY
INTO
THE NATURE, CAUSES AND TREATMENT
OF
ERYSIPELAS.

THE HISTORY OF THE

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ERYSIPELAS.

CHAP. I.

NATURE OF THE MALADY, &c.

VARIOUS indeed are the different forms or modifications of Erysipelas, not only as regards its appearance, the circumstances under which it does so, the multiplicity of causes from which it may spring, but also the diversity of treatment which is held forth to refute or establish the same practical position. It shall be my business in the following enquiry to state in as concise, and comprehensive manner as possible, the views I have for some time past entertained, as to the real nature of this disease. As I have not seen any thing that approaches to them, as the general received opinion, it becomes me to be somewhat circumspect in advancing cautiously to the point of elucidation. Authors believe that as great a variety obtains here as in dysentery, under its multiplicity of forms, this depending on the constitution of the atmosphere, or the patient, the age, or the sex, so that many very eminent practitioners have adopted in each disease different plans of procedure according to his peculiar notions of the nature or causes of each, and in some instances these at total variance with the generally received opinions of the time, strange as it may appear each successful in his own estimation. It would be useless to enumerate all the circumstances under which erysipelas attacks the body, suffice it to say that it does so principally under four states, without depending on mechanical or chemical injury. Therefore we have the

simple and phlegnionoid species, the œdematous and gangrenous, to which a fifth variety may be added the erratic. That each of these depends on peculiarity of constitution as regards the state of the nervous system and vitality of the parts will be attempted to be shewn. The gangrenous is more properly the sequela of the others, and is apt to lay hold of parts which at the time being are but ill adapted to carry on the necessary vitality. The œdematous does so likewise, and we see this as well as the phlegnionoid variety not unfrequently terminating in gangrene. That there is a species of Erysipelas which often arises near gangrenous parts and spreads with a dreadful malignancy cannot be doubted, but then it is only a variety of the inflammation, caused by the peculiar nature of the modification at the time, which is aided greatly in its spread by the constitution of the atmosphere proceeding from some peculiarity in the nerves about these places, fitting them for this distinct action, this may appear evident to most men before the inquiry be finished. We see therefore that erysipelas may occur in modified forms according to the constitution of the body or the nature of the cause.

In the present inquiry it is intended to confine myself almost exclusively to those instances as arising *se ipso*, and not depending on any mechanical or chemical cause inflicted upon any portion of the body, thus reducing it at once to a disease arising from a constitutional cause or causes. Some medical practitioners view the disease as purely inflammatory, and that it is chiefly confined to the skin, or this and the cellular membrane, we are well aware that these are the parts chiefly involved in the majority of instances, but there are cases to be met with in which this particular inflammation penetrates more deeply than the parts named. This opinion although correct in some measure must be received

with considerable caution in respect of the treatment, for we are sure of a certain destruction of substance following if we adopt the anti-phlogistic plan in a rigid manner. What let me ask produces the inflammation, I am afraid this cause does not exist in the particular state of the blood, if so, why have we not a more extensive, nay, universal spread of the disease over the surface of the body. If it proceeds from some internal cause operating on the part, what brings this to operate on the debilitated portion of the surface, why surely it is through the nervous system which is the great means by which all sensations are communicated, are we not right therefore in drawing the inference that it is the nerves, which are the primarily affected, or disordered parts, and that, in consequence of irritation in them, we have the particular affection produced, when causes are present favourable to its operation. The reason why other places than the skin and cellular membrane, should be seriatim attacked, such as the cellular texture between the muscles, the muscles themselves, the apomerosis, fasciæ, &c. will be attempted to be shewn, this constituting the serious and often destructive variety termed the phlegnionoid. With what advantage we can put our patients on the anti-phlogistic regimen, as well as the parts themselves will likewise be pointed out, as well as the advantages and disadvantages to be derived from the scalpel, leeches, cupping glasses, &c. We know that there is another class of practitioners who view the disease as chiefly, if not entirely depending on an opposite state of things, and that it is only inflammation in debilitated parts, consequently the measures they adopt and with "increasing confidence" are entirely different to the above, for they make an attack on the general system, with the barks, ammonia, wine, brandy, and other stimulating or tonic remedies, they of course also

claim a great proportion of happy cures. There is yet a third set who adhere inflexibly to neither, but pursue both as circumstances require, and it is imagined that they are the more discriminating and can lay claim to the more successful mode of practice. It may be stated, that in those diseases in which there exists such a jumbling of practice, that they are as yet not sufficiently understood in so far as regards their true causes, but we make some allowance for each having detailed with minuteness too, that which he found the best. Hence we may infer, that there are modifications of erysipelas to be met with, according to the season of the year, the particular state of the weather, the nature of our patients' constitutions and the several causes to which they have been exposed, and accordingly each of these circumstances may just require the distinct and almost opposite practice described by the several practitioners, and also that there can be no plan of universal procedure laid down, as applicable to all cases. These points when properly attended to will also be found in some measure to depend upon the certain stages of the disorder, varying at certain stages of the attack, and its duration, therefore each method may be useful in the same case, provided caution be observed not to mistake effects for causes, and that we adopt that which the urgency of the present symptoms demands, keeping in view the general tendency of the malady, especially when severe, which it may produce on the general powers of the system.

Nosologists have tormented themselves not a little as to the definition and have divided the disease into as many varieties as perhaps there are causes. It is not intended to invade their learned domains any further than to state that erysipelas may arise from a host of causes, but all of them shewing an efflorescence of

the skin, and it is believed that all of them may be referred to one common origin, an affection of the nervous power of the parts, which is necessarily present in every form and variety, and under whatever circumstances arising. The malady may shew itself at any period of the year, but it generally prevails in Britain after the dog days, or in the autumnal months, or in the early part of the winter, there is one great pre-disposing cause, the weather being previously hot now succeeded by cold and moisture, the first by relaxing the body leaves it of a more ready access to the operations of the other two. The particular times of the year alluded to are those in which we meet with it amongst seamen, who have been cruising in the north seas, or amongst the landsman who are exposed to the sea breezes near such places, I know well likewise that it may occur at a very considerable distance, from the supposed influence of such. This particular variety so frequently met with amongst our seamen is very apt to assume the phlegnionoid type, which has been so much *dilated* on by Mr. Copeland Hutchinson and others, correct or otherwise, will be shewn in the sequel. That seamen should be more liable to this species than any other class of men seems not at all improbable, and indeed it is what might be expected, when we take into account the severe hardships they have at times to encounter, as well as their being exposed in a very high degree to the changes in the atmosphere, to wet and moisture from the water, this last, insinuating amongst their clothes, thus lodges about their bodies, and if the skin be tender or irritable, it is not surprising that an irritation to the nervous extremities should be caused from the salt contained in the water, which is brought more forcibly into operation by the friction of their trowsers, of whatever materials they may be composed.

In the investigation of the causes of this disorder, it is intended to select one alone, the operation of which is of more universal application than any other, therefore we may discard for the present every cause, admitting their several propensities as exerted on the body. The one referred to is atmospherical vicissitudes and other noxious state of the air. That there are many diseases depending on this as a common cause, cannot it is thought, in the present day be doubted, these generally assume an endemic or epidemic character, and but too frequently produce much and serious derangement of the constitution, some of them laying speedily prostrate the animal and vital powers and not at all to be accounted for on the principles of contagion, but that they may become so under certain circumstances, seems not at all improbable. If in any climate there be many cases of a certain disease prevalent at the same period of the year, as cases of dysentery, typhus fever, intermittents, erysipelas, &c. all shewing themselves at the same time we may certainly infer that all such have one common origin and that each only depends on its existence from some peculiarity of the patient's constitution or perhaps the air which he breathes, for this may be somewhat different from that in general operation, since he may be living in a confined and dirty place. At Trincomallee, for example, we have a severe fever raging (March 1834) which carries off a great many of the Natives, while at the same time, there is scarcely an European attacked by the disorder, in them the operating cause shews itself in the form of dysentery, when they are assailed, as was the case at the time referred to, now is this not peculiarity of constitution in the European from his more substantial diet, &c. resisting the production of the particular fever, but not being sufficiently strong the same cause produces the other attack and of this I have no

doubt. But there is much more to be learned from the above than at first sight would appear, are we not from this informed that the principal remedy in the reduction of the fever will be most usefully combined with the basis of the proper treatment for dysentery, it is high time indeed that we should begin to draw true practical deductions from many circumstances like the present, and not adopt the treatment of any man however high his attainments, until we thoroughly understand against what we have to contend. When we attentively consider the state of the Island of Great Britain at particular periods of the year, we will find that there is some peculiarity existing as regards heat and moisture, or cold and moisture, or of cold alone, which of itself may be sufficient to produce erysipelas without previous hard bodily labour, but we know that the complaint is more likely to arise under the last circumstances, this is more particularly exemplified amongst seafaring men than many other classes of society from the causes partially alluded to. The body in such cases being allowed to rest all at once after hard labour, soon becomes cooled, and this especially when exposed to the current of cold air, this produces a change on the state of the nerves favourable to the operation of any disorder, which is likely to be excited, by this cause, and if there is any one disease taking the lead, we have the affection in all probability taking on its type. There is yet another manner in which cold will operate in the same way, which is, a patient or healthy man is sitting in a warm room, now suddenly going into the open air of a cold night, their heads uncovered, or any other parts of their bodies being unprotected we may have an irritation in the sentient powers of these uncovered portions, and disease may be induced. According to certain peculiarities, then, the disorders may be modified, although I

do not pretend to say the exact proportion to which this may take place, as such must depend on a host of circumstances, such as the constitution of the patient, the state under which he was when exposed and attacked, whether intoxicated or the reverse, whether he was in a manner starving, or had been previously well fed, whether a free liver, as a rich man, or a debauchee as a poor one, whether a hard working fellow or the opposite, whether on the prime of life, or on the debilitating side of it, all these and many more are to be taken into consideration in conjunction with the particular temperaments of each. Seeing all these barriers to our investigation it is no wonder that we are often at a loss to determine what the particular nature of the attack may be, since this must depend greatly on the particular condition of the nervous system for the time being, as well as the extent of the exposure, nor need we be astonished at the discrepancy of opinion, which has prevailed as to the treatment, since the same disorder may be so diversified in its operations, all these things depending on the sentient powers of the system, operated upon itself by the various disturbances it occasions. It has been observed when treating of cholera and dysentery, that when a disease takes first the lead at the commencement of the season that all will most likely take on its type, and that the usual complaints are by no means of such frequent occurrence. We can easily see the reason why typhus fever should be so particularly fond of commercial towns, and committing its depredations in the more confined and ill ventilated parts, so will erysipelas be found to be of difficult management under these circumstances, this aggravated by the inadequate diet of its district inhabitants, and why the fever instanced so very frequently assails the medical attendants, since they are so often exposed to the influence of the tainted atmosphere,

and other putrid exhalations engendered during the progress of such distempers in the places alluded to. It is not to be wondered at then, if the above circumstances should have given rise to the question as to the really contagious character of each this will remain for further investigation.

To advance a step further in the enquiry, it may be again observed that erysipelas depends in the first instance on nervous irritation, either arising from some cause operating through the general system, or its extremities on the surface or proceeding from derangement of the digestive organs which may act primarily on the part, or secondarily on it through the sensorium commune. We know that at the very first there is either a partial or general disturbance in the body before the erysipelas breaks forth—and not unfrequently a fever of a day or two's duration. Now this state in all likelihood takes place in the following manner, either from an affection of the extremity of the nerves of the surface, arising from impressions made on them by exposure to cold, or cold and wet, or heat with moisture succeeded by cold and damp weather, or in consequence of these causes operating through the sentient powers of the lungs. If in the latter manner we may easily perceive why in the first instance there should be partial or universal commotion before the malady shews itself on the surface. If in the former then we may have one of two things occurring, the operating cause may produce in the first instance on the skin such a state of nervous irritation as to cause efflorescence here, now being in existence the peculiar irritation may be transmitted to the encephalon, now there is slight fever, with this the effloresced portion sympathising strongly, consequently an increase of each, which if not interfered with either by the operations of the body or medicine, would go to increase as long as fuel

was supplied, or in other words as high as the excitement could go. Thus then we have a fever lighted up, which in its turn acts on the parts, or *vice versa*, inducing an angry feeling between the two disorders, each suspicious of the others existence, from each the constitution may suffer materially, since then the sensorium is not unfrequently disturbed from the very onset or at all events becomes so in the progress of severe cases, we might safely conclude that erysipelas depends upon nervous derangement, and that this is occasioned in the manner adverted to, not only so, but on the same reasoning can we explain most of the aggravated appearances met with during the attacks, by inducing a tendency to venous congestion, we have the actions of the lungs and heart disturbed, as well as other unpleasant attendants such as coma. There is no doubt but that we will meet with many mild cases of the complaint, without any febrile symptoms or any other untoward signs such as vesication, suppuration, or mortification. But what does this prove, only that the patient is fortunate in having made an escape, and he may congratulate himself that his nervous system is so well capable of resisting for the cause being present only wanted an incentive to its further operation, now a blow on the head producing debility of the organ for a day or so, might be capable of doing so. Besides, what is to prevent one portion of the nerves of the extremities from being in a reduced state and the other parts of the body resisting well, will certainly prevent the disease from spreading further, or until the parts in their immediate neighbourhood sympathise. We are well aware that in neuralgia of the face, there is only an excited action of the nerves, this produces other changes in the part worthy of attention, does it not stimulate the arterial action of the parts within its atmosphere of influence, thus a throbbing is experi-

enced and we may often notice a blushed condition of the skin, approaching to that of inflammation, if such be not really present, for we have pain even to excess. In the above then we have three of the characteristic symptoms of inflammation even without tumour, something similar to the same condition of the parts as we meet with in erysipelas, which may often be met with under the same circumstances. Does it not from this follow that a disturbed state of the nerves may cause this species of inflammation, but that there is wanting a power of a general nature to bring it into active operation, does the above example not shew that a certain branch of a nerve may be disturbed, without producing general disorder, why should we hesitate to subscribe to the opinion that this may take place in other parts as well as the face, and that therefore when the disease is mild it depends on disordered action of the nerves of the particular part attacked, and may go no further if proper measures be taken. There are many things which act in producing an instantaneous inflammation resembling erysipelas, an instance may be given; one day while at sea and near the Equator, I accidentally exposed my naked arm to the rays of the sun, there was at once inflammation to a considerable extent, the smarting or burning pain was severe with redness disappearing on pressure, which immediately returned on this being removed such remained for three days and gave much uneasiness. The same sort of painful nervous efflorescence is occasioned from the application of a species of nautilus, often seen at sea and in fine weather in intertropical countries. A good many instances I have seen of the men when over board bathing being stung by coming in contact with the long feelers of the "Portuguese men of war," which is the sea term, the pain at the instant is very acute, the redness considera-

ble, and the burning sensation great, this will continue for many hours, unless the parts be rubbed with oil, the redness here also disappears on pressure but returns as quickly as it does in erysipelas. There are some insects to be met with on the Island of Ceylon, which if accidentally killed on any part of the body, the juice of them coming in contact with the skin almost instantly inflames it, and will continue so for many days as happened in more than one instance to people I have met with.

The true seat of erysipelas is at first I think in the extremities of the nervous papillæ, consequently the very outermost sensible part of the skin. It is no wonder that the circulation should become disordered since we know that the nerves have a wonderful power over this, and now that the one is disturbed in its actions so will the other, and the disease being in duration penetrates a little deeper, with a further disturbance to the circulation, thus the two proceeding hand and hand together produce much mischief. Another circumstance from which we may infer that it is a nervous disorder may be from the great prostration of strength generally manifested in all severe cases, why this should be the case cannot it be imagined be shewn on any other supposition, and do we not observe in real inflammatory fever that the strength is but *parum imminutæ*, which may proceed from some difference between the two affections. Another proof of erysipelas being a disease of the nervous functions of the parts, many may think consists in the fact of the frequent occurrence of relapses, does this not depend on the weakened condition, consequently on nervous debility induced by the previous attack, the parts therefore are but ill able to bear exposure, either to the air or other irritating causes, when so, we are very apt to have a renewal of the inflammation, we see therefore the propriety of having these portions well protect-

ed, nay, the patients who are liable to exposures of this sort, are obliged to do this of their own accord, shewing clearly the state of vitality and that they are very sensible to external impressions, as the portion which has suffered generally feels colder than the rest. In corroboration of my opinion that the nervous papillæ of the skin is the first part assailed, the lichen tropicus or prickly heat is instanced. This appears to be nothing else but an irritation of the nerves of the papillæ in consequence of some irritating cause, does this not shew clearly that irritation of the nerves of the skin gives rise to an efflorescence, this is more particularly the case in the more aggravated forms of this most annoying and tormenting complaint, in which we observe the myriads of punctations over the whole surface, in some cases a pins point could scarcely be put down on any part of the surface without touching some one spot. We not unfrequently meet with this more severe, where the clothes fix rather tightly as around the belly under the armpits, I have seen in many cases these parts literally bare of the scarf skin and appear like a blistered surface when the dead portions have been removed, such incontestably proving that the friction and the perspiration are the exciting causes, added to the extreme heat of the weather thus producing considerable irritation. In many such cases the bowels act irregularly, and there is a strong tendency for the fluids when swallowed to add greatly to our sufferings, these coming as quick as thought to the skin and irritate the nervous papillæ. Here then we have irritation of the nerves producing the above appearances and was there some peculiarity of the weather present, we might have erysipelas or at all events a severe erythematic inflammation. The reason why cold, or cold and moisture will not do so, is for the obvious reason that the patient is not breathing this par-

ticular state of the atmosphere, and his whole body is not exposed and for some time, to the operation of these causes. A blister in its primary action by irritating the nervous papillæ produces a reddened state, continue this for something longer and we have an inflamed surface present, the vessels of which pour out their fluids. This is not all, for we know that in certain conditions of the body as in scurvy that a blister not unfrequently produces such a degree of inflammation as to destroy the parts upon which it has acted, this is not all, for do we not find that an erisipelatous inflammation travels to the parts beyond that to which the blister was applied. That a blister under any condition of the weather should do so seems not at all surprising, when we consider the vitality of the body and parts to which the application has been made, it produces a stimulus over and above what the now reduced state of the parts can bear, consequently they must suffer. The above shews that a blister under certain diseases will produce erysipelatous inflammation, these however are attended with certain states of the system, and do we not likewise find that they are at certain times even in trivial complaints exceedingly apt to do so, when we cannot account for the phenomenon, and ascribe it to peculiarity, or an exceedingly irritable state of the constitution for the time being. This is exactly the case, as at these times the nervous system is acted on either by internal or external causes producing the exact state, fitting them for this erysipelatous actions, and that the continual exposure to wet and moist cold weather, will produce this condition even in a man otherwise healthy seems more than probable. Under such circumstances with no disease about him, let the depressing passions come into full play now we see that a further reduction of the powers of the system, brings the disease into full

operation, which might or might not have shewn itself for some time, nay, do we not find in the more severe cases of the malady the mind wonderfully depressed, hence another proof of the true source of the disorder.

We have seen then that the disease may arise in the first instance without producing any general disturbance in the body and is more of a local than a constitutional malady. But there are instances and these the most numerous especially in the ill ventilated portions of large towns and other crowded places in which the action is produced in an opposite way. The irritation to the nervous extremities of the surface may arise from causes operating within the system itself, as from foreign materials irritating the alimentary canal, or a depraved and vitiated state of the secretions, or as has been stated there is a peculiar febrile state in existence for a day or so previous to the erysipelatous eruption shewing itself. If there is not fever actually present at all events the patient often feels languid, with uneasy feeling about the back and loins, fatigue and stiffness in the large joints, evidently shewing an approach to the condition referred to, then the disorder will break forth and the parts most likely to be assailed are those weakened either from exposure or previous disease. If fever was present now we will find that the headache and other febrile symptoms are mitigated but only perhaps for the time being, or at other times they may be greatly increased, this last however will not take place in all probability until the two diseases, if I may be allowed to divide the fever and local affection, begin to re-act the one on the other, and both on the system, thus then we will have all the more severe symptoms of the disease. On this state of re-action then depends the progress of the malady, as well as the resisting power of the nervous system, or its irritable

condition. We are well aware therefore that a fever not unfrequently manifests itself ere the bursting forth of the local affection, and it is more than probable that this fever is something of the same type as occurs in other exanthemata which are likewise attended with the peculiar tendency to the skin, as happens in small-pox, scarlatina, measles, and some others. Viewing the disease in the above manner, it necessarily follows, that to be successful in the treatment, we have to contend with principally the general affection, as well as that of the local attack, taking especial care not to allow this to overstep the bounds which it is at present confined to. Such measures are therefore to be resorted to which are not likely to interfere with the operation of one another or seem likely to aggravate the febrile symptoms as that of local applications, which from their nature may be exceedingly apt to stimulate the nerves of the part thus throwing on the body an additional onus, we must therefore at all times attend to the nature of the attack, as well as that of the difference of constitutions, either previous to, or after the malady has shewn itself.

An example or two may now be given of causes acting through the medium of the general system, in the production of an erythema or a reddened appearance on the surface. We know that from the improper exhibition of mercury, or where this disagrees, we are frequently consulted as to an eruption produced by this. Such takes place when the mineral has got hold of the system, now its stimulating properties come more fully into operation, and this it does by acting on some organ or set of organs and thus produces severe erythema, which would in all probability have taken on erysipelatous action had the exciting cause been present which I have alluded to. This depends in a great degree on another circumstance even allowing such to be in existence, for we have to

consider that mercury having taken possession of the system, has already induced an action in the organs, incompatible with the existence of disease of this nature, and therefore serves to keep the nervous play alive, preventing it thereby admitting a disease of inferior power, since the exciting cause is below that of the mercurial action, and we know that no two diseases can attack any one part or the whole body and operate with equal violence at the same time. But that atmospherical vicissitudes do under certain circumstances serve to keep up the mercurial erythema I have no doubt, the mercurial action subsiding the disorder becomes less. Does the mercury act on the nervous extremities, or through their origins, or primarily by stimulating some important viscus? It is imagined that this may be produced in either way and maintained so long as the operating cause is present.

As to acrid substances and other irritating materials in the alimentary canal or elsewhere, producing disturbance on the surface, there can be no doubt when we see eruptions of various degrees of magnitude and variety produced from the eating of shell fish, mackerel and a great abundance of other species of food, from which we have nettle rash, miliary eruptions, or large white spots, or these sometimes red, thrown out over the whole body, and in particular the extremities. These spots or wheals even at times appear loaded with serous fluid, and will remain for a longer or shorter time according to the duration of the action excited by the presence of the irritating cause in the intestines, or from the impression made on the nervous system, or from the rapidity with which absorption may be going on. Now these occurrences can only be satisfactorily accounted for on the supposition of nervous derangement, else how could such be so speedily induced on the surface, and from

such a far distant part as the intestines. Even admitting that something acrid was carried to the parts themselves still this must tell upon the sentient powers of it, and in this manner the production of disease. This may occur therefore either by a direct transfer of action from the intestines, or a splitting of it, one part going to the surface while the other remains behind to work further destruction if needs be, the one part feeling relieved as the other is attacked. Such cases as the above are well managed by those medicines which operate quickly and gently in procuring free evacuations, as also by anti-spasmodics when there is considerable pain in the region of the stomach such as with sulphuric æther and opium. From the above we see that the skin is much influenced by derangement of the digestive functions, the disordered state of these may be the primary source of disease in most instances of these complaints, at all events we know the importance of preserving the bowels in a well regulated state during any attack on the surface. Cuvier when speaking of the alimentary canal, calls it "an internal sac of the skin, that the skin "is inflected and lines the internal canal." Be this as it may we know the influence of the one over that of the other, and that we may have irritation followed by inflammation from derangement of either function not only in the very young, as we see often exemplified in children, but this is apt to arise under all circumstances of age, climate or sex, and that these conditions of the body may be either attended by fever before or after the eruption, for we do find that whatever disturbs the natural action of a part, will to the extent of interference, either produce irritation in it, this ending in fever, or this last may be the first in the chain of actions and soliciting the presence of the others, and that this derangement will proceed according to the innate vitality of the organs,

provided there was nothing done by medicine, or by the powers of the body. It may be stated in this Essay also, that pain in any organ, particularly when severe, soon ends in a state approaching to inflammation and will progress in proportion to its supply from the nervous and sanguiferous systems, if not speedily removed. Hence it follows that in the more severe forms of erysipelas, we should anxiously endeavour to remove such, since its continuance would either exhaust the parts still further by producing debility of the nervous system, or by its excitement would add greatly to the general irritation, which would now tell forcibly on the weakened erysipelatous member. This then if not speedily relieved might not proceed the length of overwhelming every organ in the body, but it would produce such a state of exhaustion as to be inimical to the quick recovery of the patient. The pain subsiding after having continued for a length of time severe, we would find that the sensibility of the system is much impaired thereby, so as now perhaps to be incapable of re-acting for the general good, thus then we see the great advantage to be gained by the subduction of pain in whatever case it may occur.

It was thought proper to make these preliminary observations before we took up more of the subject, and only a few of the important phenomena regarding nervous irritation have been noticed. I now come to inquire into the changes produced on the skin and general system from the operation of causes, acting through the medium of the atmosphere, and that erysipelas seems depending on this as one general source of production, few may be inclined to doubt, when they observe the disease assuming the characters of endemics or epidemics, and this modified in a great degree by the difference of constitution, the manner of living, either as applied to diet, clothing, dwelling, or by the frequency of exposure to

the exciting cause, this aided in its operation by low diet and severe bodily labour. This is the form of the disease to which my observations more properly apply and which it has been my chief aim to illustrate. Diseases of this nature, of which erysipelas is one, when they extensively predominate, must have some other cause than contagion for their production, which whether of a visible or invisible quality, is not the present question. We have more to do with their amelioration, and that for this purpose we should maintain the power of the system as much as may be requisite, and that our best energies should be directed to this or that portion of the system in which the greatest onus of the disorder is manifested, by so doing we will find ourselves most successful. There are many diseases the real cause or causes of which we cannot to a certainty account for, there are many of these in which we could not do much damage by imagining that there is a certain something acting through the medium of the atmosphere on the sentient power, either of the body or part, and that in this manner are produced all the anomalous and diversified appearances so often met with. The manner in which some causes originate, and produce endemic or epidemic maladies, and the way in which it travels through certain portions of the globe, as well as the manner in which it operates on the human frame, has been pointed out and detailed at considerable length in my Essays on Cholera and Dysentery. We now come to the more full investigation of the manner in which cold, heat and moisture, seems to act in the production of erysipelas, some may be inclined to say that there is no specific *virus* here present if the expression be allowed, which seems to produce cholera, and as for dysentery and erysipelas, we will find them often produced from the same causes about to come under consi-

deration. Although few, if indeed any have engaged in the manner of elucidation here advocated, yet I cannot refrain from expressing my strong conviction as to the real nature of many of these instances of disease, and the more particularly am I inclined to adopt such views when I perceive every year at certain seasons some of these disorders prevalent. Thus shewing to a demonstration that the cause however modified is still present, and that it depends only on the extent and force of this with the nature of the constitution what the particular nature of the endemic or epidemic will be, and although we cannot distinctly state the magnitude of the modifying principle in the production of each, yet this may be of but little consequence, if we can find out the proper plan of procedure as regards their treatment.

That erysipelas appears more frequently under certain states of the atmosphere than others cannot be doubted, that these are cold with moisture or heat followed by such, as few will hesitate to admit, but the particular manner in which such produces disordered actions in the body few, if any, have sufficiently enquired into. Such then predisposes a certain class of men more than others to these attacks, more particularly as formerly noticed when joined to severe bodily fatigue with much intercourse with the atmosphere, of this also we can have no doubt, as well as, the state of the body thereby induced, and the consequent liability of such. Some will no doubt say that in the middle of summer, when there is much rain that nothing of the sort occurs, it is at once granted that the disease is but seldom met with under these circumstances; but let us mark the change when the weather soon after this becomes much colder and wet particularly at night. The erysipelas now becomes of more frequent occurrence, and not only this but much more aggravated, than might be anticipated, in proportion to the

extent to which the previous hot weather may have acted as a debilitating cause, those so circumstanced are liable in a very great degree, and none perhaps more so than seamen, or those living on the sea coasts, or those who are exposed to the influence of the sea breezes. Here then we have heat and moisture succeeded by cold and moisture, this last operating now on bodies debilitated in some degree by the effects of the former, will now act forcibly on ill fed or badly lodged persons, in whom the functions of the body and particularly that of the skin, is much injured either by mental depressions or by a previous debauch. Some may say that the coldness in the atmosphere is not so very great since the thermometer shews no great deviation from the usual standard of the season or seasons, as compared with former years, and surely by no means so great, as is to be experienced at some places where I have observed the thermometrical changes at least twenty-four degrees in as many hours, and this I know is by no means the greatest variation of it in the same space. In such places however it will be found that the relative heat of the day and night is much above fifty, this forms a vast proportion of the difference in respect of the climates. In our own more northern countries we may not meet with any thing like the same variation as compared to these places, or that of the former year, with this difference however, that the one season has much more moisture in the air than the other, and that the winds may have changed a few points from their ordinary direction, or now they may be blowing more stoutly than on former occasions, all these things constitute some diversity. It is then when the air *feels* chilly or cold to the general system, and more so perhaps to the surface than any other portion of it, an exposure for a few hours might not be thought to injure much the operations of either

functions, but that it does so, may appear pretty evident when we consider the state of the patients who are generally the greatest sufferers. The moisture in the atmosphere may be present from two sources, that of actual rain, or from thick fogs or damps, the air being heavily loaded with such, and the mist so thick as to fall without rain, which wets readily any one exposed to them, this is of frequent occurrence in many parts of Scotland. Look at the severe fogs in and about London, or in the British channel, or elsewhere around the sea coasts of England, and say whether such a condition of the atmosphere is not productive, or favourable to the production, of a certain class of diseases depending on this cause for their presence. Let any one walk along the Strand in London, or any other street where there is a continued influx and reflux of inhabitants during some of these fogs, and his ears will be saluted with innumerable sounds of coughing, and to a stranger it might appear as if the entire city had catarrh, on these wearing off the excitement being gone, there are few now to be seen or heard, but still in many the operating cause remains, and in a day or so, there are cases of catarrh to be met with, such produced by nervous excitement of the lungs, these may or may not be attended with fever, and do we not also find that under such states of the weather erysipelas makes its advances. The manner in which these several causes operate is in the production of an altered state of the body and a tendency to debility of the whole actions, and chiefly manifests itself in the depression of the sensorial functions, which in the end tells more forcibly on some parts than others, and in a high degree on the surface, the nervous power of which is more injured from its repeated exposure than other parts. Hence we see the reason why such a vast train of symptoms should follow these imprudent expo-

sures, hence also we may in some measure observe, the susceptibility of the system to individual diseases, such as catarrh from a slight cause, influenza, and erysipelas from a greater, these two last again modified by the previous state of the weather as to its being very dry or very moist, and hence also we perceive why dysentery should be so prevalent under these states especially in more warm latitudes. These then may vary according to the cause producing such being more severe in some seasons than others, and of longer duration, this is again modified in a considerable degree by other peculiarities already noticed when speaking on the peculiarity of climate, the constitution, the debauchee, &c. so that we perceive the difficulty of the inquiry why each individual distemper should prevail at one season, or all of them at the same time, but there is one thing we cannot hesitate to admit and that is the operation of atmospherical vicissitudes on the human frame. We know as a fact that a serene atmosphere with a comfortable habitation and the means of living well, but little predispose such to diseases of this nature, not but that the constitutions of some of this class of society, when rendered bad from imprudence or other causes, may independent of the above be rendered susceptible to the operation of these causes, but even then we from experience learn that such attacks are of less frequent occurrence than in the opposite class, who are peculiarly predisposed to these maladies. We know also that many patients who have been long in a weak state from disease are very susceptible of the operation of the above causes. Many patients for example who have been many months, nay years, suffering from rheumatism will tell us when a change in the weather occurs, and this too while sitting in a comfortable apartment, in which is a capital fire, and who have not been informed that such a vari-

ation in the wind has taken place, nor have they had any intercourse with the atmosphere, thus distinctly pointing out that there exists a particular state of the nervous system capable of being acted on, and that there exists some latent peculiarity in the different winds, capable of acting on our bodies. Such instances are by no means of rare occurrence, why then should we hesitate to give our assent to a cause so evident, as an agent, and a powerful one too operating towards the production of certain distempers. This cause alone "has been known in one night, to change for the worse all the ulcers in a large hospital. This however must be attributed to some latent peculiarity in the wind, that now and then blows from that quarter; (East) for neither its cold, its dryness, nor its barometrical properties can account for the effect it occasionally produces." What such acted on the nervous powers of the ulcerated parts now in a debilitated state I can have no doubt, and that such might from its continuance have produced more serious and frightful disturbance in the whole member and system, I can have as little hesitation in asserting. Even granting that we had the means of ascertaining what this peculiarity was, it would be of but little use since we could not remedy the evil existing in the atmosphere, but it is of the utmost importance to know the fact itself, in consequence of which we may sometimes adopt remedial measures, at all events in so far as screening open parts of the body from its direct operation. I recollect well of expatiating on atmospherical vicissitudes one day in the company of four or five medicos, the premier of the number hooted the idea as visionary and from which no practical good could be derived. There was one of the number who in a great degree became secretly fond of the ideas, in consequence of which he was

determined to display some superabundance of intellect. The ship in which he was, lay at anchor off Saugor Island at the mouth of the Hooghly, a day or so after, there was much rain with the wind direct from the Island, he advised the commanding officer to lower or bar in all the ports so that the pestilential atmosphere with the wet should be kept out of the ship, this was accordingly done, but he might with the same reasoning have advised either the decapitation of an animal, or the stopping its breathing in order to save the possibility of being attacked. In order to have had the advice properly carried into execution he should have recommended that every hole and corner through which the air could gain access to the ship should be stopped up, and then he would have had another bad quality occurring of a more dangerous tendency than the former. Such then is the result of becoming too quickly fond of others' ideas, and without reasoning on the proper points, the proper plan of procedure would have been had cholera or fever attacked the ship, to set sail and proceed as quickly as possible out of the range of the pestilence, this also is the benefit to be derived from these opinions. Those medical men who have no notion of the atmosphere under particular states being a cause of certain diseases I disregard, as also those who advocate the insusceptibility of putrid animal and vegetable substances in the production of certain disorders, these points are illustrated in my other Essays.

If the atmosphere be not at times bad or contaminated with noxious ingredients, or the system be not acted on by these causes in what manner can we explain the facts of the smallest punctures, abrasions, pimples or sores, becoming quickly erysipelatous at these particular times, such previously doing well under any form of treatment adapted to the peculiar nature

of each. Or why do the ulcers and other sores in hospitals at once assume a bad condition and this followed by extensive erysipelatous inflammation spreading in all directions, running like wild fire from ward to ward, all the sores in each proceeding favourably until some unfavourable change took place either in the external atmosphere or that proceeding from its being rendered impure by crowding too many patients together, now these ulcers will be benefited by no mode of treatment, until the general influential cause has either diminished or altogether vanished. It surely cannot be peculiarity of body or idiosyncrasy of constitution that produces such untoward events, but there must be an agent of an universal power operating in the production of such sudden and simultaneous attacks, few if any of the patients escaping. It will be found that these things do not depend on derangement of the alimentary canal or that of the hepatic system as a general and universal cause, for would it not be folly to imagine that all seized under the above circumstances have affections of this nature, since few if any of these patients shew any derangement of these functions until the whole system becomes disordered. That the change in the atmosphere will act readily, on such need not astonish us, as well as on other patients in other wards, especially those labouring under typhus fever, when we consider that in all such the nervous function either of the parts or system is greatly impaired, and the moist state of the atmosphere in co-operation with the bad air of some of these places will aid powerfully in depressing it further, nay, induces the very condition in the sores so favourable for its operation, or in the system under the circumstances stated, and now we may observe the malady attacking the weakest portion of the surface. We know well that cases of scarlatina and measles occurring sporadically and in

fine weather, are by no means so dangerous, as when so under opposite states, when now they appear to have an additional cause of aggravation, they rage with malignancy and are often exceedingly difficult to manage. Under the first state of things they in general impair but little the powers of the system, but when of the latter description much. It is the particular state of the atmosphere so often alluded to which makes the people in many parts of Scotland dread so much these diseases, as they know well from experience that very many deaths will now occur, and the general practitioner is well aware of the insufficiency of medicine to arrest their progress and spread, and continues wondering that so much fatality should attend them in one season, to that which takes place in another, this is satisfactorily explained on the above principles. There are many other complaints under similar circumstances, and on the same reasoning may we account for the severity of erysipelas in particular seasons, chiefly however as it occurs amongst seamen, or others exposed to the operation of the same causes, they from constant exposure to wet, damps, and the chilling effects of the sea breezes, many of them have a reduced state of the body produced, when perchance from an over-dose of the atmospherical influence they are at once under the influence of the distemper when the system and surface is greatly oppressed by their continual exposure. If erysipelas be not the reigning disease, then we will have catarrhs, influenza or perchance dysentery, one of these we know will take the lead, this may also explain why the disease is comparatively mild in some seasons and malignant in others. From the same data can we account for the inveteracy of many of these attacks at our Naval Dockyards in particular seasons, here besides the atmosphere and sea winds we have to take into account the constant liability of many

of these men to the constant exposure of the miasmatic particles from the decomposition of the wood which is in the pits seasoning, when working in such places they may get wet, now if they have any sores, abrasions or the smallest punctures about their extremities, they run a great risk of being attacked which is heightened by the state of the weather producing the change in their bodies, favourable to the operation of an exciting cause like the present, now the disease will soon run a very wild course. In this manner then an inlet is given to these morbid particles, which are constantly to be met with in such places and under such circumstances, and however minute the particles may be, yet they may properly enough be compared to the virus of small-pox, which when in the most conceivable minute portion is introduced under the skin, soon induces a change in the system favourable to a most extensive generation of such, there may be some modifying cause why this eruption only confines itself to one portion of the body, this although generally the case is not always so, but like small-pox virus it soon causes universal disturbance, this last may again proceed to certain lengths which it is unnecessary to dwell on. In all such cases then may we expect as we do often find to meet with the disease much more severe than in the inland towns where it is more apt to assume that form described by Desault as having a hepatic origin. There we need not wonder that such should be so frequently the case when we consider the aptitude there is to derangement of the chylo-poetic organs, and that the liver should also suffer, is what might be expected, but that this disease should be so frequently met with as proceeding from this latter cause alone is very questionable. The vitiated bile in passing along the alimentary canal may undoubtedly in some instances give origin to the disorder or even when

present from other causes may certainly increase it, but I cannot subscribe to the idea entertained by this eminent surgeon that such is of so frequent operation as to be allowed the principal cause of production. When the digestive organs are much disordered as shewn by the foul tongue, with either a constipated or lax state of the bowels, or any of the other usual attendants, and the powers of the system but little impaired than it may be called the bilious of Desault, the principles upon which we are to proceed with the treatment of such will afterwards be stated.

As to erysipelas of the head and face occurring so frequently in inland towns, some have been inclined to look on this as differing from other cases of the disease, but upon what solid grounds they build their assertion, I am at a loss to make out, for do not these instances present all the usual phenomena of the disease, not only in the manner of its attacks in being attended with fever either before or after the eruption in many cases at least, as also that it assails the skin and cellular structure, on its disappearance there is generally disquamation of the cuticlæ. That it should produce more frequently disturbance of the brain, than other parts removed at a further distance need not astonish us, since the nervous communication is so direct, short, and therefore a speedy operation in the conveyance of disturbed action, we ought to be on our guard as to the curative means adopted. I recollect well that the disease as attacking the head and face, was very prevalent for three successive seasons amongst the inhabitants of a small village in Scotland, assailing those chiefly beyond the prime of life. In some lands or tenements the cases were of so frequent occurrence and so numerous as to give rise to the idea of its being contagious, how far we may regard it in this respect, will soon be pointed out. At present

I will only attempt to account for the more than ordinary number of cases met with in this manufacturing village, and it appeared to me to depend greatly on general debility of the system at all events on an inadequate supply of food. During these years their trade was much depressed and at low wages, the men and women were under the necessity of working late and early in order to procure a scanty pittance of even vegetable diet for themselves and families. Thus, after months of severe and long continued bodily labour, they had no more than barely served to keep life and limb together. Their sedentary occupations and close confinement rendered them peculiarly liable to be operated on by any change in the atmosphere, so that erysipelas and typhoid fever went together. Their apartments being as warm as circumstances would permit, on coming out of them into the cold and very damp night air, and breathing the atmosphere noxious to them under these circumstances, it was no wonder that they should have been so much predisposed to this complaint of the head and face, since they not unfrequently went about without even a sufficient protection to these parts, and we need not be surprised that other portions of the surface were also attacked from an inadequate supply of clothing against the inclemency of the weather. In cases of patients similar to the above we need not be astonished that erysipelas should spread in two forms, either as chiefly confining itself to the skin, or to this and the cellular texture, or the parts below them again may come to participate in the action and the disturbance in these deeper places assailed "may keep pace with or even proceed farther in disease than the surface."

It may now be stated what is my notion of the origin of erysipelas under the circumstances alluded to. The efflorescence of the skin or inflammation if others wish it in

this part, and the cellular structure beneath, is caused by a deranged state of the nervous system, either as primarily proceeding from the encephalon to the nerves of the surface, or secondly that the disease arises from the deranged action in the extremities of the nerves of the skin, and may cause afterwards general disturbance, these peculiar states of the nerves or brain produced by those causes of atmospherical vicissitudes already sufficiently illustrated. Dr. Good says "in almost every instance, there is evidently a diminished vascular action ; and hence we meet with the disease far most frequently in persons of delicate habits, women, children and those who have long resided in warm climates." The same author admits that although almost in every instance the disorder thus shews itself yet it may be attended by an increase of vascular action from the first. Upon what can such depend in the first instance but on a diminution of the nervous power of the part, and when re-action takes place we have the reduced action established and even propagated from portion to portion. In the second instance there exists, in the stronger and more robust habits, or those who are less easily assailed by the causes of the change of air, an irritation of the parts or nerves of them from the first, thus evidently pointing out the power of the system in calling into active operation the sanguiferous, and that this should go on increasing will in the sequel be attempted to be shewn.

We know well that every function in the body depends on its neighbour's support, for the maintenance of its due and effective operations. This if disordered is but too apt to draw in the others to a diminution of their powers, thus a sort of sympathetic influence is exerted over the entire body by means of the nervous intercourse. The skin being the outermost covering

must be weaker when attacked by disease than other parts beneath, consequently is more liable to suffer and loses its healthy functions sooner when operated on by cold or other causes, this may be in some measure supplied from the parts beneath, but from this cause also it may not only be saved but even destroyed, for when weakened by these causes the heat may be too hastily supplied it, hence its sentient powers are disturbed, or it may suffer from its sympathising with parts below, which is not unfrequently to be met with in other diseases than that under consideration. If correct in those opinions advanced as to the proximate cause, it follows as a matter of course that the parts principally assailed should be those possessed of low life, or those in which there is a diminished vitality, produced from the operation of the atmospherical causes so often alluded to, hence, again I say the skin must suffer, or the lungs, or the bowels according to peculiar idiosyncrasy of constitution and the nature of the prevailing malady. We will find that erysipelas is of such a nature that when once established it seems to contaminate those other textures in its immediate vicinity and spreads along the whole portion in a debilitated condition, until it comes in contact with a part of the surface possessed of higher life and from this cause alone prevents the further spread. But again if the disease remains long in this place unsubdued or for an indefinite period, it seems possessed of such enticing powers as to wheedle the portion which formerly resisted out of its healthy action and advances a step further and so on it proceeds, in the same manner as a good man is often contaminated by being in bad company for he will find that if he is not possessed of strong nerves he by degrees, falls into all the follies and vices of his companions. The difference between the adhesive

inflammation and this particular form is pretty well illustrated by Mr. Hunter, he however states no more in the passage but the plain fanciful fact without attempting satisfactorily to account for circumstances. He says "by referring to a piece of paper under two different states, dry and damp. In dry paper a drop of ink applied to it will not spread, and remains confined to the point of incidence, in wet paper it spreads easily, being attracted by the surrounding moisture to which it has an affinity." Thus then we may infer that the one inflammation is dry and the other wet or damp, but there are other points than this to be taken into account. There is one thing to be learned from the above regarding a point already alluded to, it is, if the blot of ink be large and with the paper as dry as we please, yet after a time it will spread as long as there is moisture present, for this moisture contaminates the paper, if the expression be allowed, and thus it may go over a very considerable space, therefore the particular condition of the nerves continuing the disease may spread even by communication alone.

Therefore from the foregoing observations we may gather the reason why all parts possessed of low vitality should suffer first, and if the disorder continues why those of a higher grade of existence to them should now come to suffer, and in this way we may have the whole of a member involved. The skin and cellular texture is the first to suffer, then follows the cellular substance between the muscles, then the superficial muscles themselves then the fasciæ or aponurotic expansions, as also the reason why, when the disease is extensive and penetrates deeply the joints and parts even within them should be involved in general ruin and their destruction soon accomplished especially in scrofulous and irritable habits. We may regard these structures possessed of

different degrees of vitality, the skin and cellular substance when pretty deeply engaged in disease, will as a matter of course draw upon the neighbouring tissues thus weaken them, they supplying in proportion to their powers and will resist accordingly. The reason why the fasciæ and aponurotic expansions resist more forcibly than other parts, is that they are endowed with but little energetic life, and are firm and resisting from the nature of their substance, and are not by any means so plentifully supplied with nerves or blood-vessels, hence they are enabled to resist inflammatory action well, and also the products of such, as sloughing and the other sequela, for we find them often in abscesses lying untouched by the distemper, in this way then do they shew us that their power of resistance is greater than the other substances which being well supplied are easily acted on.

The fasciæ in many places of the body are it is supposed of more importance that at first sight might be imagined, they may be said to limit the extent of the inflammatory action as regard its penetrating deeper from atom to atom. I do not mean to state that it will do so in every instance for we meet with cases shewing us the contrary, but this is in high states of the malady, and where the inflammatory action is determined to spread in defiance of us. But do we not find that the inflammation is very apt to go deeper in those places in which there is no aponurotic substance of some firmness or fasciæ capable to resist, these parts of themselves may become inflamed then we find the disorder penetrating not only extensively but deeply. That these parts controul the inflammation from proceeding inwards in certain cases I have no doubt and this is done by keeping the effused serum, one great cause of the spread of the disease, from penetrating to the deeper parts, but it cannot be said

that a fasciæ has the property of curtailing the nervous operations, but it will assuredly keep them from being moistened below which is a point of no small importance.

The skin although the seat of sensation and thereby possessed of a great abundance of nervous supply giving it great sensibility, and many might add actual vitality, yet this is only an apparent high life for when we reflect that this supply is chiefly made up of those species of vessels and nervous twigs, which individually from their size are but ill able to resist some species of attacks made on a particular portion of this circle. Besides we know that there come out one set of nerves from the medulla spinalis for sensation and another set for carrying on the more immediate action of the vitality of the part, thus wonderfully reducing the powers of the skin, that the one set may assist the other is not at all improbable, but even then this may not be to the exact extent which some imagine. However there is one point we observe that the small nervous twigs and blood-vessels are individually possessed of low vitality, and when the parts are seriatim attacked they are but ill able to resist the nature of this inflammation consequently they are soon overpowered. Hence it follows that the skin and cellular substance should fall so easily a prey to erysipelas, when the nervous power of the parts or system or both are much oppressed or reduced by cold or moisture operating on an ill fed person. The proper plan of procedure then should be directed to the preservation of this when it is not too low, or raising this when depressed, or depressing it when too high. This is more difficult to manage than might at first sight appear, as we have at times to contend with the actions of the part alone, or the system, or both.

The above if admitted shews us the parts which must

necessarily fall under the disorder, and this in proportion to their powers of resistance. Such being the case it is useless to argue with some, as to the nature of the distemper, and the parts primarily assailed, asserting that this is the muscular substance, particularly in the phlegmonoid species, such, I apprehend cannot be the case unless when the muscles are irritated by the operation of a chemical or a mechanical cause, then the irritation weakening the powers of the muscle, at the particular time of the season or in the habit of body prone to these attacks, we have the disorder first shewing itself here and it soon comes to the skin, nay, some may say, that this particular condition of the muscles as that produced from bruises, or other injuries, produces the weakened state of the surface, and in this manner both parts take on the disease at one and the same time. Those instances in which there is no previous injury then the powers of both parts may be so reduced, in proportion to their vitality, be it recollected, as to take on a simultaneous erysipelatous action, the parts are confused for a time, but when re-action comes on the disorder advances rapidly both in the skin and muscles from the circumstance of so much of the member being involved in the disturbance, and we cannot at first say to what extent this may proceed, our object in these instances certainly appears to be to soothe the parts by those remedies capable of affording permanent relief of which the knife is not deemed one. Others again and with reason affirm that the skin and cellular substance are the parts primarily assailed, this is correct in many points of view and the disease may now spread quickly from atom to atom. But we do at times find as stated, that any part near the surface may be attacked and this in proportion to its resistance or in fact as to its diminished nervous power, then we have

all the portions from the muscles to the skin at once under the influence of the malady. To illustrate this point we shall suppose the healthy action of the skin to be six, that of the cellular substance eight, and that of the inter-muscular cellular substance from being in good company ten, and that of the muscles sixteen. Well then if we take two or three degrees of action from each of these parts as operated on by the atmospherical vicissitudes and the peculiarity of body present with that of the nerves of the surface, it is easily to see then when the torpid state of reduction is present that each may take on the diseased action, and if the re-action of the system be suddenly produced either by the excessive stimulus of heat or spirits, that at once these parts all feel painful, and now they proceed in the disturbance, and according to the powers of the system. This however although the manner in which some attacks invade, yet this is much less seldom the case than in the manner already noticed, in the going over this again we will not lose much time. The skin, or the cellular substance below it, will be found to be the parts first implicated, this is in consequence of the skin being so much exposed and acted on by the atmosphere, thereby constantly undergoing decay and reparation and therefore comes more easily under the influence of the operating causes; then we may have the cellular substance surrounding the muscles and then the muscles themselves. The reason why this part of the cellular substance did not suffer before may be easily accounted for by its being in company with parts possessed of high life, and is consequently in possession of more vitality than that at the surface of the body. The fasciæ or aponurosis covering the muscles are more likely to suffer when there is extensive disorder which in the end implicates their low, but powerfully resisting texture and vitality, but when they are

actually inflamed they at times run speedily to destruction. It is a fortunate circumstance that they are so slow in taking on inflammatory action, for had they been possessed of a high state of vitality our lives would thereby have been exposed to great inconvenience and severe disease.

I have little doubt but that it will be asked is there a deficit of action in the nervous system during every case of the first invasion, to this I answer in the affirmative, and that the variations met with depend on the quickness of re-action in the system of each. Some will say that this cannot be the case in the phlegnionoid variety I add that it is so at the more early period but when re-action comes on in these otherwise robust powers it will proceed according to the extent of the former exposure, the number of the parts assailed and the constitution of the patient, for we but very seldom meet with this variety in the debilitated and emaciated, they have not the power of producing sufficient action for the establishment of this severe disorder in them, therefore it is generally weak and below par, as the disease advances step by step every part is called into more active operation, the fever increases from the irritation in the parts they in their turn again receive an increase of stimulation from the general system, and the one acting on the other produces in a short time an expenditure of the whole powers, and if the patient does not die, gangrene must ensue and there is no saying to what extent this may proceed. The disease therefore, if not checked in its career, as I have already remarked, seems to be of such a nature as in its advances to induce that species of disturbance in the neighbouring parts so favourable for its propagation, until the system be either worn out or it be alleviated by proper proceedings. This peculiarity of spreading in erysipelatous inflammation seems to depend greatly on the state

of the body, or that of the parts themselves, for if we at any time have great disturbance of the general system then we are pretty sure of a further spread of the disease or at all events a liability to this, or if the parts be much reduced in action from whatever cause, then there is also such a tendency, but if neither excite much commotion then there is a greater chance for its remaining in the portion originally assailed. Much therefore we see depends on the previous state of the body, the duration of the original cause, as well as that of the general fever, or even at other times on the effusion of serum. The nervous action be it recollected from all or any of these causes is capable of receiving and transmitting an accumulation of irritability from the irritation existing in the part, although this was the medium through which the portions were at first thrown into disorder. Thus we see the reason why they may act on the parts first of all, and secondly why this again re-acts on itself, all this perhaps, before going to the general store house, and why again when it does so, that there should be such general commotion. The erysipelatous fever seems to have an intimate connection with the state of the skin and may be said to have a tendency to run off in this way, at all events it is rendered much lighter when the efflorescence appears just as takes place in small-pox and the other exanthemata, in which the febrile symptoms are at first greatly alleviated by the appearance of their respective eruptions. But if the constitution of the patient or that of the atmosphere be bad or from many other causes we have the eruption again influencing the general system and now there takes place an aggravation of the fever and that of the skin disease at perhaps one and the same time.

I agree with Mr. Lawrence in some measure only as to the nature of erysipelas in attacking this or that

portion of the system, when he says " that the habitual
 " excitement of the vascular system, or long continued
 " disturbance of the stomach, alimentary canal, and
 " liver, consequent on intemperance and excess, lay the
 " foundation of inflammation generally, and it depends
 " on individual peculiarity, or on local causes, whether
 " the skin or other parts be the seat of the disease."
 What let me ask is the particular state of body induced
 by the above causes is it not debility of the functions of
 the whole, and therefore the nervous being the chief,
 comes to suffer most. It has already been stated that
 wherever there is debility of any part of the system and
 in particular that of the skin, that this part from its pe-
 culiar susceptibility to erysipelas will be that to be first
 attacked when causes sufficient are present to induce it to
 this action. It is also more than likely that each texture
 in the body has its own diseases when assailed by the
 same causes therefore we may see the reason why the
 muscles may be engaged in active inflammation at the
 very same time that the skin is, but they are capable of
 taking on more active action than that of the surface,
 consequently this will chiefly predominate, the erysi-
 pelas will now, from its own peculiar action and from
 sympathy, be carried further on in the disease, hence we
 have that combination which has been termed phlegnio-
 noid, or that state of things in which the products dis-
 tinctly belong, either to the one species or other. Thus
 the frequent exposure renders these parts weak and more
 liable to be excited to disordered action, and when the
 peculiar atmosphere is present, then we have the erysi-
 pelatous inflammation proceeding from the causes alrea-
 dy enumerated, either from the system or parts. The
 above may be sufficient to explain why erysipelas arises
 without any apparent cause, and also why derangement
 of the digestive organs may at certain times act in the

production of the same, when causes of a slighter nature in the state of the weather and exposure are present. We very seldom see derangement of the chylopoetic viscera as productive of numerous cases of this distemper, unless some peculiarity be present no matter whether existing as a cause of universal operation as in the air, or from some deterioration to it in some particular corner of a town or even a house or hospital. Those who contend for deranged viscera as solely productive of the disorder, without taking into consideration the above, will be pleased to answer why such a state of the skin is not always produced and at any time of the year, from this cause. My answer is because the exciting cause is not present, but as these are only predisposing, they cannot produce the distemper until the former be present, even granting that this was present, yet I say, that it is not to the extent sufficient. But that wet or damp under many of these circumstances of disturbance in the digestive powers, may act at any time of the year, seems not at all improbable, if they say that the nervous power is at all times better able to resist this action, unless at the particular time referred to, when now it falls below par, and disorders of a more mild or more aggravated nature may assail the body according to its powers of resistance, this is my answer also.

In many injuries under certain conditions of the body it is not to be wondered at, that we should have disease induced in other portions, than at the receipt of the original mechanical injury. The portion struck may be much more powerful than that now suffering from a transfer of action, hence it follows that those parts which are the weakest will be the more easily disturbed and are attacked accordingly, even although the mechanical or chemical cause does not operate first here. An inflamed part may involve another and more distant organ

as happens in gout, where the stomach and alimentary canal are much weaker than the rest of the system, or the brain, or the liver, may be attacked in the same manner. Another instance, suppose a man is struck on the head, he recovers, but may soon shew signs of hepatitis, this may advance even to the extent of suppuration; here we see the powers of the primary part injured are strong, enabled to recover from the force of the original cause, but as this may be transmitted and spent on some other part, hence the liver from being in a weak condition in this man is seized upon, even although it did not receive any injury otherwise than the medium of the nervous communication, this runs counter to the opinion of some who suppose that the liver was at the same time injured, when the blow was given. A man receives a blow over the region of the stomach, he dies, when on inspection we can find nothing to which we can ascribe the death, no rupture of vessels or inflammation, this is to be explained on the principles of the nervous action, the blow being so severe as to cause an over-powering sensation to the nerves of the part, which is conveyed from this quarter to the *sensorium commune* and heart, so that these being deadened in their actions never rally. I give another instance a man has been for sometime suffering from diseased liver, there is hydrops pericardii, hydrothorax, and ascites, a short time previous to dissolution he gets up to go to stool, in returning to his bed he faints, and is carried to it, he rallies for a short time and only for a short time. On inspection the above diseases are present with a large abscess of the liver containing at the very least two pints of matter. I have positively heard a medical man who was present at the inspection declare that there was nothing here to account for the sudden death, and that he should have expected to have found rupture of some of the blood-

vessels! The plain matter of fact is that all or any one of the above causes is at times sufficient of themselves to cause sudden death, and this without the rupture of any of the blood-vessels, since under these circumstances of fainting the nervous power is so much injured as to be incapable ever after of rallying. Such then may serve to explain the influence of the nerves in propagating disease from a strong part of the body to another that is weaker as well as the sudden deaths, without leaving any traceable cause behind. Thus then may be accounted for the manner in which disease is induced in some parts more readily than in other portions of the system, even when there is no apparent direct communication or assignable cause. These operations must take place through the medium of the nervous communications or through the *sensorium commune*, which likewise gives us an insight to the fact of its being so frequently the seat of disturbed action, when local diseases are existing in the more remote parts of the body, or in any of the internal organs. An instance of this sort may be given, we see many cases of a very smart fever take place in otherwise healthy men, without any apparent cause, this in particular in hot climates, if we were careful in examining the legs and thighs of these men or boys we would in very many instances find either small or large sores on these parts, the cause of the whole disturbance by paying proper attention to both and in particular to the local affection the febrile symptoms soon cease, it should be our care in every such case to pay great attention to these apparently trifling sores. In the above manner then we may have more severe disease induced, than that derivable from the exciting cause, which may of itself be exceedingly small, such depending on peculiarity of the patient's constitution, &c. In erysipelas, in the majority of instances, those parts which are most fre-

quently exposed to the exciting causes are those chiefly and primarily engaged in the disorder, as is shewn from an inspection of the cases which occur, this is evinced by the head and face being the first in frequency, then the legs, the arms, of those people who are not well protected with a sufficiency of clothes, then follows the abdomen and other parts. It will be found, that the belly is much less frequently the subject of the malady than the other portions, since it is in general, so well protected. I have to observe, that the simple variety is only depending on nervous irritation, with in very many instances, an increase of the circulation, but that this takes place in a great degree in the phlegnionoid, which has a more extended range, and commits greater disturbance, when the vascular system becomes greatly disordered, it is not to be wondered, that it should add to the general irritation, which brought it first into play. How far Mr. Lawrence's views, as to the treatment is acceptable to the part and system, will afterwards be shewn, I am afraid, that many of the profession particularly the dandy proportion of it might be apt technically to denominate it too much of the *slashing*.

In some cases of erysipelas in consequence of the nerves of the part, or those of the whole surface, being in a very low condition, in a worn out constitution, or in an excessively irritable habit, the moment the inflammation attacks it, this spreads like wild-fire communicating in its progress unhealthy action to the neighbouring parts, all this tending to the depression of the animal and vital powers. There are cases to be met with, in which when the disease appears healing up in one place, it is advancing progressively to the others, until perhaps it lay under contribution the whole surface of the body. Do not such cases depend on the nervous communication for their spread, this being weakened in the parts near

to the last diseased texture in consequence of which it proceeds from place to place becoming the *erratic* form of the malady. Those cases which do not derange the general system, it is imagined, would be much injured by venesection, as by this we reduce still further the nervous power, and by such we might do irreparable damage, and if the patients recover, they do so in spite of our attempts, at the destruction of their vitality, such not depending on a general but local cause. In the phlegnionoid variety again, we have many of the functions of the system oppressed, in particular the brain, with a most severe local affection, it now becomes a question in how far we should adopt the above mode. The fever attending this species, and indeed all of them when severe, has a strong tendency to the low typhoid type, particularly towards the close of the disorder, this shews us clearly that we must be sparing as much as possible of the vital fluid, and the practice cannot be pursued as a general plan, but more of this hereafter.

In the phlegnionoid variety, when we see the disease advancing, like softish clay placed on the top of softish clay, always pressing forwards at the bottom, as it very gradually enlarges at the top, what are we to think is the cause of all this. Some may say that it is the inflammation alone, others that there is a something deposited under the skin, hence the distention and increase to the irritation of the parts and general system, of this latter being the principal cause I have no doubt. It may be stated that the ordinary causes of anasarca arising in old people, is the serum from the blood let loose from the smaller blood-vessels in consequence of their debilitated condition and this may be increased by the suppression of the insensible perspiration, which not getting off by its natural outlet is arrested below the surface. The perspiration, besides regulating the heat

of the body, carries with it something of a noxious quality. Such being checked in erysipelas, is it not more than probable that it may either add to the irritation of the nerves, or be perhaps in other instances a principal cause in its production. We know that people, who are much exposed to the wet from the sea, are liable to have their skins much irritated and more so if such be abraded or scratched. The perspiration, being of a saltish taste, will do so likewise, when checked under the circumstances alluded to, in erysipelas we often if not invariably find that the surface is dry, or not by any means inclining to a moist state. This then may be one cause of the great increase of the tumefaction, another has been stated in the smaller blood-vessels having lost their tone, allowing a free deposit of the serous particles. The absorbents may be looked on as the means through which such depositions are removed in health, but they having lost their tone consequently a further increase to the disturbance. As to the effused serum becoming thicker in the progress of the disease, this may be explained on the supposition that there is a portion of this system still in action, and in this manner the more fluid parts of it are removed, besides we know that in ascites this effused serum often coagulates from the heat of the viscera alone, there is surely nothing to prevent the same cause operating in the same manner in erysipelas, since the heat of the parts is greatly above the natural temperature. Inflammation may assail œdematous parts, this species of the disease is designated accordingly, this is however peculiarly dangerous at times, since we have to contend with a debilitated portion of the body. We have now two diseases to contend with, and the nature of the inflamed texture is that of a chronic or sub-acute disorder, and will advance according to the vitality of the parts, but these may suffer much, or

in the end be totally destroyed, not so much from the strength of the inflammation, as from its duration by which they are so much reduced as not to recover their former state, hence in old people such disorders demand our most serious attention. When this disease exists in part not involving the powers of the general system, we may under these circumstances with a considerable deposition of serum, lymph, or fibrin, producing a pretty large tumour, or at all events the skin is much raised, this to appearances may not be much inflamed, but we have more pain than might be expected, now in such instances we will find that the skin is really much inflamed, but it cannot shew a high reddened state on account of the effusion below, which takes off from the colour of the surface. In such instances we ought to be particularly cautious in particular when there is much fluid effused below the surface, which also renders the other parts liable to be attacked, by moistening or damping the sound portions as it were, thus they are rendered less healthy.

We see metastasis often occurring in erysipelas, flying from one part to another more distant, nay, opposite quarters of the body and without any distinct traceable connection of nerves unless through the common origin, when so, the disease may or may not leave the first part in a comparatively sound condition, at all events this soon gets well. Is it not something strange that often on metastasis taking place the disorder should break forth with such inveteracy from the very first as to equal if not surpass the first disordered portion. It will be recollected what was formerly noticed concerning organs in possession of a high and low degree of vitality, this may explain the circumstance as to the rapidity with which the disorder sometimes advances, and we cannot at all

times say whether the nerves of the metastatic action were just previous to the attack in an irritable state, and waiting the presence of some cause sufficient to put the disorder in operation, this may be furnished by the repelling the former efflorescence by improper applications, or from many other sources of irritation. Retrocedent gout, where it assails the stomach, is very apt to induce such a state of the system, which if not quickly relieved might soon destroy. The above reasoning may hold true in a very great number of metastatic actions, in other maladies, and they are dangerous principally according to the nature of the organs assailed, they soon run a determinate course, if not subdued, and thus fix the distemper more deeply in the system. When phlegmonoid erysipelas particularly of the extremities, is severe, it does not appear so apt to spread from metastasis as we find to be the case in the more mild instances of the disease. Is this owing to the actual strength of the malady which chiefly exhausts the force of the distemper in this particular portion, and that the sensitive powers are too much taken up in supplying powers to the severe affection itself, so that they have nothing to spare for the other parts of the body. Does the circumstance of metastasis not afford us another proof as to the nature of the disease in being chiefly under the controul of the nervous system, else how could the disorder travel from portion to portion leaving intermediate parts perfectly free and sound, and this is rendered still more evident from the rapidity with which the disorder shews itself. Even granting that the fever renders the whole surface susceptible of being attacked, this also shews the power of the nerves in the production, and that the disease is prevented from breaking out over the entire surface, by the different states of the skin, attacking the

weakest portions first, and thus seriatim until perhaps it goes over the whole body.

The evolution of animal heat may be adduced as another instance of the disease depending on a disturbed state of the nervous system. Take the state of the circulation as it is found in patients labouring under different diseases, suppose it to be at a given point in them all, the heat of each however is found to be different. Is it not therefore odd that the circulation of the blood should still be accounted the medium, through which heat is given out to the body. Take erysipelas, and a common inflammation, here the circulation being the same, yet the difference to the patients is manifest, the first complaining of a pricking, smarting, or even an itching, feeling of heat, whereas the pure inflammatory case has it of a burning sensation. Is there not also a difference existing in the peculiar heat of typhus fever and that of phlegnion, also that of intermittents, in which we have the three stages, these points I apprehend cannot depend, and be satisfactorily accounted for, on the state of the circulation of the blood. In other instances we have an evolution of much heat without any marked increase of the circulation, there being at times even coldness of the skin when this is quick, the blood has only to do with the process in a negative manner, and not as the principal actor in the business. Taking such then for granted we are led from our theory to the proper application of medicines and other local applications in more instances than the present, directing them to the proper quarter, and thus in many instances checking the malady at once. Even admitting that the difference of the degrees of heat betwixt this, or that case be not considerable, or supposing it to be so, this by shewing the extent of the sensations, as also the intensity of the action either in the part or system, is of

the highest importance, since by its indicating the modifications we are liable to meet with, it enables us to select those remedies for keeping down such, thus by moderating the heat, we benefit the parts, and at times may effect cures by attending to this alone.

Under the circumstances of atmospherical vicissitudes, we have generally a fever of a particular type or tendency in erysipelatous cases, this too sometimes before the efflorescence, shews itself. This fever is generally of an inflammatory tendency at first, then it assumes the appearances of typhus towards its last stage, such strongly characteristic of all those disorders arising from a disturbed state of the atmosphere, particularly when severe and of any duration. Such distempers seem to have at one time been pretty generally admitted as contagious, nay, many of them even in the present day are not removed from the noxious class, in which they have so long remained, such ought to be done leaving those only of undeniable contagious properties. Huxham says, "that contagion seems to affect not only the blood, but primarily also the animal spirits, I think the sudden damp, weakness, tremblings and great dejection of spirits, at the very attack evidently prove it." The most of these symptoms are generally present in all severe cases of erysipelas, and it is imagined can be satisfactorily accounted for on the supposition of nervous derangement, without taking into account contagion as a cause. This disease has been stated to be of a contagious nature, by several eminent and distinguished men, it may be proper to examine briefly however this point. Some authors have placed erysipelas in the class exanthemata, to which if it does not properly belong, yet borders very close upon some of them, in this light it may be said they regard it as of a contagious character. We have the opinions of many as to its really being a

contagious malady, amongst the number may be mentioned Mr. Arnot, Drs. Stevenson, Wells and Duncan, junior. We certainly do meet with a vast number of cases in which it shews no symptom of such, but there are a few instances in which we would pause ere we gave any decided opinion on the subject. I certainly do think that, under certain circumstances, erysipelas may be of an infectious and contagious character, just as dysentery is from the nature of the attending fever, but then we see that it is neither the purging nor the efflorescence which is so. If fevers of a certain description be catching and particularly from accumulation, then there can be no doubt but that they may be followed, by an efflorescence, or a tendency to attack some organ of the body, and this is determined, by the constitution of the atmosphere, that of the patient, with his former habits of life, and many other points, now when we know that almost all fevers have a tendency to excite disturbance in some functions, besides the sensorium, we need not hesitate to admit that erysipelas, or dysentery, may be of the particular type, and only a consequence, or natural result, of the fever at the particular time referred to, hence we see that the fever must be mainly attended to, as is done in the treatment of most of the exanthemata, and that other fevers besides these can at times produce disturbance on the skin, this point of nervous irritation has been advocated throughout the Essay, hence it follows that the fever may be infectious, but perhaps not the products of it, as well might we argue for an inflammation of the liver, intestines, or other parts attended by such fevers, at times being infectious, as to go on the supposition that the efflorescence of erysipelas is of such a nature. Thus then we may meet with this disease occurring amongst private families, running through the whole number of from seven to twelve, or

upwards, or perhaps only affecting those who have been in the habit of being near to, or handling the patients. Now that the disease spreads here from its being purely contagious, some may be inclined to admit, and others dispute. That the disease is of a truly infectious character, particularly when severe, few perhaps will deny, and that this depends greatly on the state of the atmosphere, either as a general cause, or its being bad from some cause in, or near the house, this last of itself even when the atmosphere around is otherwise pure, is capable of producing the particular fever, and thus the disease. This sometimes occurs on ship-board where from inattention to the cleanliness of the holds, or allowing the bilge water to remain too long, we have fever introduced, this, under the circumstances of bad weather, may now proceed to an alarming extent. There is no reason, then, why erysipelas should not extensively prevail when there is a tendency to such, for I imagine that the same fever, at certain times of the year, when the peculiarity in the weather is present, may be attended by different products, and this is not to be wondered at, when we consider the nature of the exciting causes, and the nature of the irritation thus given to the nervous system. Heat, as exemplified by the *coup de soleil*, produces a peculiarity of attack merely from the circumstance of the nervous system being suddenly assailed; a blow on the head may produce high excitement from the very first, and cold operating on the same sort of sound constitution may do the same. In short then any cause which suddenly invades the nervous power, will be attended with quite different results to what the same causes would be when of a longer duration, for by this the nervous power is reduced, and then, when the fever shews itself, it does so under very different circumstances of the system, and is thus generally apt to be at-

tended by some local affection. In the other the nervous power is in every part of the body strong and able to resist, and the cause operating in the production of the disorder only does so in the part first attacked, but then let this very cause be in the system for a day or so, or perhaps more, then we have another state of things, the nervous power every where is now reduced, then, and not till then, have we an affection of some other function than the one primarily influenced; this of course will be quicker or later according to the patients' constitution, and the state of vitality of the different organs. From the above then we may gather why a bad air, produces particular states of febrile attacks, since this, as a cause, can only operate on the human body when at a certain standard of resistance, but it may be introduced into the system, for days previous to this, then however it will not shew itself until the favourable time, we see also why the weak and debilitated should always suffer first and generally severely. There are many other causes which will not operate quickly, or until a certain reduction of the animal and vital powers has been accomplished, such as bad air with cold and moisture, &c. Hence we see the reason of erysipelas being attended with fever of the typhoid sort, and why such should be under circumstances of accumulation of an infectious nature. From the above then we may see of how much importance it is to keep every place in a ship well ventilated and clean, as well as every hospital or house, even when the patients are labouring under any attack of this nature, if not so, we are sure of a spread of the disorder from mere accumulation, and then any one exposed to the influence of this air, or by breathing in an ill ventilated apartment with the patient, may be attacked with the particular fever, the nature of which is to produce erysipelas. We can also observe why such causes

should not operate on some until after the expiration of some days, or in others in perhaps twenty-four hours, now if the noxious atmospherical vicissitudes have been in existence for some days, then we may have the disorder produced almost at once, for the body during this time may be reduced to the particular standard favourable to the operation of the cause when presented in a more concentrated form, which to a certainty always exists where there are a number of patients labouring under these attacks, from the above we get much insight into the nature of infectious and contagious disorders; and we may see the reason why some eminent men considered erysipelas of a truly contagious character. Such a state of the atmosphere may also be produced in the colder regions, in particular, from the putrefaction of vegetable or animal matter, or other noxious effluvia, existing in or near the ship or house. I have been informed that a fever has been known, to carry off many of the officers on board of ship, who messed and slept on one particular side of the steerage, while few, if any, of the others, on the opposite side, were attacked. This was certainly something strange, but when the cause of the anomalous circumstance came to be investigated, it was found to be occasioned by the putrid state of the bilge water, and the pump was on the side where the whole disturbance occurred. Thus then those on the affected quarter were continually exposed to the effluvium of the bilge water, which came up the pumps, and particularly so when she was cleared of this offending article; when she was perfectly cleaned, and well ventilated, she remained afterwards perfectly healthy. Such occurrences are very likely to arise in any hot climate, it is therefore the imperative duty of every officer to see that the ship be properly attended to in these respects, of preserving a free ventilation, at all times, and

that the ship be at least pumped out once, if not twice, every week. In a hot climate it sometimes happens that the windsails are taken out of the cockpit, or from the other parts of the decks, when it begins to rain or when actually so, this proceeding is blameable in some respects, as we know well if the windsails are properly attended to on deck with holes in the gratings cut for them, that much less injury to those sleeping below, will be felt by the small portion of wet coming down, than what they must be by the total abstraction of them, with a thermometer at 90° , and not a breath of pure air in circulation. What then is to prevent occurrences of a similar nature from taking place about any house, thus by deteriorating the atmosphere, we have a very bad state produced, exceedingly apt to produce disease.

If we admit hospital gangrene to be a species of erysipelas, and against this I can see no reasonable objection, then we have certainly a contagious disease. That sores on ship-board, more frequently in former days, than at present, used to run quickly into a bad state, cannot be disputed, and that erysipelas was by no means of unfrequent occurrence, can as little be questioned. When we look at the instructions for the guidance of the Surgeons and Assistant Surgeons of the Royal Navy, we there find that sponges and other articles which have been in contact with these sores, are not to be used to any of the other men, as they would communicate diseased action to the slight sores, or wounds, of other sound men, which, if so treated, we would find that disease would rapidly spread along the limb, this of an erysipelalous nature, such shews the acuteness of observation of those who framed these instructions. It may be remarked, when sores of this nature arise on ship-board, or elsewhere, that they depend on a peculiar state of the atmosphere, of universal operation, or on

the badness of ventilation arising from causes noticed, or from some peculiarity in the wood of the ship with which she is built, all these brought into more energetic operation by peculiarity of constitution of some of the men, or from being long at sea on salt diet. It is the duty then, particularly of the Surgeon, to trace these several causes, and point out the remedial measures which are likely to eradicate the disorder, and it is the duty of every humane person to aid, in as much as in him lies, the abstraction of the exciting causes.

I shall introduce a statement, of rather a curious nature, which occurred at the Royal Naval Hospital, Deal in 1831. This hospital was re-opened for the admission of erysipelatous cases, which then were of almost daily occurrence amongst the seamen of the squadron employed in the experimental cruising in the North Seas, many of these cases were sent to this establishment. I think that it was early in 1816, or late in 1815, that this hospital was shut up, and during the interval of at least 15 years, there was not a single case of disease within its walls, being during this period kept in excellent repair. In so far as the wards were concerned, they were kept constantly purified by the admission of pure air and frequently white washed. It is certainly one of the best little Naval hospitals we have, it is perhaps a little too near the beach, thus in the more direct range of the sea breezes, some may not consider this a fault. The important fact to be noticed is, that a few of the nurses employed amongst the number of erysipelatous cases there, were attacked by the disease, there was not a single case of the disorder on shore (this to the best of my recollection is the fact) at all events in the neighbourhood where they resided, from this it follows that the complaint must have been received while in attendance on the severe phlegnionoid cases. It was some-

what odd that they should be the victims when none of their families or neighbours were attacked amongst whom they had daily intercourse, when however they complained, were as a matter of course treated in the hospital. The distemper in these nurses put on the exact appearance of the phlegnionoid variety under our care, in one instance was so severe, as to be the cause of a miscarriage in one of the female nurses. Such attacks in them I apprehend can only be satisfactorily accounted for, on the supposition that they arose from their intercourse with the patients, and in the handling the dressings, I have already given sufficient reasons for the production of the disorder without a reference to the general cause of the atmosphere, and that there was a fever produced, the natural tendency of which was to assume the local affection in its progress. As to the influence of the external atmosphere having to do in the production of these attacks, few will be inclined to give much credit to this, and more particularly from the fact of there being no cases of this distemper about the town or neighbourhood. That it might predispose in some measure, may be probable, but then there was nothing extraordinary in this, unless the cold air at night, and being within a very short distance of the sea, might perchance produce a state of body in many, which only wanted the presence of a more concentrated atmosphere to bring it into quick operation. If it is said that this might on the other hand proceed from a crowded state of the hospital or wards, this cannot be granted, as the wards were capacious and not crowded, with a free ventilation, and such things, especially in time of peace, never take place in any of the Naval hospitals. If it is said that this might take place from an unhealthy state of the hospital itself, such cannot be admitted as accounting for the phenomenon

for this was not occupied for fifteen years. Upon what then can it depend, certainly we have strong grounds for this being the product of infection, or as some may be inclined to say contagion. Those who might be inclined to argue, that contagious diseases only attack a person once in his lifetime, another point, which occurred during my services at this hospital, may be noticed. There were near, a dozen of small-pox cases admitted from one of the line-of-battle-ships, then in the Downs, she caught this distemper while at the Cove of Cork. One of these cases, that of a middle aged seaman, was pitted all over the face with the remains of a former attack of the same sort, in fact this patient was as well marked as any case to be met with of a former attack, here then there was no mistake. This man after admission, had a second very numerous eruption not only over his face, but over the whole body, of the confluent sort. We had only one death amongst these cases, some of them very bad, and if my memory serves me well, I think this was it. The very putrid state of the case of dissolution, prevented my going near him, for a day, or so, previous to the occurrence. In the mean time, I was salivated from the frequent visits to these men the taste was peculiar, and had been spitting a large quantity daily before his death. Amongst the officers the eruption was more mild and less disposed to become confluent. I had not been using any mercury for many months previous, when I had taken some for dysentery, while on the Cape of Good Hope station in 1830. The above are facts, and we may draw what inferences we please from them. It may be added that the above case of secondary small-pox, in which the face was strongly marked from the primary attack, is not by any means unique, and I know that others could be furnished by some of the Naval Surgeons who were afloat during the last war, shewing

evidently that contagious diseases attack a person more than once in his lifetime, and consequently I cannot admit this as a true diagnostic. Some acute observers might say *exceptio probat regulam*, here, however, it is thought such must be of a disproving quality.

I am certainly inclined to believe that erysipelas, under certain modifications, and circumstances, is a truly infectious disease, and others might add contagious, some may ask why the men who had been in the habit of handling their messmates on ship-board, and being exposed to the same causes from which the disease was contracted, did not suffer. To this, it may be answered, that if the human body was at all times liable to be acted on by the same causes, and their products were the same, that then we could have no difficulty in accounting for many phenomena; but, in the present state of things, when we find the constitutions of mankind varying as much perhaps as the several languages to be found in the world, it is by no means surprising that such a diversity should prevail as to the various modifications or aggravations of attacks in different persons, and even in the same individual at different periods of his existence, for either resisting or imbibing disease. It might as well be asked why small-pox did not rage when once introduced into the ship, which we know to be not only a contagious, but an infectious disease, here then we have a more sure catching distemper than the one the subject of enquiry. The answer to the last question will prove an answer to the first. It may here be noticed that the *ignis sacer* of the antients appears to me to be only a particular variety of erysipelas, and that the peculiarity seems to depend on the same cause or causes operating perhaps in another state of the atmosphere, and aggravated, or modified, in some measure, by peculiarity of constitution, with other causes which I do not at present feel inclined to enter upon.

We will also find when pursuing the history of some other diseases that the efflorescence of erysipelas is by no means an unusual attendant, as we meet with plague, and some other serious diseases. If such a state of the skin is not sufficient in very unfavourable seasons, to produce a general disturbance in the system, with the peculiar fever attending it, and almost as fatal as plague itself, is much to be wondered at. If, in the above, my surmises be right, then this affords additional testimony as to the ultimate tendency of erysipelas, in respect of its truly infectious and contagious qualities. I here choose to use the more safe term infection, than attempt to go against a host of facts, or perhaps more properly a faction of men, such as exist in the present day.

Having stated these general observations, as to some of the individual, or unique appearances of erysipelas, it may now be proper and important to trace, and account for, the more practical ones as respects its divisions, modifications, and treatment. This disease, as I formerly observed, may arise from a multiplicity of causes, besides atmospherical vicissitudes, or bad air, joined with cold and moisture, or heat and the same. The disorder, as we have seen, may arise from sores of the skin, from the application of blisters, scalds and burns, setons, bruises, and many other causes, in fine then every species of injury may in certain habits produce the malady. In the above list of causes, it will be observed, that whatever tends to irritate the skin, and in part tends to impair its nervous power, will act strongly at certain times towards the production, and particularly under the circumstances referred to, such things in my mind prove to a demonstration that nervous derangement is the sole cause of the presence of the malady. Fever, of a particular sort, occurring at the times alluded to, I have also

said is a strong excitement to the disorder, thus it operates by producing a disturbed state of the nervous system, particularly favourable to the production of either erysipelas, dysentery, or some other disorder, according to the idiosyncrasy of the patient, or the nature of the prevailing complaint.

We have two varieties of erysipelas which come more immediately under our notice, the common, or simple, not causing much disturbance of the animal and vital powers, the other the phlegnionoid, which does so in a marked degree. It may be asked if there is any *specific* difference between the two, at first sight any one would be inclined to say that there was,—a *first sight* may be the best for our guidance, although some have said there exists no difference of this sort unless in intensity, which is imagined to depend on the duration and the severity of the operating cause, and that the phlegnionoid variety proceeds with greater quickness, laying under contribution the more deeply seated parts. Independent of all this, we will do well to look on the disease, when of the latter form, as attacking the muscular structure, as well as the skin, and that we have two parts inflamed of distinct textures, the one backed by the other in its progress, and that it is not in the nature of muscles to assume the same characteristic symptoms when inflamed, as the skin, and cellular structure, but that each may be attended by the same sort of fever, consequently shewing that each part owes its presence to the same cause, and that the one requires much more strict attention than the other. The more common sort most frequently attacks the debauchee, or those whose constitutions have been greatly impaired by causes operating towards the general debility of the bodily powers. It was formerly noticed why the head and face should so frequently suffer from their frequent exposure,

but it is by no means so apt to be attended with any thing of such a severe inflammation as the phlegmonoid variety, and why? From the very circumstance of the head and face being much more exposed to the vicissitudes of the weather, this renders it, in a high degree better able to bear the consequences of such an attack, than the other parts which are less exposed, and from this alone we may perceive the reason why they pursue such a steady course, if not unduly interfered with. Another cause may be from their not being in actual contact with that sort of active society frequently so turbulent, or in other words there not being a great quantity of muscular substance, as well as the interposition of the fasciæ particularly of the head, which I have mentioned as lessening the disposition to the spread of the disorder. Some may be astonished at these parts not proceeding more forcibly in their operations, more so when they consider the large supply of nerves with which they are endowed. This, however, having but little muscular substance to act on, prevents the quick progression of the disease, besides, there is another point to be noticed, that this a very large supply enables it better to resist! and why, because every portion is not assailed at its origin, or even at its termination, thus, although one particular portion of this system be deadened as it were in action, yet there is still plenty left for resisting the excess of action, and for carrying on the vitality of the parts, but this not to the extent sufficient, since there is disorder in one particular portion to resist. Such does not happen to be the case with other parts, such as in the extremities, which have, in a manner, only their proper supply, they have nothing of spare nerves to give the requisite protection, having only that which is sufficient, or barely adequate for their existence, whereas there is about the head and face a superabundance, these, as

coming from different parts of the encephalon, are capable of affording protection, for although one portion be under bad impressions, yet there are others comparatively sound and healthy, but liable to be drawn into disorder, if any cause unnecessarily disturbs their actions. In the extremities, therefore, any cause which tends to destroy this supply thus cutting it off, the parts must suffer in the first instance according to the magnitude of the exciting cause, and, in the second place, from the state of re-action of the whole system, while one particular portion is in reduced circumstances. When re-action of the part itself takes place, then it suffers severely from the circumstance of the nervous branches being so large, thus the disorder spreads much more extensively in them than in other portions which have less muscularity, even with a greater supply of small nervous branches, and numerous blood-vessels.

The skin, in each variety of erysipelas, assumes a variety of tints from a pale scarlet hue to a deep crimson colour. The *rose* of the skin, as the disease is termed in Scotland, may be enough to give an idea of the colour. It may be said that, according to the deepness of the tinge, so the intensity and variety of the disease. It strikes me that, in many cases of the phlegnionoid variety, we do not meet with such a deep red appearance as in those of an ordinary occurrence, in a comparatively healthy subject. This may in part be owing to the more extensive and diffused nature of the attack, and, in particular, as formerly noticed, when there is much effusion of serum beneath the surface, then we cannot expect it to be of such a bright red, as under ordinary circumstances. The more the swelling is circumscribed, the less danger is there to be apprehended, but when the inflammation comes to extend over a wide space, as from the heel to the trochanter, then we have

much to be afraid of, the more, therefore, the inflammation is diffused, and of the tumour sort, so in proportion is the danger, and even variety in the disease. When speaking of the colour of the skin, I may give a passage from Dr. Burns, "the colour is scarlet inclining to yellow, but very gentle pressing with the finger, by forcing the blood out of the capillaries, removes entirely the redness from that spot, for a second or two. The colour is sometimes darker and *cæteris paribus*, the more it approaches to the colour of the damask rose, the greater is the danger. The duration of erysipelas is uncertain, but it seldom lasts above a week, unless in the worst cases, when it tends to gangrene." The damask and scarlet appearances, besides the tumefaction, may therefore serve us as a distinguishing mark, between the two varieties, the more severe form being that of the phlegnionoid, presenting at times the deeper tinge, and, consequently, more disposed to take on severity of action.

It is stated, that the inflammation propagated from the skin to the cellular texture underneath, is more apt to end in suppuration, than when the last was the seat of the inflammation itself. That this should be the case, especially in the phlegnionoid species, need not surprise us; especially, when we consider, that the skin is of a more resisting texture, than the loose cellular membrane, and has a greater supply of nerves, consequently, its vitality is much sooner impaired. It is odd that the skin itself should resist this process so long, as we know it does. Mr. Lawrence says, that "the affection of the cellular structure, is too slight for that termination in most cases of simple erysipelas." In the simple variety, I have to observe, that few, if any, parts suffer; and when so, the first amongst these will be found to be the cellular texture, this long before the

skin suffers, the reason is, that it is the weakest part, and we generally find some fluctuation below the surface, before the skin is implicated in such a process. There is yet another reason for its resisting so long, the suppurative action, it is more firm and dense, than other structures, this is sufficiently well proved, by the process of tanning, in giving us good leather. There is one peculiarity in the state of the skin, which has been partially glanced at, this is its redness in erysipelatous cases, differing from other inflammations in these parts. Why should it disappear so quickly on pressure with the finger, which being removed, it very speedily returns, and, for the sake of illustration, its return may be compared to the admission of light, into a formerly dark room, by opening the window shutters in the day time; in other instances, we see it advancing so quickly, as only to be traceable. Can such a state, I ask, depend on the blood being forced back into the capillary vessels, and now again sent forth into the empty vessels? I observe that the powers of the circulation are more languid, than to produce such an effect, and it may be presumed, that the return of the redness, so instantaneous, does not entirely depend on this as a cause, and, in particular, when we consider, that in other inflammations in these parts, this does not take place. The conclusion seems to be that this phenomenon does not *in toto* depend on the state of the circulation, and we must now take into consideration another cause for solving the difficulty, which I imagine to exist in the nervous power of the part alone, and is only capable of propagating so forcibly this action, which we see running along the part, like fire when applied to the top of loose cotton, this then, it produces by an excitement of the surface, which is durable while vitality remains, and this is rendered still more

than probable since we find that the colour is not durable after life has become extinct, as we meet with in many other states of supposed real inflammation.

The fever also, in the more simple variety, is often of but trifling importance, often there is no perceptible disturbance of the general powers. In the phlegnionoid species it runs higher, this constituting little or no difference but what occurs from the intensity, or severity of the disorder. The phlegnionoid spreads with more certainty and despatch to other places, and at each visit, while the disease is in progress, we may observe an increase of tumefaction with perhaps different degrees of action in the several places, this being always more severe in the parts last attacked, and the further we go down the member, the less intense is the action, as the nature of erysipelas is generally to advance towards the centre of the circulation. When the depositions of serum or fibrin is extensive, we may not unfrequently find the glands leading from the diseased structure swelled, as well as the absorbents, these occurrences may take place at any period of the attack, but more especially after such deposits have been newly made. We ought to bear in mind what Dr. Burns says concerning the inflammation of various parts whether this be of an acute or chronic nature. "When parts previously sound are inflamed, the inflammation at first is of the nature of the valida, but when these parts are sensible and in a manner insulated and exert at the same time a powerful sympathetic effect on the system, their power soon sinks, but the action not abating in the same degree, the result is exactly as if we had the disease excited in a weakened part."

Is there any specific difference between erysipelatous inflammation, and that of other varieties attacking these parts? At first sight this would appear highly probable:

although there are many who do not believe there is. My reason will be given for believing that there is some specific difference, and these may appear more numerous than others might be inclined to imagine. In the first place then, in the simple variety, the redness of the skin and cellular substance disappears almost immediately on dissolution taking place, giving us a clear demonstration that the nature of the inflammation is different from that of others, as well as that the distemper depends on nervous irritation, and also it gives us some difference between the inflammation of this, and other parts of the body, which, although pressed on, yet remain red and the blood cannot be made to disappear entirely, particularly in that of the intestines. In the severer forms of erysipelas, the death of the parts soon occurs and much more quickly than in phlegnionous inflammation, and the cellular substance is soon thrown off from the degree of nervous excitement, being more that the parts from these species of life can withstand.

There is another distinction, which is, that there is none of that tumour sort of appearance, which is to be met with in those of phlegnions, the swelling not being circumscribed, nor is there, after a time, much fluctuation of matter to be met with, resembling that of the contrasting variety, nor when opened do we find pus of that healthy quality and consistence discharged. Why do these things occur? It may, on minute enquiry, be found to proceed from the affection causing more disturbance of the nervous system, thereby inducing debilitated actions in the part, whereas the other is more a disease of these portions themselves, and therefore does not, in the same degree, influence the general system, or even when so, it seems to be of another species distinct from that which occurs in erysipelas, the action being in a healthy constitution, or in a more resisting power of

the whole nervous power. "The most striking and important distinction" says Mr. Lawrence "between the two affections is that inflammation is confined to one spot in phlegmon and is distinctly circumscribed in its seat, while it is diffused in erysipelas and spreads without limit. This difference seems to depend on the adhesive character of the inflammatory process in the former, the substance called coagulating or organizable lymph effused around the inflamed part, forms a boundary between it and the sound portion, which is altogether wanting in erysipelas. In the latter the effusion is serous, hence, when matter is formed, it is more confined to one spot, but becomes extensively diffused in the cellular tissue. We cannot at present explain the cause of this difference, that is, we do not know how it happens, that coagulating lymph is poured out in one case and serum in the other." It is imagined that this will be readily explained on the supposition that the nervous influence is much more disturbed, and withdrawn, in a greater degree, from the arterial and venous system of vessels, besides the other vessels of the part, and hence they part more readily with the serous or fibrinous portions of the blood, and as there is no power adequate to render it "organizable" it remains in the state effused, and, as the absorbents are from the same cause rendered inactive, all aid to the removal of the effused particles is consequently at a stand still, thus it remains, and is not capable of being formed into the glutinous substance, which would be the case did the powers of the affected portion remain as entire as they do in the other instance. Such then I apprehend cannot take place in phlegmonous inflammation, since this disorder does not depend so much on debility of the nervous power, and also from its lying deeper, and only affecting the skin sympathetically. Thus it would appear that

the vessels of the part seem to adapt themselves to this particular process, according to the state of the nervous system, either as it exists in the disordered structure, or in the general system, or both, and we do know that the vessels of a part not unfrequently accommodate themselves to the peculiar circumstances required. A phlegmon in the skin itself generally, when it suppurates, produces healthy pus, but erysipelas seldom or ever does so. It has been said that the inflammation is too light for this to take place, surely this cannot be admitted in the more severe variety. It would appear then, from what I have now stated, that the fluid effused has not the power, as in phlegmon, of agglutinating the portions, and more particularly when we know that in the latter variety there is but little thrown out, and when so, this is not the agglutinating substance, for we find that when the parts have power this is absorbed, and the agglutination begins at the edges, and, as it advances, the tumour gets larger and undergoes some change, but still the agglutination keeps at the edges; but the plainest proof of this business is, that if such a part, under the circumstances described, be cut into, no fluid of this nature escapes. Such then is the manner of accounting for the circumscribed appearances which occur in phlegmons, and we see that it must differ in erysipelas.

Another mark of distinction may be said to be, that as erysipelas spreads from one portion to another, the disease loses its force in the place last attacked, and it may, as in the erratic species, spread over the major part of the body, thus in its advances it gains new life, and the action dies in the old. This is not the manner in which phlegmonous inflammation proceeds, for, where it once arises, there it remains, and makes progressive advances towards the suppurative stage, unless when stopped in its career, either by the powers of the system, or our in-

terference, erysipelas is not attended by such phenomena. The blood drawn in erysipelatous cases, does not so often exhibit the diagnostics of inflammation, although this must depend greatly on the nature of the fever, and at the particular time in which it is abstracted, for, even in typhus, when we bleed early, we not unfrequently find it buffy and cupped, some may say then, that it is the fever which causes this appearance, and not the local affection. I have already noticed the reason, and the manner in which the serous effusions occur under the skin, this also constituting some distinction between the two affections. I ask the reason why the pain is not constant, like that in phlegnionous inflammation, it will be seen, that, owing to the more diffuse nature of the disease, the parts are not so much distended, and that the tumour sort of appearance does not penetrate so deeply, as also the agglutinating fibrin collecting the diseased portions, as it were, into one mass, will now bind them down, consequently this is hard, and acts like a foreign substance, irritating the parts and also from the distention of the blood-vessels, &c. this increasing the state of the nervous excitement, operates as an onus to the part, thus producing the constant pain in phlegnions, whereas, in erysipelas, there is none of the same extent of disturbance, or binding down process, unless perhaps in the more severe and aggravated forms of the disease, where, from the very weight of the various effusions, we have constant pain present.

The sensations of the parts are also different to what they are in phlegnions, there being sometimes considerable heat, and then little or none. Sometimes the parts swell suddenly, as if stung by some insect of a venomous description, and soon assume a burning feel. All these are explained on the principles of the nervous agency, as the heat of the parts will go and come, as in

the act of blushing, the swelling of the skin is produced by the greater affection of the nerves of the part. This may likewise serve to account for the throbbing which is felt in the one disorder, and not in the other, since the affected portion is not in a manner bound down, consequently the blood-vessels have greater latitude, and act with more freedom, or this may be also produced from the nervous irritation at the time being. Why does the cuticle or scarf skin die or peel off in many cases of erysipelas, after the inflammation has left the part? This we need not be surprised at, since the nervous affection has been so great, as to destroy the vitality of the scarf skin, and although the supply of blood has been sufficient, nay, more than enough, it will like other parts just die after this surfeit, in consequence of there being too high an excitement of the nerves, it dies therefore in consequence of an abstraction of this power, which is in a great measure destroyed during the excess of action.

Thus then has been stated the apparent differences between erysipelalous, and phlegnionous inflammation attacking other parts of the body. Mr. Lawrence says, that "in most cases of erysipelas, the biliary and
 "digestive systems are more or less actively disordered,
 "such disorder appearing sometimes to produce the
 "cutaneous affection, sometimes to be excited sympathetically by it. Hence Desault established the denomination of bilious in contra-distinction to phlegnionous erysipelas; on which division it may be observed that the symptoms called bilious are commonly
 "found also in the phlegnionous cases." To pass over the term bilious erysipelalous inflammation, as appropriate or otherwise, let others decide, it may be stated generally that Desault's ideas cannot apply to every form and variety of the disease, although highly worthy

of being remembered, particularly some part of his treatment ; but how far his nauseating plan is to be depended on, will afterwards be stated. In the mean time I shall introduce a quotation from a much respected author. Dr. Burns, he says “ inflammation beginning
“ in the skin if from a local cause in a healthy system,
“ is confined to the part, or if it extend to other textures, these follow their own course. But if caused
“ by, or connected with a depraved and morbid habit it
“ is of a bad kind and accumulates sympathetically a
“ similar bad or perhaps gangrenous state to the parts
“ below (and *vice versa*). Even independent of constitution, the condition of the nerves themselves has a
“ great influence on cutaneous inflammation. Much
“ depends on the extent to which the exciting cause has
“ been applied, and the degree in which it has acted as
“ well as on the constitution. In a laceration with or
“ without friction, for instance the whole parts may be
“ incapable of maintaining inflammation. The muscles
“ may inflame and perish, so that the cellular substance
“ and the skin, participating in all this, will inflame also
“ and die; yet surely in such cases there is nothing
“ peculiar in the nature of the inflammation which is
“ only influenced by the state of the parts. From all
“ these circumstances I conclude that erysipelas is not a
“ genus distinct from phlegnionous inflammation nor a
“ disease essentially different from it, but that its peculiarities are dependent on the texture and function of
“ the part, and if such inflammation do spread to other
“ parts, and produce more injury, than phlegnionous inflammation originating in these parts would have
“ done, this arises from the morbid or exhausted
“ state of the skin exerting a sympathetic influence
“ on the parts involved and rendering them incapable of sustaining disease.” Much as I admire the

opinions of my teacher, having attended his lectures for some years, yet I must from the reasons already stated continue to think, that there is a difference of the exciting action, and although in its progress it operates a little differently, yet we know well that the result of termination in many cases is the same. It is evident to all that this should be so, in so far as the vitality of the parts is concerned. It is imagined that this holds particularly in those cases depending on atmospheric causes, and that there is a difference between them and the phlegnionous variety. Even although the successful treatment may, in many instances, correspond, yet it is believed that the genus and species are distinct.

I am much inclined to place the disease with erythema, in the class exanthemata, as Willan and Bateman have done. It is thought that by so doing some benefit will be derived as to the treatment. Few will say that large bleedings are advisable in the bad cases of variola, yet we adopt the antiphlogistic regimen, and bleed for moderating the force of the fever, and not on account of the eruption, so likewise ought we to proceed with erysipelas, but more of this anon. Now, like all other diseases under this class, it is no wonder if we have derangement of the chylopoetic viscera, or that a disordered state of the one should act so powerfully in disturbing the healthy functions of the other. Every one knows, and it can be satisfactorily proved, that a disordered state of any set of the important abdominal viscera, will, and does cause much and serious annoyance to other parts of the body, and in particular that of the surface. Hence it is that we so frequently meet with cases of erysipelas of the head and face, as this is more exposed, besides their being so near the general store-house of nervous supply; the same causes will operate, independent of the climate,

on any part which has lost in some degree its powers of resistance, of course the reverse of this may take place, and the viscera suffer, from a disturbed condition of the functions of the skin. I would be inclined to bring forward the nature of the fever attending the more severe forms, as constituting some difference between the two inflammations, the fever of erysipelas is of the same nature and tendency, which generally attends the exanthematous diseases, having a strong tendency to run into the low typhoid species, in particular, as they advance towards maturity.

We need not be surprised that there should be such a strong tendency to metastatic action, when we consider that the true nature of the diseases consists in an irritation of the nervous system, brought into operation by the several causes stated, this too, at either extremity of the system. Hence, we have as a frequent attendant on the disease, the encephalon much and often seriously disturbed, thus it may serve out aggravation of symptoms to the parts already disturbed, or be the means of producing disease in others yet untouched. Any part therefore of the body may come under the influence of the exciting cause, and will be disordered according to their propensities, for this, or that disorder, for it does not necessarily follow, that an excitement of the nervous system should, in all places, operate alike, the lungs may be the seat of disturbance as well as the intestines, the liver, or any other viscus in the body. Thus then we may have disease in any organ, or viscus, either as a primary, or secondary affection. The above may shew us that we ought to pay the strictest attention to the state of the alimentary canal through the whole progress of the malady, by which we will very frequently effect cures, which cannot take place until the digestive functions are put in order, in particular in the simple

variety, where we have more of a local affection than general excitement. If the fever keeps pace with the intensity of the inflammation so is the danger, and, the greater the typhoid symptoms, so much the more ought we to be on our guard, we must recollect that although the disease at first may present a high inflammatory type, we must be cautious as to the use of the lancet, the interference with it should entirely depend on the extent of the derangement, the nature of the constitution, and also the operating causes. The fever may run high for the first few days, when we will find it then assuming the low sort, when now we may have the *sensorium commune* disturbed by coma, delirium, or a great tendency to drowsiness, during the whole duration of the more aggravated symptoms. During this period of the cessation of the more severe symptoms of the fever, we may observe the phlegnionoid species making rapid progress in the destruction of the parts, and also upon the vitality of the general constitution, generally ending in the complete destruction of the cellular texture and skin, and as the disease gains ground, so in proportion are the symptomatic appearances overwhelmed. Under these circumstances, we can have no very favourable idea as to the successful termination of the complaint. I cannot quote from any author a more forcible and concisely expressed sentence as to our prognosis in this disease than the following from Celsus. *Quin etiam confert aliquid et ætas, et corpus, et vitæ propositum, et anni tempus: quia facilius sanescit puer vel adolescens, quam senior; valeus quam infirmus, neque nimis tenuis, neque nimis plenus, quam si alterum ex his est, integri habitus, quam corrupti, exercitatus, quam iners, sobrius et temperans, quam vino vinerique deditus. Opportunissimumque curationi tempus verum est, aut certe neque fervens, neque*

frigus infestant ; maxime horum varietas : ideoque perniciosissimus autumnus est.

In the simple species, the action is not by any means strong, hence the effused serum is soon absorbed, after the breaking of the force of the inflammatory symptoms, which having not greatly disturbed the vessels of the parts, they consequently sooner resume their healthy functions. This, however, does not occur without a disquamation of the cuticle of the greater portion of the affected part, since the effused serum seems in some degree to destroy the vitality of the part, by separating one portion of the skin from the other. In some cases, of greater severity, but as yet unattended with danger, when the vesicles appear, then we have them discharging their fluids, the skin being either thrown off, or scabs cover these places, leaving the portion beneath sound. In other cases these are more numerous, and often troublesome to manage, being attended by loss of substance beneath the vesicles, the manner of treating such will be stated. In those instances, where we have strong inflammatory action, we have not, at least in the primary stage, so much derangement of the chylopoetic viscera, as in the opposite instances. Such, however, may occur in the progress of the disorder as is evident from the loss of appetite, the powers of the system being soon laid low. The distention of the vesicles becomes greater, and they not only increase in magnitude, but number, they break, and may soon put on a gangrenous appearance, as the disease progresses, it spreads from these parts, and soon attacks the cellular substance, the skin being now thrown off in sloughs, and this in one portion, of the limb, as the disease is spreading in the other. Under these circumstances we may have coma, or delirium, and it is not to be wondered at if our patient should be speedily carried off. This is more par-

ticularly the case, if we find that the fever be not at all reduced, but increases when the sloughs are thrown off, thus evidently pointing out that the nerves, although themselves the irritants of the system, may be more powerfully disturbed, by any additional cause of exposure and irritation.

As the inflammation proceeds attacking new parts, the whole phenomena of the disease are again produced, without allowing time for the febrile symptoms to diminish, and in this manner there is an access given it on every part being successively attacked. Thus, the system is not only worn out, but if there is much of a denuded surface, we can easily perceive the great danger our patient must be in at this stage of the disease, and if he escapes, he may in all likelihood perish from the severe exhaustion which must necessarily take place ere the process of restitution be completed, even granting that the re-action be slight, for in this state he is incapable of withstanding it. In many cases, of the above description, we may perceive a discharge from the sores, something resembling that which takes place in the black vomit, or as occurs in the latter stages of dysentery. This takes place from the diseased nature of the secreting vessels, as well as the blood-vessels of the part, and we may even observe it oozing from the more than half dead parts themselves. In other instances, we meet with a discharge of blood from the vessels, and this hemorrhage considerable. I have seen some instances of this sort, one in particular was that in which the parts about the shoulder joint were deprived of the integuments which came away in sloughs, leaving the muscles more clearly dissected than if a scalpel had done it. The bleeding took place from the vessels supplying the pectoral muscles, the vessels being attempted to be secured, the ligatures would not hold. The bleeding was after a time

stopped by the application of turpentine, alcohol, and peruvian balsam, the one after the other, so firmly did the hemorrhage resist all means for stopping it. In other cases, even when our patient recovers, we have a severe stiffness of the limb which may for a length of time incapacitate him from walking. This we need not be astonished at if we only take into account the extensive destruction which must have occurred. Such as the rigidity of the muscular texture, the gluing together as it were of the different parts, from the extensive effusion of fibrin, with the altered texture of many of the other parts, these take long to recover their natural healthy state. Thus I have attempted to account for some of the more important attendants on erysipelas, we may now turn our attention to the treatment.

CHAP. II.

TREATMENT.

GENERAL OBSERVATIONS.

If correct in my views of erysipelas, as to its causes and spread, in particular that form of the disorder arising from atmospherical vicissitudes ; it follows, as a general law for our guidance, in the first instance, to remove all causes of irritation, either as operating on the system, from the general affection, or from other internal sources, and that we may at once proceed to soothe the part either by local or general remedies, or both, as may be required. In the treatment of this malady, as well as of many other distempers, we ought to ameliorate that symptom which is most urgent, thus reducing the disorder piecemeal. In the more simple variety, unattended with derangement of the chylopoetic organs, we will find but little trouble in their management, for they

give little uneasiness to the patients in general, such are most beneficially treated by local applications, from the very first. This species does not often proceed to extremes, when so, then we ought to consider well, the nature of our local applications, as in that case we might run a chance of repelling the inflammation to more important organs, this is just as likely to occur in this disease as in any of the exanthemata. With this view of the business, we will do well in all cases of erysipelas, only to employ those remedies which soothe, than have any tendency to repel, and more especially when we find that very serious disturbance is but too apt to follow the non-attention to the above. General remedies are of less utility than local ones in certain species of the malady when very slight, the latter "cures at less expense of strength."—"It is besides bringing a fire engine to extinguish a candle." When we have recourse to local measures, we ought to be careful not to employ such as either excite the parts or tend to depress their functions too powerfully, otherwise, we have another state of the system, or part, or both produced, which will just as effectually keep the disease in being, as the original cause of the malady, if in fact they do not change it to a worse form. The rule should be to employ no medicinal remedy at the onset which tends to produce over-excitement of the nervous system. Can we by paying proper attention to the constitutional affection, as manifested by the fever, cure the local complaint? It is imagined that, in a great many instances, this is the proper medium, at all events, it is of paramount importance, and the local complaint should only be attended to, in so far, as the mitigation of the inquietude of the part. Have we in many instances used improper remedies, or have we administered such, in improper doses, which have not the power

of allaying the irritation of the general system, or the parts? I think that, in many instances, we have unnecessarily interfered with the disease. Have we, as the malady has either gained ground, or abated in fury added to, or reduced our quantities of the medicines, this according to the urgency of the symptoms? or have we paid proper attention to the powers of the system, in respect to stamina, or individual peculiarities to be met with, either as regards diet, and cleanliness? or have we have made a proper choice of remedies, as regards their properties, as all stimulants, or all sedatives, a point of much importance in the successful treatment of all disorders. There are some patients who require a combination of both sets; in the administration of opium, for example, in small doses, a stimulating effect is produced, this therefore must be well attended to, since the stimulus of some remedies may do more damage than their sedative properties can rectify.

In some cases of erysipelas, when the system is much reduced by the attending fever, the local affection may be at a stand still for a time, or at all events it does not proceed so severely, as those instances in which there are some stamina of body left. We must in all such be careful when re-action occurs that it does not reach to a high standard, it is superfluous to add, that when this is likely to be in excess, or above that which the nature of the local affection can bear, it must be reduced, but by those measures which do not add greatly to the existing debility. If not so, we would find that we might lose many a patient, for we would perceive, under the circumstances of constitution alluded to, the disease again advancing with new fury, and with greater progress in consequence of the low state of vitality. Can we follow this as a rule for our guidance in all cases? by endeavouring to check, or keep down the vital

energies of the system, thus keep down that of the part. This may be highly feasible, but the means by which this is to be accomplished is not I apprehend by the administration of nauseating doses of tartar emetic, so as constantly to keep up the effect intended. Such a mode of procedure overpowers too much the whole of the animal powers, therefore debilitates in a great degree, in very many instances; such a method must be highly injurious. Viewing this malady as intimately depending on nervous derangement, does it follow that by keeping our patient in a dormant state by doses of opium, administered in such proportions, and at such intervals so as to keep its action in being for some time, that thus we could break the force of the disorder. Opiates, it has been stated, have not been usefully employed in the treatment, since they are often found to add to the existing irritation, and seldom procure sleep; does this not proceed from a mal-administration of the remedy? I think that in the phlegnionoid species the above mode of procedure may be worthy of a trial in which there is rapid progress of the swelling of the parts, accompanied by some sensorial disturbance. An objection may be started at once, by some who will say that this more effectually renders torpid the whole body than the nauseating doses of tartar emetic. To this it may be answered that the effects of opium are productive of less harm than the other medicine, and it may appear consistent to many, that if we can only suspend the action for a time, from proceeding with such force, that we might thus check the spread of the disorder, and be able to lead it to a favourable termination. There are many cases in which this mode cannot be followed, those in which we know the previous effects of opium on the constitution, as also ought we to consider the state of their bodies at the

time being. Our object is not to debilitate too much, since we know that a depressed state of the parts adds greatly to the more firm establishment of the disease on the general system, or parts.

The above views are something in unison with those of venesection when employed for the cure of other inflammations, of important and vital organs, in which we see syncope at times attended with manifest advantage, not perhaps from the mere state of syncope, but also in a great measure from the diminution of a positive bulk of stimulus thereby abstracted. Hence it may follow that by keeping down action in erysipelas of certain sorts for a time, by keeping up a demi-dormant state we may have produced a great change in the condition of the parts; such a state might be kept up for many hours, nay, for a day or two.

In those cases, in which the fever is high, we must be careful not to use too powerful applications, or stimuli of any kind, either as regards bulk, or the frequency of repetition. When they are used, we must be careful to guard against much re-action from their stimulant operation at any time, nor should we allow the powers of the system to flag at another, thus by their improper administration ruin our patient. When the fever is in a great measure subdued, still we ought to be circumspect in their use, always observing that too much excitement is not produced either in the local affection or in the system, since each may thus re-act on the other, besides, as the parts have now but little stamina, they would soon fall a prey to the renewal of any cause irritating the general system. Such a state as this may be even communicated to the part itself by a superabundance of heat, or cold, for each is capable of acting as a stimulant, under certain states of the body, thus inducing that low sort of action so characteristic of chronic in-

flammation. Although each of these applications may have been abstracted after a few minutes' application, yet they may have caused either an increase or diminution of action in the part involved, incompatible with the amelioration of the disease, hence it may go on from bad to worse, until other parts be implicated. In this way, then, it may not only have its own actions greatly impaired, but also the others within the atmosphere of its action, participating in the general disturbance a flame is raised which is often sufficient to destroy the parts. We see therefore that much care is required in the administration of medicines, and the proper selection of local remedies, it should be our care that they do not produce an over-excited or diminished condition in the system. An emetic, for example, during its primary operation, produces nausea and sinking of the vital powers, but, when its primary operation is over, there is a re-action of the whole powers of the system, thus it comes to tell more powerfully on the part of the general frame according to circumstances, attended by an increase of the circulation, consequently by an excitement of the nervous power, for the time being, from this we may gather that this as a remedy operates as a sedative and stimulant, and it may not be calculated for every primary attack of the disease, there being some cases in which it will injure, others where it will do good. The tartar emetic may, with great propriety, be laid aside, and when we are desirous of having the operation of an emetic, others of a less injurious tendency should be chosen, which do not depress the animal and vital powers of the whole system so strongly. The nausea which tartar emetic at times produces, when given for this purpose, is often more distressing than the attending fever, and if we must use it, then a cautious procedure is required. In order to see what we may

use for accomplishing the different indications required it will now be proper to enter distinctly on the medicines, and those applications, generally used in the treatment of erysipelas, either as regards the simple variety or the more complicated species, and as we proceed with the investigation it will be stated how far they may be depended on for ameliorating the condition of the patients in any form of the malady.

C H A P. III.

VENESECTION.

As to phlebotomy, as a general practice in erysipelas, much has been said for and against the remedy. It may be stated that in those instances where the disease is merely local, this not extensive and unattended by fever, we cannot expect any good from blood-letting. In the prosecution of this enquiry, I intend more particularly to notice those cases which seem to require its employment, even here I cannot pretend to give infallible rules. In the robust, in whom the powers of the circulation are strong, and there is considerable strength, the disorder making rapid advances, not only as a local complaint, but also the fever high, with coma, or delirium, few would hesitate to use the lancet, and this according to circumstances. Here, as in very many instances of other diseases, we cannot pretend to state the number of ounces to be abstracted, we bleed, at all events, until there is some marked alteration on the pulse, or system, or the mitigation of pain. There is one point to be carefully attended to, in all erysipelatous cases demanding the use of the lancet, which is its *early* employment, this is absolutely requisite, for the longer the severe symptoms are in duration, the deeper the

malady becomes rooted in the parts assailed, and also the constitutional disturbance is thereby greatly increased. When it is judged proper to bleed, the sooner this is done, the better, and this, to the extent of overcoming the superabundant action of the system, as well as the local affection, which is indirectly benefited. At a short interval after, we give some opening, or gently purgative medicine, such as will sit easy on the stomach, and at the same time carry off many fluid stools, which, as we know, is also a species of depletion. The neutral salts will, therefore, be very judiciously employed, and at night, the Dover's powder, so as to act on the surface. These two last means of diminishing the actual bulk of the blood, are much less injurious to the general system, than phlebotomy, I cannot pretend to say distinctly the reason of this, which may, in some measure, be owing to the vessels of the intestines and skin having more to do, consequently engaging much of the nervous power, thereby detracting from the general amount of disturbance, consequently the *sensorium commune* suffers less, blood-letting cannot to the same extent do this, it relieves the onus of the stimulus of bulk from the body, but then, it leaves the smaller vessels unemployed, hence, it may be, that re-action so frequently follows the operation. In those cases of less intensity we will gain much by paying strict attention to the bowels and skin, and have our purpose more effectually answered than by opening a vein. The saline julap, or the carbonate of ammonia, when neutralized by the citric acid, we will find to answer well in very many cases, in particular for quelling irritability of stomach. The ammonia with the citric acid will be most beneficially employed in those cases, in which the bleeding has produced much depression of the animal powers, its otherwise stimulating properties are carried off by its inducing diaphoresis.

Under what other circumstances, than those stated, are we to let blood? Can we, by so doing, lessen the action of the vessels of the skin? Blood-letting, as we know, takes off the stimulus of bulk to the whole system, to the amount abstracted, then a sedative effect may take place, and the whole body may be thus greatly benefited, or, after a time, re-action may occur, which requires to be checked. If we bleed, however, with the idea of directly destroying inflammatory action, we are mistaken, for it will not do so, but it puts the parts or system into that condition more adapted to a return of their healthy functions. I suspect that in very many instances venesection has but little power, over the smaller vessels of the surface, for even admitting that they were emptied, yet the nervous excitement being still great they are after a time again turgid, and now under the circumstances of a weakened condition. We see then of how much importance it is to use soothing diaphoretics. It may be said, and I admit, that blood-letting does tend to lessen irritation of the nervous extremities, but I apprehend that in erysipelas it is not possessed of great powers in this way, and as in cholera, it may even increase the tendency to the further progress of the disorder. Blood-letting to the extent required does under particular circumstances and states of the constitution prove of the utmost advantage, so much so indeed, that we would do wrong not to use it, as by the abstraction of a stimulus, as already remarked, to the whole system, we often have the parts just placed in the very state of taking on healthy action. The cases more immediately to be benefited by such proceedings are those in which the *real* inflammatory process is predominant, and the arterial and nervous systems much above par. In such, therefore, we can have but little hesitation in withdrawing blood,

provided the patient's constitution will admit of it; but, in those cases where the nervous power is predominant, and the arterial action of the general system not great, it becomes another question. If the constitution be good in the latter instances we will not unfrequently experience much benefit from it, but this much more seldom than in the former patients. In the robust frame then where we have much more disturbance of the nervous system at the origin than the extremities, we will find venesection of much utility. If there be coma present at this early period, such may be produced from two causes; the first depending on deranged action of the encephalon itself, or secondly it may be produced from a torpid state of the circulation, either of the brain, or of the lungs, from congestion of blood here, thereby inducing an accumulation of blood to the right side of the heart, and thus preventing its free return from the head and neck. Such a state often occurs in many distempers besides the one under consideration; under such circumstances, therefore, we should be careful to bleed early, on purpose to obviate the obstructed circulation, and thus relieve the coma. Few would object to bleed in such instances provided there be strength enough in the body so as to carry on the vitality of the parts in that state of existence, which will enable them to struggle through with the additional onus of the disease. When we give proper attention to the subject we will often find that this last is great, and that nature requires all the powers which may yet remain in the system, to maintain action of this nature, it becomes a point of no small magnitude to determine how far we can interfere with her operations as to lessen them by the abstraction of blood. When coma, or delirium, occurs from other causes than the above, then such a procedure, would only add to the general disturbance, and increase either of

these symptoms. These cases must be treated on other principles than that under consideration, tonics and stimulants will be found the more appropriate remedies. In all instances such as those alluded to, we ought to be prompt, and relieve such symptoms, and before much damage has been done, if such has taken place, then we will find that venesection would only add to the general debility, and perhaps inevitably sink our patients beyond the possibility of recovery. From the above it may be seen that I only recommend phlebotomy more with the view of mitigating fever, than for the subduction of the local affection, this being treated in a manner independent of the general disturbance, even although this may have caused it. The relieving the local cause we would not find at once to remove the onus on the system, although each may alleviate or aggravate the other, whatever then agrees with the system will be found in general to do so with the parts, care therefore is requisite that we do not over-excite either by the improper application or administration of our remedies. "The inflamed organ" says Dr. Burns, "very seldom remains as an insulated and independent part. It may be an effect of the state of the system, rather than a cause of general disorder, as to be no longer independent or acted on by remedies merely local. The very change it has possibly produced already on the state of the origin of the nerves supplying it may be quite sufficient to keep up the disease now in the part itself, in spite of all local remedies. Even when no general disease, or fever, manifests itself, this affection of the origin of the nerves may exist, and the disease bid defiance to topical applications, or the sensibility and delicacy of the organ may be such as to require general depletion perhaps even to a great extent."

In opposite states of the system than the above, or in

the broken down constitutions, we will find that venesection does but little good, nay, so far from benefit being the result, it positively does harm, since by this means we produce a greater degree of debility, and only add to the further extension of the malady. There is another reason why we should not heedlessly have recourse to venesection, for in the generality of erysipelatous cases it is not imperiously demanded, since they generally terminate by resolution, and in particular that of the head and face, provided they be not unnecessarily interfered with, in this respect. In many of such cases, all that may be proper is the regulation of the bowels, and correcting the vitiated secretions. The patient is not to be overpurged, since this besides the debility produced, tends greatly to add to the irritability of the system. In addition, diaphoretics, with a well regulated application of cold or heat, either in a dry, or moist state, will add much to the comfort of our patients, or we may even in some instances succeed by exposing the parts to a well regulated temperature in a room according to the sensations of the patient. There may be another reason against the indiscriminate use of the lancet, since we find that the majority of these cases pursue a course similar to that of many of the exanthemata. From this view of the question it follows, that by rectifying the disordered state of the chylopoetic organs, we will very frequently be successful, and when the erysipelas has run its determinate course, which it generally will do, we gain every thing that can be desirable, and more particularly so, when the disorder seems to depend on derangement of these functions. In these cases, however, if blood-letting be deemed indispensable, then we may have recourse to local, in place of general depletion, and no matter whether they be attended by headache, coma, delirium, &c. then a blister somewhat removed from the

seat of the original local complaint, especially when the disease threatens to proceed extensively. When the face, or head, is the seat of erysipelas, and this somewhat severe, we will find little benefit from the application of a blister near the seat of the local inflammation, such ought to be placed on the nape of the neck or perhaps somewhat further down, as between the shoulders, always bearing in mind that in applying blisters, they are either to be large or small, according to the traceable continuity of cellular or other structure, and that in all such instances as the present, they ought not to be applied too near the seat of the original malady, as by this means we would rather tend towards the increase, than the stopping the spread of the disorder; for we might thus have a sympathy of actions established between the two parts, and the blistered surface might in all probability take on the erysipelatous action, and it is easily to see that in this way it might be a means of propagating the calamity. The nearer to the diseased surface, the smaller ought they to be, but I must confess that I am by no means partial to blisters, in any case, unless they be employed with the view of relieving oppression about the brain. None need be afraid of the local abstraction of blood when properly employed, but in place of leeches, or the cupping glasses, I would certainly prefer the small scarifications with the lancet to any other method, for reasons which will appear in the sequel; thus then in a very great proportion of instances will we be enabled to overcome the local and general affections. We ought at all times to recollect that this disease, if not cut short, by vigorous measures at the very onset, is like some of the exanthemata but ill calculated for bearing venesection in the more advanced stages, particularly when suppuration or mortification is apt to occur. When such takes place now, we have need of every particle of

blood in the system, so that it may be enabled to withstand the great and incessant calls made on it for a restoration of parts, as well as for the support of a most ruinous discharge. It follows then that we should not abstract more of the vital fluid than is absolutely requisite for the suppression of excess of action in the more early progress of the disease.

Many may say that they have seen cases that bear blood-letting well, and to a very considerable extent, be it so, but many more have seen cases in which too copious venesection was used and the patients not unfrequently died. I admit that the cases most likely to be benefited by the remedy are those of the robust frame, and a previously sound constitution, and in perhaps but few other instances, particularly when we look forwards to the ultimate termination of the complaint in opposite constitutions, in which we may not unfrequently observe that nature is but poorly adequate to support the regulations of her own laws, nay, under the circumstances of a debilitated system, we may easily perceive that such a mode of procedure is totally at variance with the very nature of the existing malady, and if patients do at times recover under this state of things, this is by no means so frequent as to warrant the practice, nor are the cures so steady and permanent. In some few instances I would be inclined to hazard the conjecture that some patients have recovered in spite of these depletory measures, and this the more particularly when we know that by weakening the actions of a part or of the general system, we must thereby lay the foundation for a further spread, if not for the effectual destruction of the parts, or the general system ; if such does not take place, then we may have a renewal or increased action in the parts themselves, even in a healthy constitution from re-action occurring of the whole of the circulating mass. Such

then I consider one great objection against the slashing mode of procedure adopted by Mr. Lawrence, particularly when of *full length*, since as has just been noticed, that by the unnecessary abstraction of blood we reduce the whole powers of the system, as well as draw materially on the vitality of the parts, thus increasing the original cause of the disorder, by producing an irritable state in the extremity of the nerves. If correct, it necessarily follows that large depletions over and above that which the vitality of the system or parts can bear, must be pernicious in the extreme, whether by venesection, purging, or by diaphoresis. Such should never be carried further than the amelioration of symptoms.

We may draw the inference then that venesection is only to be practised almost at the very commencement, or at all events early in the attack, or when the erysipelas is in its first stage, this we will in general require to repeat, not but that there are cases every now and then occurring, in which we must bleed for the reduction of the fever, once or twice after this, but be it remembered, it is only for the reduction of the fever, and not on account of the local affection, that we do so, although this may have been the means of heightening the first. Some will no doubt say that the local affection when severe may certainly tend to keep up an irritated state of the body. The premises have been already granted, it is therefore incumbent on us to pay such strict attention to the local complaint, so as not to allow it to exceed all bounds, by taking especial care that nothing is applied, which will either irritate or depress it in any way. The long duration of pain in the part must certainly act towards the further extension of the malady, therefore this should be our anxious care to have it as speedily as possible removed. Dr. Burns observes, “and it is no less certain that too copious evacuation in the treatment of

“ inflammation must produce a state of vessels capable
 “ of exciting the system and thereby retarding the reco-
 “ very of the patient”——“ When the fever is moderate,
 “ the inflammation more confined to the cutis, and not
 “ severe, it is not required, and where there are great
 “ depression and languor and small pulse and dusky hue
 “ of the part, it is hurtful. The similarity between the
 “ state of the pulse in this case and entiritis is no argu-
 “ ment for evacuation, and I am well convinced, that if
 “ a positive and invariable rule were to be laid down,
 “ either to bleed all or bleed none, the latter would be
 “ the safest though certainly a most indefensible plan.
 “ Our object whether we use the lancet or employ medi-
 “ cines is rather to mitigate than to cure—to lessen the
 “ violence, rather than shorten the duration—to obviate
 “ the subsequent risk of a serious and tedious termina-
 “ tion, rather than cut short the erysipelas itself, which
 “ runs a certain course and cannot be immediately anni-
 “ hilated by any means.” Blood-letting is more proper
 in those cases in which the air is pure and the patient
 living in the country, than in the opposite circumstances
 of crowded places, such as is to be met with about hospi-
 tals and others of a similar nature for the reception of
 sick. The reason may appear obvious enough, when we
 consider that in consequence of the deterioration of the
 atmosphere, there is always present the exciting cause
 of a depressing nature after it has thoroughly established
 itself in the system, consequently a greater tendency to a
 higher degree of malignancy in the type of the particu-
 lar fever, and a consequent increase of the other symp-
 toms of the same nature, blood-letting cannot therefore
 under these circumstances add to the relief of the gene-
 rality of such patients, since by this we abstract the
 healthy stimulus to the nerves, in so far as it is now
 capable of affording the same, we may now see why

blood-letting under certain states is more injurious than at other times. But in every place whether in town or country in which there is plenty of a free and pure circulation of air with not many sick confined in the same place, we certainly can have a more free recourse to the lancet, than under the opposite state of affairs. Besides another point to be noticed is that venesection is not so imperiously demanded in erysipelas, since the malady is not in a vital organ, but as it is apt to induce disease in them, particularly when it has been repelled, we always ought to watch these cases in which such is likely to take place with the greatest care. Dr. Good says "I conceive very few ordinary cases in which the lancet has a chance of being serviceable."

Some may be inclined to advocate the propriety of blood-letting on account of its promoting absorption, and this in particular when we consider that there is much effused serum and fibrin into the cellular substance in erysipelas. It certainly becomes a question of some moment to determine in how far this mode of procedure may be trusted to, for effecting such an indication, as well as, at the same time for reducing the nervous irritation. It has already been stated in how far it is capable of effecting the latter intention, and I now add in respect of absorption, that the remedy is more adapted for other diseases than for the one the subject of enquiry. Nay, even in all cases of this nature and from whatever cause proceeding it is only under particular states of the system we can use it, for be it again stated that venesection under certain states of the body only tends to the decrease of the nervous energy, consequently there must follow a torpidity of the vessels of the part or general system. None would surely ever think of doing so in the weak, the infirm or the debauchee, or

the ruined constitution, since such cases have not the stamina sufficient to withstand the effects of the phlebotomy. It becomes us therefore to be particularly cautious as to its employment, and not carry this too far, otherwise we may induce a greater degree of exhaustion in the affected parts, and thus have an increase of the effusion in place of its absorption. There are some cases of a previously sound constitution in which this remedy might be tried, particularly in obstinate ascites and anasarca for the purpose of inducing a favourable action in the vessels, and I know cases in which blood-letting succeeded, when every other remedy had failed in promoting the absorption of the effused serum, even in those patients much reduced at the time, but whose constitutions previous to this had been what may be called good, the watery particles were very speedily absorbed after its employment. In erysipelas, we cannot expect the same advantage to be gained, since the effused serum is very thick in many instances, and therefore time alone must do the business, and more particularly when we consider that the powers of the parts and general system are so much oppressed by the disease.

To sum up the subject as to the utility of venesection, I am much inclined to believe that its general adoption is by no means advisable, since by it we cannot check the disease, but it may add to the general irritation of the system, as well as that of the part. This it does by producing that state of the vessels of the parts, particularly the blood-vessels, since by this very abstraction there is another stimulating power produced, viz. the stimulus from a deficit of the ordinary healthy stimulus of the blood; the system feels this, and of course sympathises with the part, thus both come to suffer, and are now thrown into an increased state of

excitement. When blood-letting is had recourse to, it ought to be only with the idea of checking the general disturbance caused by the fever, for we know that a high state of fever will to a certainty impair the powers of the body more effectually and speedily than the abstraction of blood would do, such then should be our guidance for the more early stages of the disease. When the disorder has so far advanced as to take complete possession of the system, all that we can do either by general or local depletion will not subdue the affection, although we may thereby at times lessen much of its power, we can only therefore curb the action, but not conquer it completely. The innate powers of the system must do this, we see the imperative necessity of not reducing them too far, and it ought to be our aim by local and constitutional remedies, which are not likely to aggravate, that the disease should be placed in such a condition so as to enable these powers to overcome it. The erysipelas, when fairly established, will pursue its course in defiance of us, and can only be moderated by the judicious use of remedies, of which number I suspect that phlebotomy cannot be reckoned one, unless when the fever runs high. The rule ought to be with respect to blood-letting to moderate action, this to be employed according to the age, constitution, and the other circumstances of the case. There are instances in which we cannot from known causes have recourse to the lancet at all, as in the old, or worn out constitutions, or all such as are debilitated from excesses of various kinds, they require other means of procedure which will afterwards be considered.

CHAP. IV.

P U R G A T I V E S.

Our first consideration is the proper selection of those adapted to the nature of the constitution, and those likely to answer the indications required. In place of going over the list of such, it will only be proper to state a few observations which may be applicable for our guidance. In all cases of erysipelas, it is of the greatest importance, that all irritating or acrid substances should be removed from the alimentary canal, since the skin is so liable to be thrown into deranged action by such causes, and *vice versa*, and if this point was not sufficiently attended to, it would certainly add to the force of the fever and consequently to the local affection. It is of importance, with our purgatives to use in combination other medicines calculated for fulfilling other indications, than the mere clearing out the bowels, and this we will find to be attended with manifest advantage. Dr. Dobson was in the habit of administering a brisk cathartic composed of the extract of colocynth, the pulo : scammon : and calomel, and a more useful combination either at home or abroad perhaps we cannot have, these pills ought always to be newly prepared, since they lose their virtues in a great degree by being long kept. After a five grain pill or two of the above combination was given, then he followed up this by the administration of the following mixture. R mist : camphor : ʒiij. liquor : ammon. acet : Tk. Rhæi ä ä ʒiss. M. Sumal : cochlearia duo larga 3^{tia} vel 4^{ta} quoque hora ; this at the time to, when he uses the punctures. I may be allowed to observe that this plan serves to fulfil two or three useful indications, in keeping up the action of the bowels, so has it something agreeable to the stomach, and also acts gently on the skin, these are points

of the utmost consequence to be attended to in the successful treatment of the complaint, so that we see much benefit is to be derived from the combination of remedies calculated for fulfilling two or three useful indications, by this means also we avoid teasing our patients by the constant administration of different remedies. The purgatives are only to be given so as to keep up an intended action, as in weak or worn out constitutions, we would find much purging not only debilitating, but productive of much serious damage. For such patients therefore salts and senna are improper, for they operate too greatly on the general system by producing watery stools, these are more properly used in the robust frame. In such instances it follows that our laxatives or purgatives should be more of a cordial nature, such as the tincture of rhubarb joined to the compound cinnamon tincture, or this and any other purgative tincture, which does not operate violently, these may be most usefully joined at times to some pleasant diaphoretic. One rule to be attended to, is not to keep our patients continually harassed by purgatives, since they will produce irritation of the system, besides being a species of depletion much more of the fluids of the body may in this manner be drawn off than is consistent with the nature of the malady. In the more severe cases in the more robust frames where we have recourse to venesection for keeping down action, purgative medicines may be more freely used and may be of such a nature as are calculated to draw off fluid stools, such as are less likely to gripe and sit easy on the stomach should be selected. It may be stated that all drastic ones should be cautiously avoided, particularly in irritable states of the alimentary canal, if given, they ought to be joined to some aromatic so as to prevent them from griping, and given soon after the blood-letting has been performed. They ought

not unless under particular circumstances to be administered after the bowels have been well opened from the first ; our safest plan being to keep them gently open and not severely purged. These purgatives ought never to be used in those constitutions in which the system is very apt from the slightest cause to fall below par, and this perhaps to such an extent as to be for sometime after incapable of re-acting for its own good. A cautious selection therefore becomes proper, such as castor oil, compound powder of julap, the rhubarb pill or the draught with magnesia and peppermint water, or a combination of the blue pill with some other purgative, such as rhubarb, &c. The latter combination will be most usefully employed in those cases of hepatic derangement, or other bad secretions, or conditions of the alimentary organs. All these purgatives are more properly administered with some aromatic mixture, than if given by themselves, this for obvious reasons, and in particular if the stomach be weak or greatly deranged in function from disorder of the viscera. There is one thing of the utmost consequence to be attended to in the treatment, especially of the more aggravated forms of the disease, which is that the strictest attention should be paid to rest of the whole body, and in particular that of the disordered member. Therefore if we gave such purgatives as would be apt to excite too forcibly the bowels, and thus cause much serious annoyance not only on account of the damage done by an excess of purging, but also from the continual harassment to the patient, the suffering member would be greatly teased, not only this, but the whole body as well as the mind would become irritable. Cleanliness is of the utmost importance, therefore the dejections should be instantly removed when passed, and the place kept free of all bad smell whatever, with a proper circulation of pure air.

CHAP. V.

DIAPHORETICS.

From this class of remedies may we expect much good, when properly administered. We may use the saline julap which is the liquor ammoniæ acetatis diluted with water, or the subcarbonate of ammoniæ saturated with the citric acid, or the subcarbonate of potass with the same. Such will be found when frequently repeated in small doses to add greatly to the comforts of our patients, not only in allaying the irritability of stomach, for which the two last are particularly adapted, but by keeping up a gentle moisture of the skin, they produce a soothing action in the nervous system here. It may be asked why I advise the use of diaphoretics in erysipelas in which it has been stated that there is an effusion of serum and this is one great cause of keeping up the disorder and favouring its spread. Such a state however is not generally present at the very outset of the malady, and besides in all states of the disorder by increasing the tendency of the vessels of these parts to a return of their healthy actions, we do much good, and will often as general experience testifies often cure the complaint by a strict attention to the bowels and this point alone, in addition to this by keeping the vessels in order, we prevent the further increase to the depositions of fluid. I have shewn that the sympathy existing between the skin and bowels is great, therefore what tranquillizes the inordinate actions of the one may to some extent prove beneficial to the other, and in this manner may we have a splitting of action, which, be it either good or bad will be sure in some instances, to add to, or alleviate, the disease. It follows, therefore, that by keeping both parts in as easy and quiet a state as possible, much good is to be derived

from the exhibition of gentle diaphoretics. Dover's powder, may in the eyes of many, not be so beneficially employed, as others of this class, in which there is no opium, since it may be said, that the opium might add to the heat of the body, in such small doses. But, really, I can see no solid objection against the remedy, especially, when we are desirous of having a good flow of perspiration produced. This, although at times very desirable, yet it is not the general action we aim at, in the treatment, which is a gentle diaphoretic effect constantly present, we therefore select the saline diaphoretics, as the more appropriate remedies, besides, the nature of the fever is, perhaps, more disposed to be treated in this way, than by one or two good and free perspirations, produced by the powder. I am much inclined to believe, that, the action set a going by Dover's powder, is an increase of the circulation of the vessels of the skin, hence, if so it becomes a question, in how far this may be judiciously employed, in the treatment of erysipelas. It is thought, that more benefit is to be derived from such, as gently tend to excite a slight diaphoresis, than by inducing, even for a short time, such an increase in the action of these vessels, and that of the neighbouring parts.

As to the small doses of tartar emetic, repeated so as to excite and keep up nausea for a considerable time, and to be used as a general practice, I have already stated, that I by no means approve of such proceedings, since this must depress the animal and vital powers too much, and thus the action of the whole system as well as that of the parts themselves comes to be sunk far below that standard of healthy action, compatible with their existence, thus we prevent the free performance of the other functions, and produce a degree of debility of the indirect sort, which proves more injurious to the

general system, more so than blood-letting itself, at all events in many instances. Besides the operation of tartar emetic, either by itself, or in combination with, the sulphas magnesia for keeping up nausea or the regulation of the bowels, is in many cases too severe, producing the most distressing sickness, as to be at total variance, with the proper performance of the various functions of life. For these reasons, I cannot be an advocate for its administration, even although it has such a distinguished supporter as Desault. Dr. Good observes, "the antimonial emetics, in a full dose act more
 "violently on the stomach, bowels and skin, but less
 "upon the mucous secernents. While in small doses,
 "the nausea they produce is accompanied with the
 "most deadly languor, and with atony, that, in numer-
 "ous cases has been succeeded with more mischief
 "than any degree of benefit that could have been pro-
 "duced by their use: many in this manner" says Dr. Perceval "have sunk under the nauseating doses of
 "emetic tartar, employed upon the hypothesis of Dr. Cullen, in low fevers. The heart of a frog is so torpe-
 "fied by this antimonial, as not to be excited by galva-
 "nism, which is not the case with opium. The fraction
 "of a grain of tartar emetic, in a gouty habit, subject
 "to mælena and palpitation, produced an alarming de-
 "liquium. In the same subject a similar effect attend-
 "ed the use of other antimonials."

If it is a desirable object to excite nausea so as to keep down the powers of the whole system, why select the antimonial preparations, I am not aware of their having any specific virtues, further than the depression they excite, why then do we not give a preference to the ipecacuan? This medicine is much more mild in its operations not producing that deadening sickness so apt to follow the exhibition of the other, therefore I should

certainly prefer it, and employ this, much in the same manner as recommended in dysentery. The powder of ipecacuan with blue pill and the extract of gentian, or any other light tonic extract or aromatic, will be most usefully employed, and we have it going to the surface with more certainty. Our rule in the administration should be to avoid what I choose to designate much *sensible* nausea. It is imagined that this plan of procedure will be attended with much more success, since we have in combination the blue pill, with the bitter extract, these of themselves capable of fulfilling useful points in the treatment. This medicine will tend to rectify the hepatic secretions, and any deranged state of the alimentary canal, particularly in that form of the malady termed bilious. The mercury acting on the general system and organs will thus correct the vitiated secretions and thus lay the foundation for the establishment of healthy action. Then we have a second benefit, the ipecacuan will go with more certainty to the skin; and a third result will be the defending the stomach against the more nauseating effects of the ipecacuan by the extract of gentian. Thus can we produce a favourable impression on the disease in several quarters at one and the same time, since the combination has both a general and local operation. We see then that it is not by lowering the pulse or the circulation that we can expect much good to be done, since this could be accomplished in many cases by the tincture of digitalis and we do know that this medicine is not of the greatest utility in the treatment, although I think it might in some cases be usefully employed, so as to act on the kidneys, thus by stimulating them we might induce an action in the absorbent system, and in this manner have some of the effused serum taken up, more particularly when extensive. With this view then the powder of

digitalis could be combined with calomel or blue pill or other remedies so as to answer the particular indications required. There are other diaphoretic medicines which could be usefully employed in the treatment of erysipelas, these it is thought unnecessary to dwell on, since the general views for our guidance have been stated, and we can use such as do not heat the system by their stimulus in the first instance, but such as keep up a gentle moisture on the surface, the patient at the same time taking care not to expose himself to currents of cold air.

CHAP. VI.

LOCAL APPLICATIONS.

LOTIONS.

In having recourse to lotions to any inflamed part, there are a few points to be attended to, particularly as respects erysipelas. By diminishing the actions of the parts attacked, by the application of cold, we may do much good, or much harm, as a general rule for our guidance nothing cold should be used to an inflamed part, unless it gives relief. If soon after it has been applied, it does not ease the pain, then we may be sure that but little benefit will be derived from its continuance. It would under these circumstances be very liable to aggravate the malady, by causing an excitement in the inflamed part, thus acting as an irritant, nay, add to all this, we run a great chance of the inflammatory action being thrown upon some other portion more essential to life. If the head and face be the seat of the disease, here we ought at all times to be cautious in what manner we advise the continuance of cold applications, after they have afforded but little relief in the first instance,

by such a procedure we might repel the disorder, a thing of no uncommon occurrence in erysipelatous attacks and in particular of the head and face. They ought therefore never to be used in any case in which they do not give speedy relief, even although they might not cause any additional disturbance, a too long continuance of them might depress the actions of the part too much, and hence we have another state of the local affection to treat more analogous to the chronic than the acute form, and it is from this cause of depressing the powers of the inflamed portion that we often meet with tedious and troublesome cases. Lotions of the sulphate of zinc or superacetate of lead, with a small proportion of spirits, seem the best for this sort of inflammation of the skin in a debilitated part, since we want some tone given to the nervous power here, this in particular in the worn out constitutions, or those in whom there is not much action. But in all cases of the more active forms of the disease in a healthy constitution, we will find water alone, the best local application we can use, to this can be added a few drops of the extract acetatis plumbi, if thought proper.

Whenever such lotions are used, if they lessen the burning heat of the parts, and produce otherwise comfortable feelings, they will prove of utility, and we have not much to fear from their repellant power, they will, under these circumstances, be very advantageously continued. I have seen much benefit derived from a cold application of the liquor ammonia acetatis, with the addition of a little water and some spirits, a poultice composed of lintseed meal, and this will be found to answer well when kept constantly applied to the parts. There may be an objection against this, which is its weight, whenever this of itself is likely to do harm then the lotion alone may be used. Dr. Dobson speaks

highly of the following. R liquor ammon: acet: oss: spr. camph. ʒj aqua purae ʒvij. He observes, "however
 " unchemical it may seem from the camphor and spirit
 " being divorced, experience has proved it to be both a
 " beneficial and comfortable application, and may be al-
 " ways used with the punctures without any fear of
 " revolution or metastasis, which have sometimes result-
 " ed from the use of cold applications, without local
 " abstraction, and it is no uncommon practice for me to
 " prescribe wine, or even gin for my patients in this
 " disease at this establishment, at the same time I
 " am pursuing them (punctures) twice or thrice a
 " day." We need not be surprised at the latter mode
 of procedure, when we consider the nature of the con-
 stitutions of those who are more immediately un-
 der the Doctor's care. His patients at Greenwich
 hospital are men far advanced beyond the middle period
 of existence, men who have experienced the severe hard-
 ships of a sea-faring life. Such old seamen therefore
 have been accustomed from their early manhood, to a
 daily allowance of grog, now it positively becomes part
 of their diet, the abstraction of which when under the
 influence of this disease, they would find not only irk-
 some, but in most cases it would be prejudicial. The
 above may be a good lesson to those, who do not fully
 consider the constitutions of their patients. A lotion of
 the following ingredients has been highly extolled by
 some; subcarbonate of ammonia and superacetate of
 lead of each ʒi aq. rosar: lbj. It need scarcely be ob-
 served what is already but too evident, that the inflam-
 ed part is more sensible than the others about it. This
 should put us on our guard as to the application of local
 remedies, for that which would give no pain in a healthy
 state of the skin, will now produce the most severe sen-
 sations in the injured portion; we ought therefore never

to apply any thing which will in the smallest degree tend materially to disturb the actions of it, the proper regulation of the temperature of our lotions then becomes a point of some moment to be attended to. In cases of less intensity, all that may be required is the sponging the parts occasionally and leaving them uncovered, in a well regulated temperature, or we may use the silk cloth varnished for such cases, this requires to be noticed in another place. Many other combinations of lotions have been used, these it is unnecessary to dwell on, as each when he knows the general principles to be taken into consideration, can easily form one for himself, which will not disturb too much the actions of the part, such as lime water, tincture of opium with water and the like. A drachm or two of nitric acid to a gallon of water, I certainly think would answer well in those cases, in which there is an evident want of action in the parts, which generally occurs in the worn out systems. This may be used by sponging the parts three or four times a day, by this means we gently stimulate and at the same time give them a comfortable feeling, and give them a tonic operation. In those instances in which the disease is complicated with diseased liver or from a long continued derangement of the chylopoetic viscera, we would do well to sponge the whole body, or even use it as a bath, as often as seems proper.

FOMENTATIONS.

The application of heat to the inflamed part would appear to be a method by which much benefit was to result to the patient, either in the simple or phlegmionoid variety, this however only if they agree with the sensations of the inflamed portion. It is not an easy matter to say whether the cold or the hot applications will agree

best, merely from looking at the state of the inflammation. The diversity of the human constitution is such that we cannot *a priori* say whether cold or hot applications will agree, and therefore as before observed we must use that, the most agreeable to the sensations of the patient. We need not be surprised that this disease should be of so difficult management, when we consider that what agrees with one will not to a certainty be attended with the same beneficial results in another, the disorder may therefore be said to be as diversified in the treatment as the different tastes of individuals. When we wish to use fomentations, and they are likely to be serviceable, we will find a strong decoction of poppy heads, or the aqueous solution of opium, very favourable applications, and such applied in the manner the most agreeable to the sensations of the part. All such remedies, either hot or cold, are to be used according to the sensations of the patient, this is the point to guide us in the successful plan of procedure, and we always ought to remember that extremes of heat or cold are to be avoided, and that whatever does not soothe will add greatly to the existing nature of the disorder, by weakening or exciting the powers of the part. The fomentations then may add to the general laxity of the parts, in this manner give an opportunity for the further spread of the disease and a collection of serum, when we are not afraid of these things occurring then they may be safely used. It would appear in many cases that by merely confining the heat which is given out from the parts we will do much good, and in many cases especially of the debilis sort, we will gain much benefit from following out this mode of practice, since the vitality of the skin is low with at times so much sensibility as to be injured by other modes. If gangrene or suppuration has ensued then we must attend carefully

to the keeping the parts clean during the whole progress of these actions. This is best accomplished by washing the parts with decoction of the poppy heads or water of such a temperature as to prove agreeable, with some sedative added, or we may use the dilute liquor ammoniæ acetatis, and then our other dressings applied to the sores themselves, such as are particularly adapted for fulfilling the several indications required. The zinc lotion or the sulphate of copper, or a decoction of oak, or peruvian barks with many others are all usefully employed according to the particular indications required.

DRY APPLICATIONS.

It has been stated by some that the application of dry substances to the erysipelatous inflammation are hurtful. When so it is surely easy to leave them off, and this we can do as soon, as with the cold or hot lotions, since we ought in no instance whatever to use any remedy longer than it gives relief, for any thing remaining in contact with the inflamed part longer than this will to a certainty only increase the disturbance. We know that dry applications have been long resorted to by the Scotch peasantry as a means of alleviation, and they will not in general allow any thing wet to touch their *roses*, they say such a practice would spoil them, therefore what has been established from generation to generation, by use and wont, surely deserves some notice. Under this idea then of permanent good to be derived from such we find them using finely powdered oatmeal, or the shakings of the bag in which this has been kept, or flour, or bran, or cotton and other substances in a dry state and this under the impression of preserving the parts comfortably warm. This practice is often attended with much success, and I have seen many, very many cases of the simple variety of erysipelas cured in this manner, with a pro-

per attention to the state of the bowels, and I am convinced that the less we tease the local affection by an improper application of local remedies so much the better for our patients. Upon this principle then it may not appear inconsistent to employ silk or some other material of a light nature, previously finely varnished, with that sort of varnish which we use at times for the purpose of covering the parts in compound fractures, so as to exclude from the wound the action of the atmosphere, and by so doing it is imagined that we would gain much in the treatment of erysipelas, more particularly when the malady seems to arise from the action of the external atmosphere. With this view of the case then, we procure a large piece of silk so as to extend a considerable way on each side of the affected part, or to encircle the limb at this place, this is to be laid on smoothly, so that there may be no folds in it. This will not only serve to preserve the moisture and heat of the parts but also excludes the air from acting on the affected portion, and this it is presumed will be found to be particularly applicable in the more early periods of the disorder, and before it may have advanced the length of suppuration or sloughing. This application could even be used in the more early stages of these processes and our poultices could be even used above this. It ought to be recollected that this varnished silk cloth should never be allowed to act so as to compress the inflamed portion too much, and if it seems to do so from the inflammation, or tension increasing, then it ought to be removed and again applied lightly. By this means we give support without compression which is to be at all times avoided, in particular during the active stages of the disease. This, however, may be the very point we require in the more advanced stages of the malady, in which the parts require support, thus we have it an-

swering well the purposes of a bandage. It may be proper in the more early stages of the disease, not to encircle the limb, more especially when there seems a great tendency to the swelling increasing, so that if the member swells there cannot be too much compression produced ere it can be rectified at next visit. In those instances in which the inflammation encircles the whole limb, then we can fix one portion of the silk to the other, and the upper and lower portions to the sound skin, and in this manner gain our end.

Some may say that sticking plaster finely spread might be as usefully employed as the silk, I do not think so, since the moisture of the parts would soon loosen the application, as also the resinous materials and the lead might produce considerable irritation, in particular where the skin is delicate and irritable, for the perspiration soon acts on the plaster and thus it comes to irritate and from this cause as just noticed it loosens and allows the air admittance. The silk however being varnished and dried, will long resist moisture, and when we wish to use it all that is requisite is to varnish it round the edges again and then apply it evenly and smoothly to the skin, thus we have it only adhering at particular places, all round the affected portion and this on the sound skin where it is less likely to irritate. There is another point to be attended to which is, that when matter forms in any place this can be easily let out by puncturing the abscess through the silk, when we can again apply our poultices over it. Even when sloughing takes place, we could remove these by making a corresponding hole in the silk for their escape, or by taking the silk off, we then can remove the sloughs and and then cut a corresponding hole in it and re-apply the same. This mode of procedure cannot be expected to answer so well in those cases in which there is destruc-

tion of substance to any extent, therefore we must use the remedy according to circumstances. In large hospitals and other places where the procuring silk for this purpose would be expensive, then we may use very fine calico or linen, the former the preferable from its soft texture, or we might even use bladders or any other substance of a light and firm quality. The bladders may be found the preferable material as they would sit well on the affected surface, by being previously moistened, unless round the edges where the varnish is to be used, in this manner then we would have a soft substance next the skin which is of importance. The only objection to their use is, that we may not be able to obtain them large enough, but surely we could not find much difficulty in attaching two or three together. The inflammation when considerable and the heat of the parts consequently great, these applications may become hard and dry, to prevent this they may be kept continually in a moist state, always taking care not to irritate the parts below by too great a load of articles placed above them for the purpose of preserving the substance in a constant moist or wet state. This may be effectually accomplished by sponging the surface frequently with tepid water, this however according to the sensations of the patient, and the articles themselves being water proof none can get through on the skin. There is yet another point to be noticed which is that the moisture from the parts underneath the silk or other substances may be sufficient to keep them in a moist and pliant condition. It might be proper in some instances when we are not afraid of causing much irritation, to have the silk varnished over its whole surface a second time and then apply it so as to adhere throughout the whole extent, and have more support given to the parts. The other method promises more chance of relief, pro-

vided the material be air and water proof, since then we have only a soft bag encircling the parts and only adhering about an inch around the edges by which we run much less chance of giving cause of annoyance.

To return to the application of dry substances such as chalk, powdered starch, flour, &c. some it was noticed, say, that they are hurtful, but I observe again that in the more northern latitudes such measures are very proper and often cure the malady in a comparatively short time, such may not exactly answer in a more congenial atmosphere. Some have said that such substances are improperly used to the vesicles when they have broke, on purpose to absorb the moisture, since they are apt to become hardened and dry, and thus be a further cause of disturbance to parts already very sensitive. But surely it was improper in them to allow such a state to take place, the proper application of the remedy is what we want and not its indiscriminate use. It is in this disease as in many others, in which a remedy is usefully employed in one stage, or for fulfilling a particular indication in another, that we have those who use it through every stage, in this manner they hunt the complaint as it were through all of them, with the same, and in the end stand gazing at their failure, and wonder why such should be the case. The dry applications are certainly useful, this when properly used and we ought never to allow any hard substance to remain near the parts, such ought at all times to be early removed, without running the risk of causing much disturbance by the hardened crusts remaining on the parts. In this manner in very many instances may we obtain much benefit by sprinkling the parts with powdered rhubarb, cinchona, or the like, according to the particular indications required, and we may even apply a cataplasm over such. The fluid which makes

its escape from the large vesicles, on the surface of the inflamed texture is often so acrid as to excoriate the parts it touches, hence we require to be cautious and not allow this to spread. A question offers itself as to the puncturing these vesicles and at what time. It has been advised to allow them to burst of their own accord, and it is imagined that they will heal more readily by scabbing over, this plan is only advisable when they are small and not causing much uneasiness. But when large and full of matter, it is imagined, that very much good will be derived by cautiously opening such with a fine pointed instrument and absorbing the fluid as it escapes with a sponge, just as is done in small-pox so as to prevent the otherwise deep pitting which would ensue. Thus we prevent their further progress by the removal of the cause of distention as well as the acrid fluid, which if remaining it is but reasonable to conclude that such would have added greatly to the existing irritation of the parts below, as well as form a source of great disturbance to the surface. Pure pus we know well will not cause any further aggravation of the malady, but from the stimulus of distention which it occasionally gives, but then this fluid is not of the bland nature of pus, the allowing which to remain must always tend to a further increase of the malady. The sooner such is got rid of the better, provided we think that it causes any annoyance, or the vesicle being large, which by bursting would give a large open surface to be acted on by the external air at every time of dressing. After the vesicle has been emptied and the parts carefully sponged we may then apply any of the dry powders or a pledgit of soft lint so as to absorb the fluid which forms, and care should be taken that these dressings, as well as the poultices, should be well adapted for soothing the parts, as also that they should be removed at proper intervals,

care also should be observed never to apply any substance which might be apt to irritate the sound tender skin in the immediate vicinity of the sore.

LEECHES.

There has been much dispute amongst medical men, as to the propriety of using leeches to erysipelatous parts. Some there are, who reject them altogether, others who advise them to be applied to the inflamed texture, while others again say, that when used here, they will only increase the malady, consequently employ them on the sound skin in the neighbourhood of the inflamed texture, and follow up their practice by stating that leech-bites cause an increase of the disorder by becoming inflamed. Without at all entering into this controversy, I shall state what appears to me to be the proper plan of procedure in this respect, admitting at once that they may do much harm or good according to certain peculiarities of the constitution. Previous to their application we ought to consider whether our patient has been previously healthy and of a sound constitution, or whether the skin is exceedingly irritable, tender or very delicate, or whether our patient is of a depraved habit or other causes similar to these. We know well that in very many instances in irritable constitutions, and habits of a bad caste, that a small abrasion of the skin will not unfrequently in spite of us, run into foul ulcers in a very short time, and we know well that this is more likely to occur in the habitual tippler than in opposite states of the body. Then why may not leech-bites under such circumstances do the same, there is only a breaking of the skin in both instances, and thus we may have the same bad state of the limb produced although from opposite causes, and I care not which of these things occur, whether a severe local affection, or ulcers, or both,

so long as they do so. Therefore in these constitutions leeches in the majority of instances are to be carefully avoided, as most likely to cause much harm. But in all healthy patients or those previously so to the attack, and where there is no great irritability of the system then the application of leeches either near to or upon the inflamed surface may be usefully, and with the greatest advantage, had recourse to. We have likewise to consider previous to applying them the state of the inflammation as well as the state of the constitution under the attack, as also from the extensive nature of the inflammation we might not expect much benefit to be derived in such instances, it would be folly to use them, since we could not curb it in its progress by these means, but might perchance cause much annoyance. If we apply them to the inflamed texture in a weak patient care should be taken that they are not allowed to bleed long, for in this manner much damage may be done to the system. As to the practice of employing them upon the sound skin in the neighbourhood of the inflammation, such practitioners give an acknowledgment that it is of but little importance, whether blood be abstracted from the surface of the diseased part or not, thus giving a negative sort of proof that the parts are to be but little benefited by the local abstraction, for by diminishing the blood in the vessels near the part, cannot act so powerfully as over the inflamed portion itself, the vessels of which are not directly emptied and thus the stimulus from the blood is still allowed to remain, and I question much if the application of leeches in this manner be as useful as fomentations or cold lotions. Even admitting that there is sometimes benefit derived from their application, yet this does not hold good as to the majority, and now if this mode of procedure does not stop the progress of the inflammation, it

will when this spreads attack the leech-bites, thus they may contribute greatly to the annoyance in causing a spread of the disorder, and a more deeply fixed complaint than when applied over the seat of the original diseased texture, nay, erysipelatous action may even attack the leech-bites without spreading from the former place, and in this manner also may the disorder be propagated. Dr. Bateman says, he prefers local bleeding and blistering, but not upon, or very near, the diseased surface, as to the latter mode it will be noticed in another place, and I have stated my opinion as to the propriety of adopting the practice in which there is a traceable continuity of substance, with respect to the former I have nothing further to add than the statement already given. Dr. Good says, that “in ordinary cases the application of leeches always exasperates the efflorescence.” It is very strange that such a diversity of opinion should prevail on this question, Mr. Lawrence advises the diseased part to be pretty well leeched, and even states that when they are applied to the sound skin, they will often produce an inflammation of it, but this they do not seem to do upon the inflamed portion. This is somewhat strange, and it may be accounted for on the supposition that the inflamed texture is incapable of being acted on further, but before we admit this fully we ought to recollect that as the disease arises from a disordered state of the nerves of the part, that they are at times capable of receiving an increase of irritability from any cause capable of exciting them still further, and that in this way the leech-bites may increase the malady particularly in the states of constitution referred to, and therefore it seems to follow that we can only with safety have recourse to them in the more sound and healthy constitution, and even here at times we may have them causing some disturbance, particularly when they are carelessly employed.

CUPPING AND SCARIFICATIONS.

Another method of abstracting blood from the diseased surface, or the parts in the vicinity is by cupping, which many may prefer, as by this means we take away a general stimulus from the part, not only of the blood, but also the effused serum, and for this purpose the glasses should be applied over the affected part. This practice can at all times be used when the distention is considerable, even although we get but little blood, yet we draw away one great source of annoyance, the effused serum. They should be used three or four times in succession according to the distention of the parts and at the interval of twelve to twenty-four hours. The practice will be again brought under review, when I come to speak of puncturing with the lancet. It is to be observed that the cupping glasses when badly employed, or too frequently repeated, may be the cause of much disturbance, since they give too great pressure on the inflamed texture, and in this manner increase the disturbance.

Little need be said as to scarifications, in those cases demanding their employment, and I have no great objections to them, provided they are only scarifications, and not running the depth and length of incisions. There is a point of some moment to be attended to in all cases, in which we break ground or open the skin, which is, as already stated under the article leeches, viz. that we should always attend to the condition and former habits of our patients, and if leech-bites seem pernicious in such instances, then we ought to be careful how we open the skin under any of these circumstances, as we would only irritate the parts and constitution, nay these may end in troublesome sores, and although their employment might at first sight seem of but little magnitude yet they may give origin to the most powerful sympathetic affections.

PUNCTURES WITH THE LANCET.

On the principle of lessening the irritation of the parts, I would in preference to any other mode of opening the skin prefer the lancet punctures, by which we lessen the increased turgescence caused by the effusion of serum, fibrin, &c. Thus we in a manner at once free the cutaneous vessels, a point of much importance, as also allow the escape from the cellular membrane of a large quantity of fluid, the removal of which almost immediately lessens the pain, and also the tendency to the spread of the disease. But in place of using a single lancet I would prefer the scarificator which we use for cupping, in those places where such can be employed, for by this we perform the operation much more effectually and expeditiously, and at one stroke we make many punctures, by which we prevent any thing like the same degree of irritation to the patient's mind, which is so apt to take place by the slow method of using the single lancet, and in addition to all this we can more easily regulate the depth we should go. We might even have a pretty large scarificator made for the more extensive cases, and this may be so hollowed out as to adopt itself to the thigh or leg containing from one to two dozen lancets which could be employed according to the extent of the inflammation, and as we can regulate the depth, it seems a more feasible proceeding than the constant pricking of the skin with one lancet, a thing always teasing to the patient, thus we relieve him of a great deal of anxiety in this respect, which always ought to be avoided in disorders of this nature. The quantity of blood and serum which is in this manner abstracted is considerable, and will certainly tend to quell the local affection, and be it recollected that this mode of procedure, is not by any means so destructive as that by the scarifications or long incisions. This may be the reason why Dr. Dob-

son has been so successful in adopting this mode of
 procedure and carrying them to a considerable amount,
 to the extent of fifty or thereabouts, but the Doctor will
 speak for himself. "With regard to the nature of ery-
 " sipelas in which I use the punctures, I answer in all
 " cases whether simple traumatic or phlegnionous, the
 " number of punctures I make at any one time, varies
 " according to the extent of the disease, but it is rarely
 " under ten and seldom exceeding fifty. The depth
 " and extent of each puncture vary also according to
 " circumstances, being made deeper, when the parts are
 " more tumid, but more superficial, when the tume-
 " faction is not so great from two to four tenths of an
 " inch." "I repeat the punctures to the number
 " and extent required mostly twice a day, and often in
 " bad cases three or four times in the twenty-four hours,
 " and in the whole course of this practice which has
 " been resorted to by me in several hundred cases hav-
 " ing adopted it more than twelve years ago, I have ne-
 " ver seen any bad consequences resulting from its em-
 " ployment. The quantity of fluid (for it is not blood
 " alone, but blood and effused serum) which these punc-
 " tures discharge, although sometimes considerable, need
 " never create any alarm, for however freely it may flow
 " at first, it gradually diminishes and soon spontaneously
 " ceases. I use these punctures in every part of the
 " scalp, or face, body or extremities, and never
 " more freely than about the eyelids and I have often
 " found a patient with both eyes closed, which by freely
 " puncturing he has been able to open in a few minutes,
 " and what will be found no less true, than it may ap-
 " pear surprising these punctures mostly heal in a few
 " hours and never entail any material marks on the pa-
 " tient! Where puncturing has been practised from the
 " first appearance of the disease, suppuration rarely takes

“ place, and I have observed that it always diminishes
 “ the extent of that result even in those cases which have
 “ existed for some days before it has been resorted to,
 “ but when matter does at any time form under the skin,
 “ I let it out without delay whenever I feel it, but I think
 “ the integuments are more preserved by making small
 “ openings than by one large incision and the matter is
 “ quite as well evacuated. And I am perfectly sure that
 “ before suppuration, puncturing which can be repeated
 “ again and again as occasion may require, has every ad-
 “ vantage over large openings, which like punctures
 “ cease to bleed, before the discharge is subdued, but
 “ which cannot like them be renewed and are often fol-
 “ lowed by extensive ulceration.”

The above quotation gives us a mode of proceeding,
 which is extremely well calculated for the relief of our
 patients, when we think it proper to touch the skin with
 the knife, and is even preferable to leeches, I therefore
 strongly recommend it to the attention of every practical
 Surgeon. The Doctor only lost two cases during the
 whole period and these were deaths, occasioned by other
 causes than the disease in question. The other means
 which *he* pursued at the same time with the punctures
 have been noticed under the other articles of treatment
 such as purgatives, diaphoretics and cold lotions.

BLISTERS, BANDAGES, CAUSTICS, &c.

With the view of putting a stop to the progress of the
 erysipelas, it has been proposed, to employ blisters, so as
 to encircle the whole of the affected member, on a sound
 portion of the skin above the seat of the malady; the
 blister does not require to be very broad. Caustics such
 as the argent. Nit. or the potass. have been used for
 similar purposes; as also bandages, thus imagining that
 such applications must put a stop to the spread of the

inflammation. As to the utility to be derived from such a practice, nothing I am afraid can warrant us in their adoption. It may not be too much perhaps to say that no case was ever retarded in its progress by these measures, and if the inflammation did stop at the line of demarcation, we might as well say that the disorder would have done so under any other circumstances. I am inclined to look upon the practice as of that fanciful caste, with which of late days we have had so much to contend in surgery, and by which so much damage is so frequently committed, and that the present mode of procedure must have been in not a few instances fatally destructive, the reasons for condemning so severely may now be given. If right in my opinions in respect of the nature of erysipelas, as being a disorder of the nervous system, either in the extremities or proceeding from their origins, no matter whether such is caused by a previous disturbance of the system itself, or from derangement of the chylopoetic organs; does it not necessarily follow that such a procedure as that under consideration, must tend greatly to increase the nervous irritation, this in particular when the disorder seems disposed to travel fast and far. The surface of the parts which has been either destroyed or irritated by the application of the blister or from that of the caustics, must certainly be in a more favorable condition for taking on diseased action, than it would have been if left unmolested, hence a nucleus for the malady, since we know that it is more disposed to attack weak parts, or those that have had weakness communicated from excess of action, than it is under opposite circumstances of the constitution. Thus then the erysipelatous action is not only exasperated at such treatment, but when it assails these weakened parts, it will run a more rapid progress

in consequence of the irritation in the extremity of the nerves. Those who apply these articles imagine that the inflammation could not pass the line of circumference, neither perhaps would it, had the disorder been one only existing in the parts themselves, but as it now depends on a general cause issuing from the general storehouse, it is not to be wondered at that it should feel the maltreatment, and consequently progress. There is yet another point to be attended to, and it is by the debility induced in the parts we have a laxity of the vessels and then follows more readily an effusion of serum, which is always more or less abundant, and which follows pretty closely the inflamed outer margins, this, as I have said adds, greatly to the spread of the disturbance, consequently is more readily given out under these circumstances than if the parts had not been interfered with. As to the application of bandages around the limb above or upon the inflammation in the early stages, I think that not much benefit is to be derived from them, will they diminish the tendency to its spread, or will they relieve the pain, or can they in any one way add to the amelioration of symptoms, or the comfort of our patients, if not then of what utility are they? Whoever dreamed of treating other species of inflammation of these parts in this manner, for we may not unfrequently find that they give a further incentive to the spread of the disorder. To illustrate the point in some measure, we may suppose that a man has a comminuted fracture of the thigh, the bones running amongst the muscles. Or the erysipelas itself may be comminuted to the muscles beneath the fascia, they swell, and become exceedingly painful, so much so that opium will not give relief, nothing will now do so until we relieve them from confinement by cutting down upon the fascia and slitting it up to the extent necessary, otherwise the irritative fever may run so high, as in a very

short time to destroy life. In like manner then would the bandage act on any inflamed texture, if it be said that this is applied for the purpose of giving support, such can be of no use but an incumbrance to the parts themselves, since all bandages for fulfilling such indications cannot be loosely put on, otherwise we defeat our own views. From this it follows that the application of bandages to an inflamed texture in its primary stages must be entirely abandoned, else we run a great risk of having produced a state of the parts, and general system, which we will not be able easily to rectify, and thus being irritated they will run a rapid course in the production of large abscesses sloughing or mortification.

CHAP. VII.

TONICS AND STIMULANTS.

As to the proper exhibition of these medicines there is a diversity of opinion existing. Some there are who give them in every stage of the complaint, from the moment of attack to its termination, others confine this practice to particular species of the malady, as when the head and face is the seat of the disorder, others again at particular periods. Without entering into these disputes it shall be my object to state in as concise a manner as possible, the cases in which we may with propriety use them, the time when, and the proper ones to be selected. In the use of stimulants in erysipelas it may be very proper to confine our attention to those which our patient was formerly in the habit of taking, paying strict attention in all cases to the difference of circumstances, under which he at present labours. If previous to the attack, he was in the habit of daily taking wine, then we give such, and make the selection the most

agreeable to his palate, provided that be port, sherry, or madeira. If spirits has been the accustomed stimulus then this, and so with porter or beer, &c. It is a point of great moment in all cases to please as much as we can the palate and stomach, at the same time observing that he does not exceed the bounds of mediocrity and what the nature of the present attack requires. Our selection of these must be guided by some circumstances as the means of procuring such and the nature of the attack, whether in the primary, secondary, or tertiary stages, by the latter term is meant that in which there is profuse discharges and sloughing, as also on the state of the stomach, for it may even rebel against the proper quantum requisite. It may be stated as a general rule for our guidance in the employing of stimulants that no more is to be given at any time, than what may be proper to prevent any further sinking of the animal powers, this action is to be kept up so long as nothing untoward occurs, this also in respect of quantity or quality. Opium as a stimulant at the commencement of the disease, I should at all times consider a useful medicine, but then it should be in such doses and at such intervals as will tend to keep the action going, it will also tend towards the relief of nervous irritation. When the head and face is the seat of the disorder it may not be so usefully employed since it may increase the heat of the body. It will be most usefully combined with other stimulants, or we may administer the opiate at proper intervals between their doses, and if it agrees well, this will render less of the others necessary, opium it has been stated seldom in this complaint procures sleep, and increases the mental irritation, if so in small doses, we surely can increase them when we want to procure sleep and thus lull the mental irritation, and the dose may require to be repeated next morning, so as to

overcome any unpleasant effects it might be likely to produce, thus by gradually bringing down the action of the system and parts, our patient may be enabled to receive benefit from other remedies. If from its administration the patient get some sleep, the stomach not irritable, the mind quieted, we may be sure that our stimulants are of great use, and we may safely continue them, always taking care not to overstimulate. In the use of opium we should recollect that it allays colliquative discharges, stops an excess of purging, and therefore is particularly adapted for such when present, if we require to use astringents they should be the tinctures of this class of remedies, we make allowance then for the quota of spirits in them. "We endeavour" says Dr. Burns "to support the strength and gently stimulate the system, when that has not the effect of increasing the exhaustion, for it must not be forgotten, that stimulation if it do not prove a mean of invigorating, is sure to prove a mean of farther wearing out the system."

Let us now turn our attention to the cases proper for the exhibition of stimulants. None I should think, would ever venture on them in any case in which the pulse was decidedly inflammatory, the fever high, with a general disturbance of the mental powers, with perhaps delirium, the body strong, or at the very commencement of the attack. Surely in such instances there could be no discrepancy as to the proper plan of procedure, we must bleed and this to the extent proper, so as to moderate these symptoms, then give purgatives and pursue the other measures already adverted to. When the force of the fever has been in the first instance broke, then, and not till then, can we think of giving stimulants. Having broke the force of the disease, and it is now in a state of hesitation from the measures already pursued, we ought to give it a little breathing time in

order to be fully convinced what it is going to do, and not fly at once to stimulants, for by this means we would frequently re-excite the very action we were endeavouring to conquer and which we had in a great measure overcome. At no time ought we to give the too powerful stimulants at the very first, when the system is in this sort of suspense, neither appearing to progress or retrocede, then we will find much use from the subcarbonate of ammonia. Dr. Willan observes, that, "the subcarbonate of ammonia is the best medicine in those cases in which we doubt whether stimuli should be employed or not. It may be given without any risk of re-producing inflammation while in most cases it is decidedly advantageous: five, six, or eight grains may be administered in a draught every three, four, or six hours. Dr. Peart and Mr. Wilkinson regarded it almost as a specific in scarlet fever and erysipelas. Bark comes next to the volatile alkali. Wine is sometimes necessary, but it should be used very sparingly and discontinued as soon as the necessity has ceased." If more powerful are required we can have recourse to them, but we ought in most cases to depend as much on the diet and keeping the bowels regular, not purged, as upon the use of stimuli, this however only holds good in respect of those cases in which the appetite is moderately good. If however our patients seem to sink in place of rallying then we must have recourse to barks or quinine and wine, according to the strength of the system, thus by a cautious and guarded proceeding we gain our ends: whereas by a foolish and indiscriminate mode of having instant recourse to stimulants, when the severity of the primary attack has been just overcome, we may ruin many a patient who might have been saved by a more guarded proceeding. In those cases in which we have fever, and such a state of inflammation of the parts as

do not require the use of the lancet, or the other antiphlogistic measures, we will find great benefit from the use of the subcarbonate of ammonia, and it ought in most cases to be the stimulus, first tried as it has less of a durable stimulating effect than some of the others, besides it has a tendency to the skin. In all those cases in which the powers of life are much reduced, and the patients not rallying quickly we will find much advantage from those which have a nourishing quality, than stimulate greatly, as in such instances the disorder in all probability depends on an exhausted state of the body. Such remedies then which act as cordials and tend to improve the digestive powers will be most advantageously employed, such as a combination of quinine with wine and the compound tincture of cinnamon and aromatic confection. If we are solicitous of having the bowels acted on, we should employ no purgative which tends to depress, but should select those in the form of tinctures, such as the tincture of rhubarb in combination with the aromatic confection, or the cinnamon tincture. If a sedative effect be that required, we use the tincture of opium with any of the other two remedies just named, thus we allay in a conciliating manner the nervous irritation, care is to be observed never in these low states of the body to use any of these remedies in a too strong manner, otherwise we depress the powers of the system already severely oppressed and perhaps to such an extent as they cannot rally again. The alleviation of pain should be only our desirable object in all cases, but more particularly in those more immediately under consideration, and the proper regulation of the bowels, thus we do not run the risk of doing any great damage.

There are instances in which we can have no difficulty as to our immediate recourse to stimulants, those for example, where the debility is great from the

first or those in which much blood has been lost from the previous part of the treatment, and also those cases in which there is much purging, or where we have reason to believe that the existing fever is kept up from the debility of the system, in consequence of the irritation produced by the affection of the parts. In such we ought at once to have recourse to wine with cinchona, or the more pleasant and useful combination of quinine, if under these circumstances the irritation of the system be great, then by a judicious combination of opium we will derive great benefit. In such cases of impaired constitutions, where we cannot venture on venesection, since the malady does not depend on an excess of stimulus from the bulk of fluids, but on irritation produced from debility, we ought at once to have recourse to tonics and stimulants, so as to add to rather than depress the animal and vital powers. Mr. Lawrence observes, "when the affection occurs in old and debilitated subjects the powers of life are soon seriously impaired and our efforts must be directed rather towards supporting them, than combating the local affection. I have often seen such patients labouring under erysipelas of the face in its advanced stage, recovered under circumstances apparently desperate, by the free use of bark and wine."

In what has been termed the adematous erysipelas, we will find that tonics and stimulants, are by far the best remedies and in short those from which we can expect any permanent benefit. In every case then in which we have much effusion of serum, we can at once see that such must depend on debility of the parts or general system or both, and also that an immediate recourse should be had to those remedies which will not tend to depress further either the parts or the body. Under this idea then, it is perhaps that the erysipelas of the

head and face has been so successfully combated by tonics and stimulants. In such cases it may in general be found that they arise in consequence of a depraved habit of body, or in an otherwise bad constitution, in which we dare not bleed with any chance of permanent advantage, or even employ the antiphlogistic plan of treatment. In these instances we ought to proceed according to general principles, for the re-establishing the powers of the system, giving it as much support as we consistently can do during the whole progress of the disorder. Very great advantage will be derived by giving the most minute attention to the diet of our patients taking especial care that they take nothing which is in the smallest degree likely to offend and our patients should always be kept in a well regulated temperature, as an exposure to the least current of air, might ruin in a short time what we have been for days gaining on the malady. Dr. Good observes "as a general plan, we should first cool the body by gentle laxatives and instantly have recourse to a tonic plan. The bark given largely, as long since warmly and judiciously recommended by Bromfield and Colly, has rarely failed of success. Dr. Fordyce was in the habit of giving it in a dangerous state of the disease, in the proportion of a drachm of the powder every hour. He tried it for twenty years and with growing confidence. When however there is much evening or night exacerbation it may temporally be dropped for some warm diaphoretic, as camphor, with small doses of James's powder, or the spirit, or compound spirit of sulphuric æther, in saline draughts made with the carbonate of ammonia. If the head be much affected it should be lightly covered with linen wetted constantly with vinegar and cold water or equal parts of water and the solution of the acetate of ammonia." As to

the latter mode of procedure how far this may be advisable, I refer to what has been stated in the article *lo-tions*.

Thus then I have attempted to point out either from my own observations or those of others, what seems to be the proper plan of procedure, there yet remains another point to settle, which is in how far we ought to pursue the above plan in the phlegnionoid variety of the disease. We will not be long in the settling the question, if we only recollect what has already been stated. There can be no hesitation as to the propriety of adopting the tonic plan of treatment the moment the disease appears to be at a stand still, or seems to proceed from mere debility of the parts. This however must be done with the greatest care in case we excite the action, or the innate natural powers of the system, have just subdued, we ought then to select at the first the more gentle of them, perhaps beer or porter, previous to the use of wine, the former can be more readily repeated than the latter. But when the malady seems progressing fast and the patient has not comparatively much strength, then we cannot expect much benefit from tonics and stimulants unless perhaps by the opiate plan already noticed. If however there is evident debility and the erysipelas advancing in consequence of this, then a cautious perseverance in their use is not only proper, but the very means by which we may expect to arrest its progress, by giving strength to the nervous system as well as generally to the body. When the fever and delirium is considerable and depending on this cause, then we cannot do better than have recourse immediately to the administration of tonics, in fact the same plan of treatment as we would adopt in low typhus fever, continuing this cautiously and according to the circumstances of the case. Now in many instances we may have this

state induced in an otherwise stout constitution, since from the previous excitement, the powers of life may be quickly reduced, they therefore will require this practice as well as the weak, or debilitated. From this we may observe that it is not exactly according to the strength of the patient's system, at the time that we are to be guided, but it ought to be from the state in which he is at the time, since the operating cause may as quickly overcome the *vital* powers in the one, as in the other state of the constitution. It is the depression therefore of the vital energies which are in a great degree to guide us in the use of such remedies, always recollecting that re-action will be much more powerful in the previous stout frame when it occurs than in the opposite states, this will serve us as a rule for the proper exhibition of these remedies, and also for the length of time they ought to be given. The diffusible stimuli may be good, but I would certainly give a preference to those which gives more permanent strength to the body, and thus we may be enabled to keep up an action which must in the majority of instances tend to the re-establishment of the health of our patients. The actions of the diffusible stimuli are soon over and unless discreetly used do more harm than good, when the powers of the system are very low at first, then a few doses of such may be very proper, and when the action is once established or commenced they will be well supplanted by the wine or barks or any other of this class.

Such then seems to be the general rules for our guidance, and is it not strange that so much diversity of opinion should still exist as to the proper plan of treatment? Some there are who do nothing but bleed and employ to the detriment of their patients the antiphlogistic mode: others as we have seen give nothing but stimulants from the very commencement. I have already

adverted to the cause of such discrepancy of opinion, and again state that the truly scientific medico will be guided by no decided rules for general practice, or adopt any particular formula for the treatment of all cases, since we must meet with such things in our proceedings as will baffle all routinists, such being caused by the diversity of constitution, age, sex, temperament and the different degrees of intensity in the exciting cause of the malady, particularly when the disorder is raging as an epidemic and appears evidently to depend on atmospherical vicissitudes, so that we see it would be madness to treat all cases upon one universal plan. There are cases then which require the lancet with the antiphlogistic treatment at the commencement, and to be cautiously used, when in the after stages, the tonics will be proper, particularly when the suppuration or sloughing is extensive, and we will find that many of such require all the stimulus which can with any propriety be ventured on and even then they may step through our hands. Others again which require the antiphlogistic regimen through their whole course, while there are others and these by no means few in number that will require stimulants from the very onset, as the bark in substance a favorite mode of exhibiting the remedy by many or in other instances with wine, nay, we will find cases in which the strongest stimuli are proper, such as brandy, &c. or those which our patient has been accustomed to use while in health, such as whisky, gin, or hollands, there are others again which can only be benefited by the exhibition of the volatile stimuli from the very first. Such things then depends on what I have just stated and will for ever bid defiance to any decided mode of general proceedings as adapted to every case. If medical men were to pay proper attention to these things we would cease to be

tormented, with the announcement of the favourite practice of this or that physician, which in too many instances is very apt to guide the indiscriminate and torpid practitioner. I do dislike to hear men talk of this or that favourite mode of some excellent physician unless they can give the *rationale* of the practice, such too imagine themselves the paragons of cleverness, but in the eyes of discriminating men they are only apparently so and like the parrot can chatter, many may imagine that they are more properly fitted for female society or for the ball-room, than to mingle with those who are truly scientific men.

CHAP. VIII.

MERCURY.

What advantage is to be gained by the exhibition of calomel or other forms of this mineral in the treatment of erysipelas, it is imagined that in the acute stage of the disease not much benefit is to be obtained further than it may operate as a purgative. When the acute stage is over or when the disorder appears more of a chronic nature, then we may expect some good from a discriminating use of it, by turning the hesitating parts as it were to the healthy action. The mineral has been used in the phlegnionoid variety and the other species of erysipelas with perhaps as much advantage as that attending the long incisions, nay, even that practice also of stimulating with barks and wine, or the antiphlogistic processes of sweating and purging. Each plan therefore has advantages of its own, it may be proper to enquire into the nature of the cases which will derive benefit from its administration. In every case then in which there is evident symptoms of diseased or disordered liver, or in those cases of derangement of the alimentary

canal, it may be very advantageously used in the form of blue pill, by soothing the general system as well as rectifying the state of the secretions, it will produce a favourable impression on the local affection. Calomel, in combination with antimony and camphor, will be found of much utility and can be given so long as we find these pills to agree, or until the mercurial action shews itself. We may also safely and beneficially combine it with our purgatives, thus it will act on the bowels, at the same time aid in the restoration of the vitiated secretions. The free and liberal use of mercury, has been resorted to by many in combination with antimony and with much advantage, here we have two results from its operation, the one calculated for the skin and the other more immediately for the bowels, and the antimony acts more readily on the surface by being in combination with the calomel. Mercury as it in other diseases tends to quell the nervous disturbance, may be very properly given in erysipelas, more particularly when the force of the malady is broke, but if this seems to advance quickly we cannot do better than to use the blue pill from the first, as the force of the disorder may not yield until we rectify the state of the chylopoetic organs. Therefore in such we cannot too soon use it, as by having the viscera in a proper state, we do much good to the general system, as also to the local affection. That mercury acts on the skin there can be little doubt, that it acts on the nerves of the system by quieting their irritability, none I think will deny, that it tends to restore the disturbed secretions to a healthy state, as few will attempt to controvert and that in proper doses it allays the febrile excitement none doubt. Observing all these good qualities, it is not to be wondered at that we should derive so much benefit from its use, in all diseases of high excitement and in particular when they

are attended by disordered conditions of the *primæ viæ*. So in erysipelas we may expect as we will find much benefit from its judicious administration, and if joined to the sulphate of quinine in the more severe cases, when the force of the disorder is broke, or where the disease seems to advance from the debility of the parts or system we may find great advantages from its use. Besides it gives a stimulus to the absorbent system and by increasing their powers we will have much good done, by the absorption of the effused serum, as well as restoring the tone to the parts by lessening the irritability of the surface. In those milder forms of the complaint in which such is not required we will do well to leave it alone, and only have recourse to it in so far as we wish to restore the alimentary functions. In those instances in which the limb is stiff and partly useless from the gluing together as it were of the muscular substance and other parts, a gentle course of the blue pill carried to the extent of touching the gums will be beneficially had recourse to, provided we have not used this to any extent already. It would be superfluous to dwell longer on the administration of this medicine, since so much has already been advanced in the other Essays, as to its *modus operandi*, therefore I quit the subject with the distinct impression, that much good is to be derived from its employment, particularly in the more severe forms of the malady or in that species termed bilious, and can always be very usefully joined to quinine when the disorder seems more of an endemic nature.

CHAP. IX.

D I E T.

As a general rule we ought to recommend such diet as leaves little residuum behind, as also such which is

not so likely to disturb the powers of the system. Such then as is of easy digestion, is always to be preferred, and it ought to be repeated at such intervals as the stomach can bear it. It should be recollected that if we do not give something in this way, particularly during the suppurative stage, we may lose our patient, since a deficit of food produces that species of exhaustion of the general powers of the body, but ill remedied by stimulants of any description, even wine, which only acts by keeping up a permanent stimulus and adds but little to the bodily powers, so far as we consider them as depending upon an increase of real strength, which is not half so permanent as that afforded by diet even of the lightest kind. The body then ought to have something wherewith to recruit itself, as it cannot live long on suction like the fishes. When the appetite is very good a vegetable diet may be preferred as more agreeable with the nature of the disease, care is also to be observed that we do not give any thing which was formerly known to disagree, in many of these instances any sort of light nourishment will for a time be proper. Animal diet should at all events be avoided until the force of the disorder has been greatly reduced, and should only be given in those cases in which we wish the patient's strength to be supported, in consequence of the disturbance which the disease may have produced in the sinking of the animal powers, it should therefore be given if the patient can take it so as to keep the strength in a state sufficient to combat with the attack, and prevent the further progress of the inflammation. The articles of diet it is unnecessary to mention as each practitioner can please himself in this respect. Besides diet and the other remedies detailed there is yet some other points to be noticed, viz. that we have our patients during the whole progress of the attack, and in

particular when severe, in as clean and comfortable a state as possible and all causes of annoyance which we can remove should be done. The temperature of the apartment should neither be too cool or warm as an excess of either might act prejudicially on the general system, it ought to be airy and as comfortable to the sensations of the patient as possible, if these points be not attended to, we may have our best directed endeavours frustrated. All disagreeable smells should be removed immediately and the apartment sprinkled over with a solution of the chloruret of lime, this frequently during the day and night, this will add much to the comforts of the patients. During convalescence a modicum of good mirth by joining with a sociable party where it can be obtained, is of paramount importance, since nothing in this disease tends to depress the vital powers as a gloomy morose and uncomfortable state of mind with bad and ill ventilated apartments. These things should be implicitly attended to as much as circumstances will permit and the nature of the case requires.

CHAP. X.

INCISIONS.

In considering the merits of this practice we must recollect that the inflamed texture is not possessed of a single action, but that there are many, and when unnecessarily interfered with, will re-act powerfully at times on the general system, we ought at all times to be cautious and not disturb it too much, with applications which do not agree with it. In a complaint of the nature of erysipelas, it will be proper to consider well in how far the inflammatory action is to be subdued by incisions, made upon the diseased texture. There are

many instances of the malady of a very high caste or excitement which cannot be interfered with, particularly in the more early period, although be it recollected this is the very time recommended by some for the successful employment of incisions. The reason is that the whole system is in a very irritable state from the high fever, existing independent of that irritation caused by the local affection, this would to a certainty be increased by our inflicting another injury, which would in a short time make the parts irascible. Supposing that one or a number of these long cuts are made, I admit that there will be a flow of blood, nay, in some instances to such an extent, if not to prove fatal, at least to injure materially the powers of the body, there will to a certainty be a mitigation of the pain, and perhaps the febrile symptoms for a short time, but what good is derived in many of such cases by even a temporary amelioration of the local affection, is it not more than probable that interference of this nature will add powerfully to a renewal of such as well as to the debility of the parts, by abstracting the very stimulus which serves to keep life and limb together? The flow of blood is what is wanted, say the advocates for this practice, then they overlook the serious evils the system is apt to sustain from the infliction of such extensive wounds, independent of the loss of blood. I know that the powers of the part are thereby much reduced, but then will such remain permanent? it is imagined not, for when the body or parts come to re-act, for this they will do in very many instances, even at the interval of a few hours in defiance of all our local applications, what are now the condition of these weakened parts, as the malady spreads on each side do they not run every risk of being destroyed from their low vitality, by the excess of action in the neighbourhood, and the general system out of re-

venge, for the outrageous interference, will direct her full vengeance against the injured portion, they are now in a state but ill able to resist, a source of great annoyance, and are effectually thrown into gangrene, merely because their power of resistance has been taken away. If correct in the above we may learn a useful lesson not to reduce the action of one part without also those in the immediate vicinity in a corresponding degree. An example may be given in that of a frost-bitten limb where if we increase the actions of the member quickly above that existing in the injured texture we have a great chance of producing gangrene. From the period therefore of re-action in or near the cut-surface we have the disease necessarily spreading, when perhaps we again have recourse to the slashing practice and again a partial abatement of the symptoms, but this in all probability only for the time being and now they prove less effectual than formerly. When re-action comes on we have the malady spreading in defiance of every thing we can do, for the amelioration of the affection, and now when it runs its course the inflammation stops, but then under more unfavourable circumstances than if we had not interfered in this respect. Granting that this mode of procedure has in some instances, put an end to the disease, and perhaps saved the lives of a few, I am surely at liberty to ask, what are the conditions of those who have recovered under the same circumstances from the more immediate ravages of the inflammation. Do we not find in very many of these instances that the bodily powers are far spent, and that there is that species of low vitality existing, which requires our utmost energies to combat, as we may not unfrequently find that in place of our patient rallying that he gradually loses strength from the deficit of that stimulus so necessary for his recovery and which we unsparingly abstracted.

Thus then by unwarrantable interference the body is deprived of that stamina so necessary for carrying on diseased action, in the recruiting the powers of the part particularly in the after periods of the attack, nor is it so well qualified for combating the additional onus we have laid on it, thus the disorder may in the first instance only subside from a want of power to maintain the vitality of the injured texture. Let us now inquire into the reason why the inflammation was ameliorated by the incisions in the first place, and why there was an increase of the affection soon following. Every one will grant that relief was obtained from the abstraction of an onus of the blood, this is attended by a consequent diminution of its actions and magnitude, by allowing at the same time a free escape to the serum. So far good, and such practice would be of much utility was the disorder of a more local nature, and not attended by such severe constitutional disturbance, and this last is of the utmost importance for our guidance, particularly when the disease seems to be produced by atmospheric changes, or depending on an endemic or epidemic cause. Under these circumstances we have the fire continually burning which is apt at any time, particularly in the more early period of the attack, to be greatly increased by any undue interference, either with the system or that of the local complaint. This is afforded when the incised portions begin to re-act, a further spread of the inflammatory action, thus the system is disturbed, which again re-acts on the parts, hence an increase of the general and local disorder now not easily subdued. I have heard Surgeons say that they could not understand why the incisions would do good in one or a dozen cases and prove as injurious in as many more. An explanation to this may appear from what has been stated, as also from the

following viz. that particular inflammations require modifications of treatment, this too at their very commencement, during their progress, and near their termination, even although they shew themselves externally under nearly the same circumstances. These being modified by peculiarity of constitution, whether depending on an irritable or depraved habit, or according to the state of the existing fever, or the facility with which impressions are made on the body, through the medium of the *sensorium commune*, or the parts themselves being the agents of production, and as much perhaps on the peculiarity of atmospherical influence at the time as any thing else, which of itself renders cases in the majority of instances difficult or easy of treatment.

It may now be stated the manner in which these incisions ought to be made as regards their extent and number. When therefore it is judged expedient to interfere with the parts in this respect, we may from many things be inclined to give the preference to the method employed by Mr. C. Hutchison, than the opposite one of those of extraordinary length. There are some who are not contented with a medium practice in this respect but must enlarge upon it even from the heel to the trochanter, or along the whole extent of the limb. Such practice to say the least of it is very improper, in thus laying open by one or two long incisions the whole extent of a largely inflamed surface, for by so doing we inflict an injury of such serious magnitude, as would even in the most robust constitution, in a healthy state, take some weeks ere it could finally overcome the injury. There is no permanent good to be derived from the practice in very many instances, but it adds greatly in the end towards the patient's sufferings as most can bear testimony, who have seen much of the practice. I do not by any means wish to oppunge the testimony of

Mr. Guthrie or Mr. Lawrence, or others, but I am solicitous of proving satisfactorily what has been advocated in these pages, and strenuously to recommend an inflexible adherence to that mode which disturbs less the parts and system. If the skin must be interfered with then in the first instance, would I use the punctures with the lancet, and if the case was not one likely to be benefited by such, then I would give the preference to Mr. Hutchison's, and as for the other methods it is imagined that they can be easily dispensed with as by these methods, we interfere much less with, the actions of the limb and do less damage to the system. In some instances it may be proper to make a number of small openings, which will not add so much to the general irritation, but when many of these are made they may in all probability when taken in the aggregate be as bad as the long ones, therefore much caution is required in their adoption, and they never ought to be wantonly made. When employed they must necessarily take off the tension of the limb by allowing a free escape to the blood and serum collected in the cellular texture, thus removing one cause of the spread of the disorder. If we think that the making such openings would be a cause of more disturbance to the parts, than by allowing the serum to remain, it will be proper in these cases not to use them. When used all round the inflamed limb at short distances from one another they will allow more blood to escape from the smaller vessels, whereas by the one or two lengthened incisions the parts in the immediate vicinity of the cuts are only relaxed, and not the general tension, consequently a cause of annoyance still remains, which is apt in such instances to re-act on the now weakened parts, long incisions therefore do not allow so free an escape to the effused serum, with other collections in the cellular texture, which although of a fluid consistence is

not so much so as to make its progress from cell to cell in this particular state of affairs, and as was formerly noticed, it becomes thickish as the disease advances. If the incisions therefore be deferred to a more late period of the attack, we will find this so thick as to be incapable of permeating or flowing through the different cells. It then becomes a point of some importance to decide when we are to use the knife, I should say not until the tension of the limb has become so great as that it seems to add to the general disturbance.

In the species of erysipelas more immediately the subject of inquiry or that not arising from local injury, such long incisions must as we have seen add considerably to the duration of the disorder, and that it may go on from bad to worse till the patient is worn out, and now has not powers sufficient to recruit the parts, unless through a long and tedious convalescence. Mr. Hutchison says he was uniformly successful with this method of treatment as pursued by him at the Royal Naval Hospital, Deal; but the plan of long incisions has not been so and I can candidly say that I have seen it decidedly add greatly to the inflammation and irritability of the patient with a consequent spread of the complaint. I have but little doubt but that this mode of procedure might be more properly employed in those cases arising from local causes of a mechanical or chemical nature, in an otherwise healthy constitution and under certain restrictions. Where the disease however arises without any apparent cause, a more discriminating mode of procedure is necessary, and also the particular time when such incisions ought to be used. If at first when the inflammation is active, it has been stated that they will in all likelihood increase the disturbance, but if used at a more late period when the irritation of the system is not so great, and the inflammation appears

to keep this in existence, then such may tend to alleviate. In no case should we use any lengthened incision unless where circumstances imperatively demand, such as the inflammation of the muscles below the superficial fascia, in which it by no means yields in proportion to the swelling of these parts, and thus comes to act as a sort of tight bandage, hence the irritation of the general system is great, and requires to be relieved by laying these parts freely open, thus removing one cause of annoyance, we prevent the further increase of disturbance. This is a case then of imperative necessity, the same as is required in some diseases in which we use blood-letting to quell the general disturbance, and not that of the local affection, here we require to give relief to the irritating cause, so as to subdue the febrile symptoms. I have seen many cases of erysipelas treated by the long incisions, the local affection being at the time they were used comparatively mild, but when two or three in number were made, and re-action coming on, it was really distressing to view the amount of the general and local disturbance which ensued, and these for the time being putting defiance to all remedies for their amelioration. One case in particular I recollect in which they were made along the thigh and leg, soon after, the extremity was double its original magnitude, this patient after lingering for some weeks died a miserable object. We ought to be therefore circumspect in our proceedings and not heedlessly inflict on a diseased texture such extensive injury.

Even granting that our patient escapes the immediate ravages of the disease and the slashing treatment, there is yet another circumstance to be noticed, which sometimes occurs which is that it is long before the cicatrix becomes comparatively sound, and we not unfrequently meet with it every now and then breaking out, or be-

coming partially inflamed from any irregularity committed by the patient, or from blows or exposure upon the parts. Such instances I have met with on ship board where we have had men sent from hospital so treated in which for months afterwards the parts remained unsound and not unfrequently subject to ulceration. In vindication of this mode of practice it is said that it allows a more free outlet for the gangrenous sloughs which are apt to form during the progress of the disease. But I am inclined to think that such sloughs will be more effectually removed by cutting into the dead parts, than by giving an opportunity for such to form by our unnecessary tormenting the living portions, and thus can we in every instance go the proper length and cut no more than is requisite. Besides it is much better to proceed in this manner to let out fluid or sloughs in any case when present, than to anticipate their presence as we not unfrequently find when early used, that all the portions between the cuts die and slough, the whole of the surface soon assuming a dirty white or greyish ash coloured appearance, gradually approaching to a dirty yellow, so ominous of what is about to take place, and there is either in consequence of these cuts a profuse discharge from the parts of a nasty coloured sanies mixed with pus, and they soon run on to mortification. Whenever matter is felt below the surface this should immediately be let out and our incision ought to extend in proportion to the diseased surface, the better plan will be to make one, two, or three openings in different points of the skin, the fluid allowed to remain would add much to the disturbance of the parts. Let me ask what is the use of making incisions for the ready escape of matter before this is present, it is surely time enough to do so when it is actually felt and therefore I do not see the propriety for making them in such numbers and to such an extent

as recommended by some merely as a means of *prevention*, when such might never have occurred. Will not these very incisions tend to solicit the discharge of matter as above stated, which might not in all probability have ever occurred, thus we run every risk of producing an increase of the existing irritation and a consequent spread to the malady. Such a termination as sloughing or the formation of abscess in the phlegmonoid variety of the disease, we might expect to be of very frequent occurrence, if we were to give implicit confidence to what the advocates for the slashing mode of procedure say. I cannot omit here noticing the practice of our forefathers in this respect ; who must have had equally severe cases and this too, before such operations were had recourse to for their amelioration, no such thing as the knife was ever used by them. Has the disease changed its character, this it would be difficult to admit, well then if they could treat such cases in these days without being in possession of all our opening knowledge and acquirements, this pleads powerfully to us not to interfere in any case with such a doubtful practice, unless when circumstances imperatively demands the knife. I grant that some few cases have been benefited by the procedure, but many more have received none at all and have been thereby greatly aggravated. It has been said that the early recourse to the use of large incisions destroys the inflammatory action, and that this is the best means of checking the further advances of the disorder. That this is far from being an invariable attendant it is hoped that I have already satisfactorily proved and as formerly observed it might perhaps with more propriety be had recourse to in those cases arising from mechanical injury in which the nature of the malady is more that of the part than the constitution, but even in such cases I would be inclined to think well before the scalpel was

applied to the diseased texture. It has already been stated that the practice at first is generally attended with a diminution of the more urgent symptoms, but that this should be a universal result is not to be expected, and I would certainly prefer the mode of puncturing with the lancet even to leeches, for I look on the former as likely to prove less irritating, since they are clean cuts, whereas the latter are not by any means so.

There is yet another point of objection against long incisions, which is that the bleeding is at times very considerable, we should therefore at all times be very careful not to allow this to proceed too far, and we ought also to recollect that in some cases the loss of blood would be very likely to ruin the powers of the constitution. It has been proposed in those cases in which the bleeding is profuse to tie the open mouths of the vessels, this is a point not at all times easily accomplished, and now we must have recourse to other measures such as pressure and raising the limb a little above the level of the other parts. When however we cut in an unhealthy texture, or those more than half dead it is of importance to bear in mind, that we may meet with an oozing of blood which can be stopped by neither of these measures and that some important blood-vessels may be cut in the securing of which we will find considerable difficulty, and it is not the first case which I have seen baffle very clever Surgeons in this respect, when recourse must be had to styptics of the more powerful class. In applying them we have to consider whether the stimulus from them may be too powerful for the parts beneath to bear. In such instances it is imagined that the actual cutery would be by far the best application since it would at once stop the flow of blood and not extend its influence over the whole surface of the cut, and the small slough or sloughs thus formed comes away with-

out much annoyance to the parts. It may be proper to say something as to the mode of performing the incisions, and here Mr. Hutchison will speak for himself. "These incisions may be made about an inch and a half in length, from two to four inches a part and varied in number from four to eighteen, according to the extent of surface the disease is found to occupy." Mr. Lawrence says "since those multiplicity of cuts must be painful and alarming, it is important to know as I have found by repeated experience that a single incision carried through the middle of the inflamed part in a direction parallel to the long axis of the limb is quite sufficient." Dr. Burns observes "that these one and all of them, have done good, I believe, sometimes the redness has rapidly diminished and in little more than a day, the skin has appeared natural, and the incisions begin to unite. Still I must look on the practice as severe, and its merits not only overrated but its evils neglected. The pain is considerable, the scars forbid the practice in parts which are to be seen, and I know the hemorrhage to be in some cases troublesome, and instances I see published where it has been fatal. Farther such incisions and punctures cannot be otherwise than attended with irritation. Who should expect to cure a phlegmon by cutting into it, and yet where is the great dissimilarity of the two cases? I apprehend that the practice will be limited to hospitals and there only with propriety used in extensive erysipelas of the phlegmonoid kind as it has been called, when of a high degree and at an early period. Incisions made with a view of evacuating matter or giving issue to a slough of the cellular substance stand on a different ground, and can seldom if ever be wrong." Mr. Hutchison says "I do loudly protest against the practice of making the incisions of

“ such length as recommended by Mr. Lawrence, both
 “ as unnecessary, and not likely to stop the progress of
 “ the disease when it is spread over a wide surface, as
 “ several smaller incisions made on different parts,
 “ where the disease is found to be most active ; for it
 “ will have been seen, by the close observing Surgeon,
 “ that when this disease runs on to suppuration, or to
 “ gangrene for example, abscesses or gangrenous patches
 “ are occasionally found to have taken place in different
 “ parts, latterly distant and having no communication
 “ with each other. Now if such long incision be made
 “ in a direct line through the middle of the inflamed
 “ surface, according to Mr. Lawrence, the disease may
 “ still be unsubdued. But supposing the disease be
 “ found to occupy a space from the great trochanter to
 “ the toes, including the whole circle of the thigh, leg
 “ and foot, which I have witnessed in two or three
 “ cases wherein eighteen incisions were certainly made,
 “ of one inch and a half in length, will one or even two
 “ incisions, fourteen inches in length arrest such an ex-
 “ tent of disease ? My experience teaches me that they
 “ will not, and hence it is, that I have stated, that in
 “ such desperate cases we must have recourse to such
 “ a number of small incisions according to the extent
 “ of inflamed surface as will correct the disease.”

I have introduced these lengthy quotations in order
 to shew the discrepancy of opinion which exists even
 amongst its most strenuous supporters and we may al-
 most rest satisfied that the practice is not so generally
 useful as they would lead us to suppose. In those cases
 where there is extensive collections of matter beneath
 the skin we must let this out, and the sooner such is
 done the better, so that we endeavour to save as much
 skin as possible. This may be most successfully done
 by two or three counter openings as has been already

noticed in the same manner as we would treat large buboes, where we do not open them through the whole extent, and this is to be done so soon as the presence of the fluid can be ascertained, by such proceedings we run a less chance of the surface being so extensively diseased, as it would otherwise be by allowing the matter to burrow amongst the cellular texture. When the matter has been discharged we then ought to keep the skin in contact with the parts below by a well regulated bandage, and in this manner we may have re-union of some of this, in the same way as takes place in the Talicotian method by preserving the two raw surfaces together, even although there may be a discharge from the parts, yet such should not prevent us from adopting these measures as at length we are pretty sure of having an union of the surface. Therefore either in large buboes or in extensive collections of matter in erysipelas the proper plan is not to slit these open throughout the whole extent of the abscess, or sac, thus by saving the skin as much as possible we will do much good.

It may be observed in conclusion to the indiscriminate slashing mode of proceedings at present adopted, that it is a remedy calculated for particular cases, but not by any means to be employed as an universal application, but quite the contrary. It is perhaps the same in this disease as in many more where we have a remedy very properly adapted for certain cases, it will come to be by non-discriminating men, used in every case of the phlegmonoid variety, merely because it has some names of eminence to support it, this is at once adopted without ever considering the nature of the case, or the constitution, or the age or the temperament of the individual, thus the indiscriminating Surgeon imagines that the malady must be hunted down as if by a blood hound, and they never consider whether there is any

other more appropriate plan. By avoiding the too indiscriminate mode of having recourse to the knife, we avoid many instances of severe sloughing and mortification, which would otherwise to a certainty occur, in consequence of which the patient may suffer severely, if he does not run a great chance of losing his life. Who for example could ever dream of making such long incisions in a healthy man, much less in an inflamed texture along the whole extent of the leg and thigh, for the purpose of avoiding an imaginary evil. If none in his proper senses could ever think of having recourse to such a procedure in a healthy man and in a comparatively healthy part, who is there that would ever think of having recourse to it, in such an extensive diseased structure, when the disorder is not properly of a local nature. Are we not in gunshot wounds obliged to avoid as much as possible interfering with the skin, for who now-a-days would ever think of pursuing a ball along the whole tract it may have run under the surface, for the purpose of avoiding an imaginary evil, that of sloughing taking place along the whole tract, thus traversing in many cases at least a yard and a half of surface. Certainly the more sensible practice is to extract the ball where it now lies, if this can be done and leave the other parts of the business to the efforts of the system. If then such a mode of procedure be required in a comparatively sound constitution, what must the danger be in an erysipelas of this nature supposed in which the whole powers of the system particularly towards the close of the active stage are multum imminutæ—death—either of the adjacent parts or ultimately of the frame. Let us therefore be guided by the true principles and only use such means cautiously and only under those circumstances imperiously demanding the knife, cases of which are where they are used for the free discharge of

matter or sloughs, or those instances in which the muscles below the fascia are highly inflamed, consequently from being pent up the system has not the power of remedying the evil, until we interfere on her behalf, care being taken that in making such incisions we do not injure any considerable branch of a blood-vessel, or nerve as from this cause we may have very serious disturbance, not only in regard of the present injury, but when the patient gets rid of the inflammation the powers of the member may be thereby greatly disturbed.

Some may be inclined to say in defence of the long or short incisions that since the malady depends on an increase of nervous action that by cutting through the skin and cellular substance we in a great degree destroy this. Such reasoning is without due discrimination, since the disorder is not like *tic douloureux* confined to a particular branch or branches of the nerves, but being of a general or universal nature, we cannot by cutting off part of the supply, lessen in any great degree the tendency to a further spread of the complaint, as the sympathy kept up is one, and an intimate action of the whole, but that the practice will tend to a further increase of the affection, it is to be hoped has been most satisfactorily proved. If any say that by such measures we stop the tendency to the effusion of serum, with them I cannot agree, since this must only add to the general cause of annoyance by the abstraction in part of the very power which serves to keep the blood-vessels and other parts in proper play. A due performance of vitality depends on the quantum of blood transmitted, so long as there is no great excess, does it not then follow that by lowering the circulating medium as also reducing the nervous power, either of the part or system, or both, that when they are disposed to return to a healthy state we have not now the means for the speedy accomplishment of

such and must wait until the system and injured portions gains an acquisition of strength. But by lowering the irritability of the nervous system without destroying them, it is thought we must be on the proper method of cure, this however must be cautiously done and not carry this too far, else we produce an opposite state which will only add to the danger. Now in erysipelas we may have two distinct states present, either an increase or diminution of arterial action. The increased is shewn by the phlegmonoid which attacks the thigh and leg or some other parts, the decreased is that which not unfrequently shews itself about the head and face, or it may shew itself in any other part of the body, and is in general much benefited by tonics and stimulants, and must on no account be interfered with by the incisions. Here we have that sort of low irritation of the nervous extremities which serves to keep the action going, but not sufficient to have this burst forth in a violent manner. We have occasionally an intermediate stage of the disease, all of these depending as I conceive on the difference of action in the nerves of the parts, and this may appear more evident when we consider that the same cause produces at times nearly opposite states of disease and this as the state of the constitution may be in for the time being, who would have *a priori* thought that at times an increase of secretions arise from a weak degree of nervous action and that a strong one overcomes the former powers of the organ entirely. The secretion of the urine may illustrate this point, where from a weak action in the degree of irritation present in the kidneys, we have a great increase in the flow of urine, but when there is high inflammation then we have it small in quantity, bloody, or even totally suppressed, now this depends on the nature of the irritating cause as the one action is of the low chronic sort, and the other a state of greater excitement or inflammation.

Before quitting the subject of erysipelas and of incisions, it will be proper to notice the local applications, which are required after they have been used. In the first instance warm fomentations until the bleeding be subdued then poultices. Some are in the habit of soon after applying a combination of the resinous ointment with turpentine, on purpose speedily to produce suppuration, such a mode is often very improper, since nothing should be used for some days which can stimulate the parts, and this application ought never to be used unless for the purpose of gently stimulating the parts to throw off the sloughs, when such are actually forming, or they may be used, stimulating applications I mean, so as to prevent the further extension of mortification, where we may have recourse to the powder of barks or the other spirituous applications, so generally used for the treatment of such, and also at the same time give strict attention to the internal exhibition of stimulants and a good generous diet. In no case at any time of the progress of the disease are we to use those local remedies which do not agree well with the parts as our object is certainly to soothe, not to torment. When the suppuration is fairly established, then we will find the basilicon ointment with the turpentine, a good remedy. In the proper continuance of our fomentations and poultices we must be careful that they do not debilitate too much, and tend to encourage an extensive suppuration, we ought then to abandon them and have recourse to dry applications, which ought to be renewed according to the nature of the discharges, at all times observing to keep the parts as clean and comfortable as circumstances will permit. There is a good application for the cleansing of sores, but it appears to be much neglected now-a-days, the application of honey, which is highly extolled by Celsus, and I certainly from what I have seen recom-

mended it to the notice of every practical Surgeon, and is well used in the cleansing of venereal sores which often break out in different compartments of the body. It ought to be thinly spread on dry lint and applied above the sores, and then a poultice according to circumstances. If it gives too much irritation then it will be properly mixed with a little flour and applied two or three times a day. Such, then is the general plan for our guidance, and I have not entered into very many of the minutiae of treatment, my object being merely to illustrate the nature of the disease and the general ideas which ought to govern us in the successful mode of treatment.

AN
ENQUIRY
INTO
THE NATURE, CAUSES AND TREATMENT
OF
PSEUDO BUBOES,
OCCURRING IN
INTERTROPICAL CLIMATES.

CHAP. I.

GENERAL PRINCIPLES

IN

ENGLAND

AND

THE CAUSES, CAUSES AND TREATMENT

PSEUDO-BUBONIC

occurring in

INTERTROPICAL CLIMATES

CHAP. I.

GENERAL REMARKS.

In the following pages, I will endeavour to shew, that buboes or swellings in the groin, are in many cases solely attributable to the effects of climate, operating on the constitution in a particular manner, especially when we observe their frequent occurrence without any ostensible cause as small ulcers, or abrasions of the legs and other parts, and totally independent of any venereal taint. In many instances we will find they require more than the usual attention, nay, they may appear to some to demand a peculiarity of treatment, and cannot be cured in many instances at least, by the same process so applicable in other regions. Such swellings may in a great measure be said to be depending on a similar cause of production as boils, which we know to be so frequently the effects of climate upon the European constitution, when in the tropical regions, this in a high degree in certain parts of the Island of Ceylon. That both depend on a something noxious in the atmosphere besides heat, may appear more than problematical from what will be advanced. Buboes are not so easily produced as boils, for it would appear that, for this purpose, the constitution requires some time, ere it can be operated on by the climate, whereas boils may appear soon after the landing, we need not be surprised at this, since the same holds good in respect of other disorders. Boils may soon appear after too high living, or eating fruit of an unripe, or noxious quality, or indigestible food, we ought to avoid fruits of a stimulating nature, as mangoes, guavas, &c. when not thoroughly good. I am convinc-

ed that bad fruit alone is a cause of production of many disorders of the skin, especially boils, this from observations made in many parts of the Eastern world. That boils are nothing else than an irritation, and inflammation, of the cellular texture may be evident, but why such should assume more of the phlegmonous character, than the erysipelatous, is not so plain, unless perhaps, this be owing to climate, for we but seldom meet with the latter in intertropical regions, unless where there is a variable, and comparatively cool atmosphere. But in many instances of boils and buboes we do meet with a mixed sort of inflammation, as evinced by the discharge, and perhaps in such cases the latter species predominates. On what else than the effects of climate can the skin diseases of the east depend, such brought into operation by disorder of the absorbent system, thus producing disease of its texture, as also that of the cellular membrane, aided in its origin and progress in consequence of a constant exposure to a noxious atmosphere, and a bad inutricious diet, with the consumption of so much unwholesome fruit. Thus it is, that Europeans who live much after the native fashion, should be so liable to such assaults, and they should be prepared to meet disorders of the cellular membrane and skin. In fine then we may look on these occurrences as chiefly depending on the state of the nervous system, that of the absorbents, irritated by the causes just named. That a constitutional disturbance, and the very painful nature of such should be so very frequent an attendant, need not surprise us, for we see that this depends on the state of the nervous power, in particular that of the affected portion.

The above gives a short view of the condition of the system in which we usually find boils, or other states of irritation on the surface. That swellings in the

groin, or buboes, should be of such frequent occurrence in intertropical climates, need not astonish us, if we take into consideration the liability and susceptibility of the body to various maladies from these causes, this ascribable in a high degree to derangement of the absorbent system, which may operate on a certain portion, or the disturbance may be more extended, producing general disease, and we often find such distempers troublesome to treat. We need not be astonished at the greater frequency of buboes in certain seasons in these latitudes, than in others, seamen are liable when long exposed to much bad weather. Those who have been in the East and West Indies, South America, the Coast of Africa, or Mauritius, know well in certain seasons, the more universal prevalence of them than in others. Was it necessary to produce facts to prove the influence of climate in their production, this could be easily done, by adverting to the state of the sick list, either on shore or afloat, when we find many labouring under them, this too in the course of a few weeks, and many proving obstinate for months, quite unlike the generality of buboes. It has been stated that they occur without any lesion of the cutis, when this is present, it is easy to see how far they may be influenced under these particular states of the system. We might expect, as indeed we will find, that a fever often precedes their appearance, this however often of so trivial a nature as to pass unnoticed both by the patient and Surgeon. In the peculiarity of constitution alluded to, do we not often observe a sprain of the foot, as well as other injuries of the lower extremities as a cause, this too in appearance without any lesion or effusion. We do not observe such accidents in other seasons causing such swellings, clearly shewing that they depend only on some innate property of climate and constitution, operating injuriously at this time on the

system. We are well aware that a residence in hot climates produces a peculiarity of constitution, which renders it susceptible of its particular maladies, buboes are of this class. Let us recollect what was formerly noticed as to the vessels of the skin being an outlet and inlet in some measure, we may see then, why the surface should be so liable to be acted on by such vicissitudes, and thus, when it becomes an imbibing surface we observe the manner in which the germs of either a general, or local disease may be introduced. We have every reason to believe that there exists a sort of external respiration, or absorption from the atmosphere, and that the nervous power of the skin is acted on in this manner, as also such may frequently throw the absorbent system into disturbance. In this way then, may the body and skin derive part of its nourishment, much in the same manner as plants; it is difficult to believe that many such growing in sterile places can be nourished from the soil. Is there any thing therefore to prevent us believing, that noxious particles floating in the air may thus be introduced, such aided materially by the friction from the clothes, which is sufficient for this purpose. Hippocrates believed that the body inhaled and exhaled by the surface, and the notion has been upheld by later physiologists.

There are those who may not be inclined to admit that debility of the system, or of a part however induced, gives no stimulus to the action of the absorbents, of this however in many cases I have no doubt. We are also aware that absorption readily occurs from any portion of the external surface where the cutis is thin and delicate: I believe that atoms of a noxious or poisonous quality often gain access to the system through this medium, in particular where we have abrasions or small ulcers in any portion of the external surface especially of

the legs and thighs. We have every reason to suppose that fever of a high caste is often thus produced particularly in the young and plethoric, where such lesions exist. Our surest means to successfully combat the fever, is not only by general remedies, but by applying to the boils, sores, or other swellings such soothing applications as do not disagree. Great care should be observed under these circumstances that in no case should they be irritated by improper measures. What let me ask can prevent the noxious particles, as existing in the atmosphere, from acting on these parts, and thus gaining access to the general system. In this manner then may be introduced matter of a noxious quality capable of acting, when of sufficient strength, either on the whole body or a part, this in proportion to the susceptibility of our patient in being injured by such impressions, consequently it acts in proportion to its strength and ready access, for it may certainly be detained in its passage through the absorbents, thus causing disturbance in them, and the glands, thus may a malady be produced varying in degree according to the nature and extent of the operating cause, which may be either general, or local, or both, or the first may occur, then the other, or *vice versa*. Plague affords a good example of this law, here we have fever, then buboes, or perchance carbuncles, or the ignis sacer; if the case be of a worse description then vibices or petecchiæ, these the most dangerous. Here we have a malady which is certainly communicable by absorption, or through the pores of the skin, at all events this is one way in which the disease is sometimes produced. Here then we have the leading features of the above paragraph proved, fever, succeeded by buboes, or a liability to other diseases of the cellular membrane and absorbent system, or that of the nervous, or both in operation at the same time.

The absorbent system has much to do in the production of many serious complaints, we ought to be aware that when they inflame such may cause disturbance in various directions, either in the adjacent cellular texture, or this action may proceed along their course upwards or downwards, thus is produced disease at a considerable distance from the seat of the original cause. This inflammation in general takes the same course as that of the veins and arteries, thus we may have disorder either of the parts in the neighbourhood of the injury, or at a considerable distance, or, of the general system. If such irritation and inflammation occur from a bubo in the groin, or other local disturbance, then the inflammation of the absorbent vessels may proceed along the fore-part of the thigh within the sheath of the great vessels, or more superficially. So much disturbance does this at times occasion as to make us suspect other causes in operation to account for the unusual symptoms. Such if not subdued may spread and be productive of serious annoyance, I distinctly recollect a case bearing on the above. A young boy had suffered from a bubo for a length of time, on the right groin proceeding from a blow, which by an inactive and torpid treatment continued long in an irritable state. In the sequel there occurred an inflammatory action of the absorbents, this attended by a hardened feeling, and in a climate like this spread from the groin along the fore-part of the thigh, causing thereby contraction of the kneejoint. The attending medico could not understand why an induration and inflammation should proceed downwards in the course of the absorbents, when the reason was given, he very bluntly stated, that such could not be the cause of production, and insisted that the inflammation should have proceeded upwards. Let us be careful not to fall into such blunders. To proceed,

we see that irritation in these vessels is capable of causing at times a corresponding action or inflammation of the adjacent cellular tissue, this too without their actually participating in any considerable degree in the disturbance, or positively becoming inflamed. This state of parts, from the nature of the depositions in this membrane, particularly in unhealthy seasons, is generally attended by a low degree of inflammatory action, or more properly irritation. Is there any thing then to prevent the groins from being the seat of disorder where such a cause is present, and acting primarily, on these parts, why such occurrences are so generally met with here may be from the greater activity and number of absorbent vessels of the leg and thigh, the larger surface to be acted on, and the friction from the trowsers greatly aids the whole. The glands may be one means through which this process is generally confined to these portions of the system, at all events for the time being, and before it proceeds further a new state of affairs may have taken place, the cause may now be changed, by being confined to the glands, thus be rendered incapable of acting as a general disturber, this depends on many points. In this manner then may the system be saved from fever, or in place of that we may have an attack of diarrhæa or dysentery, now we may have fever, but this as we see not idiopathic, and requires much of our attention to prevent it running any length. The parts during this time may become wedded to a local complaint which shows itself on the subsidence of the other attack. From what has been stated it may be supposed we are more likely to have the cellular tissue assailed, than the glands, from these causes, owing to its low state of vitality, and less resisting powers than the former, accordingly we find it so. If however there be abrasions of the skin, or other injuries, it is easy to ob-

serve that the causes may be increased in virulency, and that thus the glands may suffer, the cellular membrane in this case being protected by the adhesive quality of the depositions from the inflammation, thus confining the operation chiefly to the glands themselves, if it is not of this sort, then it is easy to perceive, in how far the adjoining texture will be affected, thus at length the chief onus of the disease falls upon it, the glands now getting rid in a great measure of the disturbing cause become indolent and inactive, in the end the inflammatory action being overcome, we may find them in the same predicament as if they were true tumours, thus like erysipelas in glandular parts, when improperly treated, there may remain a sort of schirrosity and in a manner become habitual, if these cause much annoyance they must either be extirpated, or brought down by strong escharotics.

To shew in some measure the variety of action produced from the absorption of various atoms of different poisons, whether gaseous, or otherwise, it may be proper to notice the difference which seems to exist in many cases of disease. We may perceive a striking peculiarity between punctured wounds from dissection, and others of the same class; also a difference of action produced from the absorption of venereal matter and other fluids, that between small-pox virus, and the other exanthematous disorders, each capable of exciting in the general system, or of a particular portion an action peculiarly its own. In the case of dissection wounds the matter introduced must be uncommonly minute, which is in many cases but too quickly carried to the glands of the axilla, where it causes much primary disturbance, secondly it acts on the general system, now we may observe the whole greatly increased. An action somewhat analogous to this I conceive to take place in the groin, but modifi-

ed wonderfully by the particular nature of the exciting cause, consequently greatly limited. Both causes operate in producing disturbance of the cellular membrane, and both in the first instance through the medium of the glands, after the cellular texture is excited in this manner, they seem to have little to do with the affair. In the one case we have very serious disease, while in the other at first there is in general but little excitement, this depends on the virulency of the cause of production which may be modified, or increased, by certain conditions of the absorbents. These, when they become inflamed, I conceive may, in some measure, alter the nature of the excitement, and it will now act with more power than perhaps it would otherwise have done. Is it not just as likely that this should be the case, as that a high degree of fever should produce an abundance of small-pox pustules, in this manner then may the state of general excitement be produced, and when present will add powerfully to the virulent nature of the primary cause of annoyance. Thus I believe there is a sort of specific action produced entirely differing from the first. By this medium it may so happen that another disorder may be induced than the one which would have shewn itself, or, the cause may be so modified as to be incapable of exciting the whole system, but yet be of sufficient magnitude to act locally. Let us look to dissection wounds again, for an explanation, in the first instance, we have generally a small swelling in the axilla, by no means very painful, how soon is the whole altered when the absorbents are either irritated or inflamed, which may be known by the pain and hardness along their course, hence the parts become extensively diseased, and in place of the glands being principally involved they remain in a manner inactive, but yet may be the means of communication between the absorbents and

cellular texture, which is chiefly implicated. With this view of the subject we can easily believe that other poisonous materials may operate on these parts in somewhat the same manner, such being modified according to the action of each.

That there should be a modification at times, of the noxious material in the air, and other gaseous substances is more than probable, but that this should be in excess at other periods is but too apparent. I can see nothing to prevent us from drawing the inference that this noxious state of the air in unhealthy climates acts principally as one great cause of production of these swellings of the groin, consequently that the absorbents have laid hold of something noxious, from the air, this being encouraged in the introduction in the manner noticed. That we may be perfectly positive as to the existence of a bad state of the atmosphere at the times alluded to let us look to the state of the sores in many places of intertropical climes, and do we not find them resisting all applications, proving exceedingly troublesome to manage, nay, often refusing aid from any remedial measure so long as the peculiarity remains, the moment this is removed we find them yield and this not unfrequently to the mildest dressings. If then, such is not the atmosphere acting injuriously, I do not know how we can otherwise account for these appearances. If then it so acts in certain instances what is to prevent it operating on the general system without any lesion, and in this manner becoming the cause of these swellings, and according to its being in a major or minor degree of power, so may we have a corresponding variety in the action of the parts. What in England is so often the cause of buboes occurring without any traceable lesion of the parts but peculiarity of weather. Do we not often meet with them when this is damp or wet, and of

some duration, attended by variations of temperature. How are these occurrences to be explained unless we admit that the absorbent system conveys something noxious, which may in these parts produce simple excitement, with partial enlargement, or inflammation with a more ample process. Whichever occurs we perceive the cause of production to be the absorbents conveying something injurious. Such swellings, however, are generally more tractable in the colder regions than they are within the tropics, and this from various causes ; the matter introduced not having that specific power over the nerves of the part so as to induce them to act on the vessels which produce the peculiar deposit, as we know takes place in many cases in the cellular membrane, nor is this structure so liable to be involved in the colder regions, or at all events, not from the first to the same extent. Hence in these quarters of the world all that is generally required is soothing applications which prevents them from suppurating, this however will not be found to be so applicable within the tropics, since a difference of cause may require a modification of the treatment, and the nature of the depositions seems to indicate as much.

That the buboes of plague are of a peculiar nature most will admit, and it is more, than problematical that the peculiar cause of irritation may be transmitted to these parts in several ways, such as the specific action produced in the glands themselves, from the absorption of the virus the cause of the fever ; or, from the present condition of the nervous power of the whole system, or that of the skin ; or, such may depend on the state of the mucus coat having undergone some specific process from the nature and progress of the fever, thereby inducing a change in it capable of exciting the glands, thus may we have many noxious particles taken up from the ge-

neral system itself, which come to be deposited, either in the glands, or in the cellular texture around. It is not at all improbable that the absorbents being the means through which the malady was introduced, that thus a part of the irritating cause may remain in the glands, which, in the mean time, is prevented from shewing itself, in consequence of the high state of general disturbance, which taking the lead will prevent maladies minor in degree from shewing themselves, until this be in a great measure expended, when so, these glands, or the disease of the cellular membrane, may now come into play, and be the means of re-acting on the system, particularly where perfect suppuration does not take place, thus is the body harassed by an imperfect action, which now tells in a tenfold degree on the weakened condition of the frame, hence frequently ending in the destruction of the *miserable*, from the constant irritation thus kept playing on the main springs of life. That the nervous system has much to do during these proceedings is but too plain. Now I may state that according to the intensity of disturbance, and the peculiar cause of production, will we have many varieties of disease, such as is exemplified in plague of its worst forms, where we have vibices, petecchiæ, &c. Nay, was I inclined to follow up the hint just given, we might find that the Elephantiasis of these climates depends in a great degree on the disturbed state of the nervous power of the parts, and perhaps in some measure of the general system, this produces a derangement of action on the vessels of the leg thus enabling them to discern such fluids as are capable of becoming thickened, or of various degrees of consistence, which action going on for a time produces a corresponding one in all the healthy structure around it, thus the whole limb comes in the end to be implicated. Whether such states of the system be com-

municable by contagion is little to the present purpose, if so, its action is only in the end more speedily to induce the operation of the malady. Such things as these, then, shew our almost total inacquaintance with very many diseases of the absorbent system, and the various operations produced on it by natural or hidden causes. Thus many distempers may be multiplied and brought into action, by a small variety of the cause of excitement, either on the part, or acting through the medium of the general system. Hence such a great diversity of disease, and also the various symptoms of the same malady in different climates, and perhaps in the same climate according to the extent and variety of the same causes, such then may serve to account for the diversity of operation of endemic or epidemic disorders in any country. They all operate, at least in a major degree, to the extent of disturbance produced on the nervous system, either of the whole body, or on a particular portion. From the above, it follows that the nervous power is capable of being acted on, and operates differently on the human constitution according to the extent and variety of the cause, also according to the changes which may be produced on it by the system, thus in proportion to its being in a strong or weak condition.

From what has been advanced the inference may be drawn that swellings in the groin vary according to the nature of the exciting cause and the action manifested by the absorbents themselves, thus will be produced corresponding actions in the parts according to the nature of the depositions, favourable to an active or inactive state of irritation and inflammation. We perceive some of these derangements, in the first instance, or through the greater part of their progress, entirely confining the action to the glands, while others operate through them, and chiefly on the cellular membrane, thus the gland

itself seems to stimulate the parts within its atmosphere of action, without in any serious way participating in the consequences, in those cases in which they suffer this is from being lodged in an irritated or inflamed texture which has been long in this condition. Now climate, as well as constitution, has a great deal to do with the progress of these enlargements. Thus we have them operating differently on similar constitutions in the various regions of the globe. It appears evident from this that some modification of treatment may be necessary, such proceedings likewise depend greatly on the sound state of the absorbents, for if the matter of a mild sore be only capable of causing partial enlargement of the gland, it is easy to perceive that a change in the atmosphere rendering this difficult to manage, the matter now absorbed would in all probability operate in exasperating the gland or absorbent vessel, which but from this, might have remained only partially excited in place of being brought into activity.

Then from a difference of cause have we a diversity in the nature of these irritations and inflammations in the same glands, or the same cellular texture, in the same climate according to the season. Is it not odd that when such parts are irritated and inflamed, they do not always go through the same regular process in each case, according to the constitution of our patient, we have seen that various substances are capable of producing varieties of action, proceeding from laws peculiarly their own, the system or part becoming associated or assimilated with the cause of excitement. The investigation of many of these may remain for a long time out of our power. Such, however, seems in some degree at least to depend on the nervous power, this again modified according to the nature and extent of the excitement, which may be capable of producing modifications

of action in the cellular tissue, such as erysipelas, anthrax, boils, buboes, small-pox, with a host of others. It may be noticed, that generally when such actions are produced on the constitution, the subduction or abstraction of the cause of production does not necessarily remove, or prevent the disease from progressing; for operations of this nature once in the system itself, or a part, they retain it and go through the process, which may be ameliorated by proper remedies. That each of these peculiar disturbances should not at all times produce or go through the same process is explained, such modified by the operating cause being in a maximum, medium, or minimum state, for I believe that each of these may induce a variety in the nature of the attack, modified by constitution and climate. On the other hand when muscular parts are assailed from the same or other causes, they in general have a more fixed rule of procedure, which may be owing to their more steady state of vitality, thereby their power of resistance is increased, and this not only of the particular portion; but those in the immediate vicinity associate or sympathize with the assailed part, thus they unite in throwing out the common disturber, and no matter whether this be done through the suppurative action or not, this cannot be so easily accomplished in certain states of disease of the absorbent system, especially when placed in the skin and cellular membrane, owing to its greater liability of being acted on by external impressions, which the parts below, do not so fully feel. It may be of some moment to recollect this in applying our principles to practice, if our remedies be not judiciously selected, we may do much damage. It necessarily follows that there must be a vast variety in the rise and progress of these swellings, it could not be otherwise when we reflect that so much depends on the state they present, whether simply excited,

irritated, or inflamed. None would expect these parts when excited to be so active as when a healthy inflammation was present, through the whole proceedings. We do know that they are but too frequently long in an indolent condition, perchance causing little uneasiness, or we have them brought into activity by a debauch, a blow, or from fever or some other malady, now they may progress with more rapidity, or remain stationary after the cause of excitement has passed. Thus may we in some measure account for part of the difference which occurs in certain disturbed states of the glands and cellular membrane.

We are aware that other enlargements besides tumours occur without any action of an inflammatory sort, this too in most parts of the body, in particular the cellular tissue, either from deposits from the absorbents or otherwise, these may remain for a length of time without any blood transmitted to them in the first instance, their existence depending on the vitality of the surrounding textures, if however they enlarge, then they may become incorporated with the laws of the body, now have a supply of vessels for their nourishment. Keeping the above in view I would say that these swellings often seem to arise from similar causes, the absorbents lay down in the glands a noxious material, which from being excited, in time produces irritation in the first instance requiring no additional supply of blood, in the second they may, thus either from an accumulation made by the absorbents, or from another cause we have a slight tumour which may be brought into activity by certain circumstances already noticed, attended by irritation or inflammation, when now it takes on action peculiarly its own, yet in a great measure subordinate to the laws of the adjacent texture and will operate according to the peculiarity of the cause of production.

The explanation of the frequent occurrence of these tumours in intertropical climates is pretty evident, and the liability is in proportion to exposure to the noxious atmosphere and susceptibility of the patients. That such should shew themselves more frequently in the groin may be owing to what I have already noticed, as to the activity of the absorbent vessels, the extent of surface, &c. ; in addition we may have a peculiar disturbance on purpose to get rid of an oppressing cause. Granting that it is in this manner the noxious atoms gain access, two things we have seen may occur, they may act more immediately on the glands, or the absorbents themselves may suffer, this too without disturbing the glandular structure which as we are told is nothing else but a convolution or collection of absorbent vessels, or the poison imbibed may not primarily act on the parts, but general system which in the end re-acts on the parts about to be the seat of annoyance. However we more frequently meet with swellings or buboes without any disturbance of this sort. I observe, that bubo as a generic term implying a true swelling of the gland with or without inflammation, is not strictly applicable, and when they enlarge or inflame, it is generally after the complaint has been in duration for sometime, suffering from irritation in consequence of being lodged in a diseased texture, not from the cause of the malady operating chiefly from the first on them ; hence I choose the more appropriate designation of bastard or pseudo buboes. It will be proper to notice the reason of this conclusion. This I conceive is rendered very apparent from the diffuse nature of the swelling which in a manner at once appears, shewing evidently that although the cause of disturbance be first of all in the gland, yet implicates chiefly another structure. It is on this account that it is more difficult to manage, from the peculiarity

of action thereby produced, this from the nature of the deposits and its state of vitality. From the above, as well as what remains to be advanced, I am of opinion, that such are not real buboes, but only an excitement in the cellular membrane, ending in irritation or inflammation of the structure involved. That such may be of a mixed sort is very evident, for if at these particular seasons, we have a patient with gonorrhœa, chancres, or sores of the legs, it is easy to see that they may become complicated. If the process excited in them was of the purely inflammatory sort, we should have the swellings more circumscribed, from the effusion of coagulable lymph, but in place of this it is diffused and confined to the cellular structure, without annoying greatly either the glands or the skin, at all events for some considerable time, it remains in general long indolent from the nature of the depositions, which are of an inactive or unirritating quality, incapable of exciting to active measures. The depositions met with in these pseudo buboes have some resemblance to that of certain wens, hence their inactive action may be accounted for. When not properly treated, especially the larger sort of which many are to be met with, several inches in extent, they too frequently run into deep sinuses which prove very difficult to manage, this from the torpid state of the parts.

Many may not be inclined to give full credence to what has just been advanced, as to these swellings being different from genuine buboes; this point therefore I will examine a little more fully. Do we not observe all buboes truly such, proceeding in a more uniform manner, than these enlargements? Do we not meet with varieties as occasioned from plague and other constitutional disorders, each varying in their progress and final termination, according to the peculiar nature of the excitement. Do we not on the other hand find, that in

intertropical regions, such swellings proceeding from no apparent cause unless, that of climate and atmosphere, progress very slowly and that they are nothing else than a peculiar irritation implanted in these parts, which may in time proceed the length of inflammation and differ essentially from buboes arising from chancres, here we have a specific virus which urges on the parts, if not properly managed, to an inflammation and suppuration now when they open what a vast difference is there : the venereal bubo general presents an entire cavity, while no such thing takes place in the others. Thus venereal buboes in any quarter of the world run a more fixed course owing to the difference of the poison, generally strong enough not only for the production of local excitement but capable of acting on the whole system. These peculiar swellings when cut into very often present us only with a collection of cells filled with a peculiar matter of a cheesy or medullary nature, and after a short interval perhaps the opening comes to be blocked up with granulations from all parts of the wound, which uniting in the end, come to close the opening, thus the free egress to the matter is in a great measure prevented. This seldom if ever occurs in true buboes in any part of the body, besides in the real sort we have not diffuse tumour appearance so often met with from the very first in these cases, when such takes place in the true, this is when they suppurate or discharge their contents. Do we not frequently observe these pseudo buboes spreading to a considerable extent above and below pouparts ligament, leaving a deep sulcus owing to the skin being more bound down here than elsewhere. We see true buboes generally retain a roundish form and in their growth so progress, whereas these pseudo ones, become diffuse in many instances almost at once, which is not usual in those of true character until they

suppurate, when now they may become extended. The others when left to themselves are long in coming to maturity, and may from improper management after the fever has subsided, remain in this state for months. The feeling of fluctuation in them is also very deceptive, and I would be led to infer that the swelling is full of pus like the larger sort of the venereal ones, but here it is more doughy and when cut into, we are not a little astonished at the small discharge of matter, whereas in the others it flows freely, and to the quantity supposed. In the true we have no luxuriant growth of granulations, while here these are more than abundant, so extensive at times that they unite above the surface, presenting every appearance of a fleshy tumour protruding from the mouth of the opening, by which it is completely shut up. This has a great resemblance to a naked and enlarged gland with a granular surface, the difference is easily distinguished by those who have narrowly watched the proceedings from the commencement. This must be checked by escharotics, and perhaps it would be a good, though a painful plan to use such remedies the moment the pain has ceased from the cutting, knowing well what may take place, such would be conducive to a more speedy cure, nay, save months of suffering, than by the opposite and *sympathizing* treatment in remedying the evils as they appeared, thus we save the patient sinuses and preserve a free escape to the matter. Another difference is, that we often have fluctuation in several portions of the tumour at the same time, such rarely occurring in real glandular swellings. We are aware that in gonorrhæa we often have irritation of the glands in one or both groins, these seldom going the length of suppuration when properly treated, unless perchance peculiarity of climate, or constitution be joined to the noxious cause supposed : gonorrhæal irritation does not cause the pe-

culiar depositions stated, or do we observe any other poisonous or irritating material as capable of producing this peculiarity of action, in so far as I am acquainted with their *modus operandi*. Hence we have sufficient data for concluding that such swellings are not genuine buboes, but pseudo ones, which owe their existence to the climate, the peculiar nature of the cause of production, the state of the system, &c. thus producing a modification in the nature of the excitement, irritation or inflammation in the cellular substance.

In those instances in which the glands become actually involved and suppurate, this is in a great measure from their being acted on from the first, the irritating cause lodged and operating here, the peculiar action is not transmitted to the cellular structure from the nature of the inflammation. Such cases are of a mixed sort we expect, as we do find, they generally run their course pretty rapidly. This may in some manner at least proceed from the absorbents taking on a degree of inflammatory action, which as stated changes in somewhat the cause of production. Do we not meet with many varieties and modifications of disease from this peculiarity in the absorbent system, thus changing the nature of the exciting cause. Look at an inflamed absorbent of the arm, in the one case produced from venesection, and the other dissection, each from foul lancets, we observe a great difference of action, then what is to prevent buboes from being influenced by an inflamed state of the absorbents. I apprehend there is nothing can be urged to the contrary. We see then that certain maladies may be changed in the nature or aggravated by this, and that the pestiferous material, when imbibed if it produced no inflammation, might have acted in a different manner. Look at inoculation for the small-pox, we observe before the pustule is complete there necessarily takes place

some fever which to all appearances has the power of associating the whole system with the particular nature of the virus, thus giving it an immunity in after life at least in very many instances, before this occurs, however, we see the pustule fully developed and attended often by an inflammation or irritation of the absorbents, which perchance may now produce the fever if not previously in existence. Let us remember that in all glandular attacks, or in these pseudo cases of intertropical climates when we have scrofulous habits to deal with, we may in general rest assured of their causing much annoyance as such too frequently spread extensively when proper attention is not given, thus we have bad sinuses often only to be remedied by a change of climate. The nature of the discharge in most cases is truly characteristic of the true seat of such swellings, proceeding from low vitality and irritation in the cellular membrane, which after a time may become associated with the system. The discharge is of a dirty yellowish and watery appearance, perhaps there may be a little pus, which comes from the fungous granulations already noticed. This discharge is frequently so plentiful as to require four or five dressings in the twenty-four hours. We ought by absorbent powders and clean applications to keep the parts as comfortable as possible, since this will be found to be of a great importance to a healthy condition of the whole.

We seldomer meet with these pseudo buboes in the robust and vigorous than in the debilitated, hence debility increases the powers of the absorbents. In such habits of body we have much to do, to controul the action induced particularly in glandular parts, for in general we require to renovate the system ere we can accomplish our object. This proceeds in some measure from the nature of the inflammation which in such cases is neither the truly phlegmonous, nor erysipelatoous, but is

of a mixed sort, perhaps possessing more of the latter properties, such too in an ill conditioned habit of body, and it often spreads beyond the boundaries of the tumour truly such, and goes no deeper than the cellular structure. Considering the habit of body subjected to them a good and generous diet should be allowed, it is worse than useless to confine our patients to a stinted one, or a very small proportion of wine or beer, let him if able take his usual allowance, if this be moderate, so that some stamina may be given to the body; it will be found as his health improves, so in proportion does he get rid of these annoyances. The nature of the inflammation just stated is observable from the attending œdema which in healthy constitutions does not proceed such lengths at the outer margins of the swelling, for the inflammatory process may be adhesive from its limiting the range of the tumour, all beyond the margins not by any means so. If any part of the swelling has a fluctuation in it, I would not be inclined on the instant to open this, since from what has been advanced the matter is but too often contained in distinct cells, much however depends on what sort of treatment we adopt as will be afterwards pointed out. Our object should be to curb the action at the very first, before the tumour comes to any magnitude, not indolently waiting as many do till the parts are really inflamed, the patient obliged to take the horizontal posture, by such means then may we save him from months of suffering.

In conclusion, and before I enter upon the treatment, it may again be stated, what it is believed to be pretty clearly proved, that according to the strength and nature of the operating cause imbibed by the absorbents, so may we have a corresponding activity manifested even at the very onset, and this after a time may be suspended, and again brought into activity by causes which ex

cite the parts. In scrofulous habits such may be retarded from running their proper course, these are generally long in healing. I have in a very satisfactory manner, it is imagined, pointed out where the disturbance occurs in the generality of these cases in a tropical climate. That there should be varieties met with, need not astonish us, since they are all liable to be joined to the other causes of production, as venereal matter, difference of clime, &c. thus rendering them difficult and complicated to manage.

CHAP. II.

TREATMENT.

GENERAL OBSERVATIONS.

In the proper management of these pseudo buboes there are a few points of general treatment worthy our attention. The subduction of irritation and inflammation is to be accomplished on general principles, but for this some modification perhaps may be required as the treatment usually adopted in England will not invariably be found successful in the intertropical regions. Such swellings ought never to be much handled or fingered. This as a rule may be applicable to all inflammatory affections, in particular to diseased testicles and hernias. I am really astonished at the roughness of some in this respect, never allowing a day perhaps to pass without pawing the swelling not in every instance satisfied until it goes the ordeal of two or three pairs of hands, when now the patient may be allowed to escape. It may be superfluous to mention that fingering can do no manner of good; I am confident of having witnessed much injury from such unwarrantable proceedings, the parts af-

terwards invariably attended with increased irritation and enlargement, particularly where the bubo was tender. Such interference may be compared to the fondness some exhibit when called upon to treat a case of strangulated hernia. One, two, three, try the reduction all fail, four, five, and six likewise unsuccessful, nay some, to give some strength to the business aid their hands with their knees! thus multiplying force upon force, it is no wonder if the patient complains bitterly. Now, when we are satisfied that the first attempt has been judiciously applied, and failed, what business has any one else to interfere, in the majority of instances the sooner the operation is performed the better. In each case what can be expected but an increase of the existing irritation and inflammation. This therefore ought to be avoided, for where we do no good, we too frequently do harm, in calling forth the energies of a part, which but for this might have remained dormant, at all events for a length of time. Do let us see no more *pauing*, it is often a sure sign of ignorance, and if it be a bad habit grown up with the practitioner, the sooner this is thrown off the better for the patients.

In every case of these swellings, the first point demanding attention, is the condition of the general system, as this may affect them materially. On the other hand especially when large they may act on the body, causing derangement of the whole, thus the one acts and re-acts on the other, it is not to be wondered at, if under this state of affairs considerable damage is done, such remaining very painful while the fever lasts.

Fever is not an invariable though a pretty frequent attendant on the pseudo glandular swellings of inter-tropical climates, we at all events meet with slight febrile symptoms, when the disturbance begins to shew itself. This may not be of sufficient force as to cause

the patient to complain as the tumour chiefly occupies his attention.

If there be no fever, in lieu of it there may exist some partial irritation of the system caused by the inhaling of certain noxious particles from exposure to the general cause of production. We must perceive that these buboes are influenced by the state of the body, hence to be successful we ought at all times to give it perfect attention. Such remedies should be used as are capable of quelling the particular disturbance at the same time, in the early stages local ones of a soothing nature. If proper attention be not given to each, we have the one acting on the other, and in some habits of body powerfully so, when the swelling is large. Fever may not be present for some considerable time after the production of the swellings in irritable habits, this adds greatly to the difficulty of management. Here we have an irritative fever implanted in an irritable constitution, which gives great annoyance, by the reciprocal action and reaction between the local affection and general system. Such cases from the attending debility and exhausted constitution often require a change of climate; I would be inclined to say that this often proceeds from inattention of the patient, and perhaps in some instances on the part of the medical attendant. In all such cases the general restoration of the health is our great aim, otherwise we make but poor progress with the local complaint, how can we expect any benefit from dressings, so long as the stamina of the body are so much under tone, having to combat with this irritable fever. In proportion to the improvement of the health, by strict attention to diet, and medicines of a tonic power, confiding in quinine, with an occasional blue pill, we will find the sinuses gradually become less, and the appearance of the sore altogether more favourable, this too by the most

simple dressings, keeping the parts clean, provided the edges have not become callous. In no case of ulcer or sore in the East Indies should we use unctuous applications next the surface. I have said that the sulphate of quinine will be found the best medicine we can use, as the fever very frequently partakes of evening exacerbations, and is allied to the family of remittents. Such joined to an alterative course of blue pill, so managed as to have its effects slightly shewn, will often be productive of decided advantage, provided there is not some idiosyncrasy of constitution, prohibiting the use of mercury. The bowels must be properly regulated with a combination of rheubarb, and the compound powder of ipecacuan, this last for other purposes than acting on the alimentary canal. From the above, we observe our chief object to be the removal of the constitutional disturbance, great care is required during this time, that we use soothing remedies to the local affection, taking care at no time to irritate, or we might do some considerable damage. Thus by proper attention to diet, as the system is recruited, other applications may be used to make them yield, or we will find that they gradually improve of their own accord.

We should at all times attempt to discuss these swellings by such remedies, as may be well adapted for this purpose. I may premise that the longer such are allowed to continue, in general they become very large, when they are very apt to run into sinuses, with a long and protracted cure. They are not like venereal buboes, as the latter, from the specific nature of the operating cause, run with more precision their course, and when they suppurate are less frequently attended with sinuses, unless perhaps in very bad habits. This excitement, irritation, or inflammation, whichever it is, should be curtailed as speedily as possible, this too even during the suppura-

tive stages, for by subduing any of the first named actions, we materially lessen the latter, consequently abridge the size of the tumour, and a less tendency to the deposit of the noxious ingredients. When the inflammation runs high, ought we to use the strictly antiphlogistic treatment? Certainly, in those habits of body likely to keep up the disturbance, here we employ both general and local remedies, but in those states of the system in which it is questionable how far the innate stamina are good, it becomes another question, if this practice should be adopted. Such states very probably depend on debility, and therefore we must allow a generous diet, and endeavour to curb the action of the local affection by such applications, as promise the greatest benefit; it may be found that spirituous lotions agree best with the present state of the parts. In the generality of cases this action is not of the purely inflammatory sort. We see the necessity of being cautious in the reduction of the diet, as well as in the application of many other remedies, as it is nothing else but an inflammation in unhealthy and debilitated parts, requiring the use of tonics for the support of the general health, these aided by applications of a gently stimulating nature. If, as is often done, we were to treat such enlargements with cold lotions, low diet and rest, with proper attention to the bowels, how often would we have to lament inutility of the practice. In other cases it might so far fortunately happen, that by such means we have done neither good nor harm, the parts remaining much the same, this too, after a month's trial with the cold lotions, the moment such are abandoned, then the tumour may for a time progress rapidly.

Many act on the principle of allowing such tumours to come forward and suppurate, this is in the highest degree blameable. This practice, however well adapted

in the opinion of some to venereal buboes at home, will not do in this climate, for here there is nothing like keeping the skin entire, so long as we can, even at times when they are disposed to suppurate. In general the longer they remain the more extended they become, not unfrequently spreading amongst the cellular structure drawing the adjacent parts like erysipelas into an analogous action with a consequent derangement of parts.

CHAP. III.

LEECHES.

Having made these general remarks, let us now see in how far leeches may prove useful for the purposes of reduction. In their application to these pseudo swellings, I will in the first place speak of the advantages to be derived, previous to the skin being broken, and follow up the investigation in all points connected with their progress.

Much is to be gained by a proper procedure, more particularly when applied early, and when they are somewhat painful, many use the leeches in a very inefficient manner, generally in the advanced stages, when there is much pain and swelling, seldom having recourse to them before the skin is reddened. They ought to be used long before this, as soon as the tumour shewed itself, even although there be but little pain; most agree as to their utility when these states have actually occurred. Such practitioners, as above alluded to, do not have recourse to a sufficient number of leeches at the first, it is true they may when the parts are in the state mentioned, apply from four to six, and perhaps repeat them at an interval of as many days, in the interim using cold applications, or perchance warm; I give the preference to the latter as they agree best with the nature of the swellings. My reason for using the leeches early in the attack, is when allowed to continue, they

generally become large, then not unfrequently ending in troublesome sores, by early treatment their progress is limited and seldom suppurate. A few days attention therefore at the first will gain every thing, which we might be months of accomplishing after. Now, in such instances, a few leeches applied in the manner stated, will in general be productive of but little good, we should at least use a dozen or two, if the swelling be of any size, at all events the tumour ought to be covered with them, and they should be allowed to fill fully, this rule is well worthy our attention. I do not care so much for the after-bleeding, this may be stopped, or at all events not encouraged, if we are afraid of the patient's strength suffering materially. Next day, or the day after this they may be repeated, provided the hardness of the parts be not abating. I do not refer to the tension of the skin caused by the bites, this I look on as a good and gentle stimulus to it, and it also incites the absorbents. Thus action below the surface is destroyed and itself gently stimulated. In the inefficient and dilatory manner in which some use these as a remedy, what good can be expected, accordingly if they are asked what is the benefit obtained they will in general answer none at all, or but very trifling, they may even add that the swelling proceeds as if none had been used, if in fact it does not now enlarge more quickly. This is what might have been expected, for in place of destroying, in fact they encourage action, it is therefore certainly bad practice not to prosecute this to the full extent. What ought to be our aim? Surely to subdue the irritation; if such be our views I say that a few leeches cannot do this, even although the action be in a place possessed of but little vitality; for its subduction we require more powers than they employ; our object should be to use so many as if they were to rat it out. Nay, we will find that the application of numerous leeches in place of reducing the

action of the skin, in the end actually increases it, a point favourable to the activity of the absorbents, for here the leech-bites, when they cease to bleed, begin to heal, in this process there is generally produced a good deal of excitement in the skin. If action of this part was the real and only benefit to be accomplished, some may say why not use a blister. I have to object to this on the principle of its not being that sort of stimulus required, and which the leech-bites produce, nor does it detract blood. Our grand principle of guidance being to lower action below, at the same time gently to stimulate above, this then is obtained from the leeches, and there are few, if any other remedies which would do this. Thus action of this nature is favourable for the subduction of such depositions which we observe to exist in these tumours, differing in some measure from that met with in other buboes, such means therefore should be selected which promise most chance of a speedy and successful issue to the whole affair, which consists in producing some real impression on the absorbents, this they do not receive from either blisters or a few leech-bites. In all cases therefore of intertropical swellings in the groin, arising without any apparent cause but that of climate, should we commence the treatment the moment pain was felt. No confidence should be placed in cold lotions, which are often used, but very seldom with advantage, such employed after leeches is only amusing or more properly tormenting our patients. Other measures of more efficacy can be had recourse to, as good firm lintseed meal poultices, with strong camphorated mercurial ointment spread on it, and applied as hot as the patient can bear it, over the leech-bites, this renewed at least four times in the twenty-four hours. I may now state that I have seen few buboes of the groin long resist these means. The poultices are to be used from the very first after the leeches, forming the second im-

portant point of the treatment. Much depends on the relief our patient experiences from hot or cold applications, some obtain more from the one than the other, if there be no choice, then we use the hot. So much then for our general guidance and first day's proceedings. If next day there be considerable pain, I do not mean that occasioned by the leech-bites, then, re-apply them, and if they will act, to the same extent, our patient may be averse to this, they however should be used on the second day, we should not allow his judgment or wishes to baffle our experience, even although he complains of weakness. He will have little inclination to walk till these bites are nearly healed, since they not unfrequently prove irksome for some days, and by a steady use of the poultices the swelling will in all probability be reduced. But if it does not seem to give way, then they may be used a third time, such cases, however rarely occur, when they have acted properly in the first, or second instances. Thus we will subdue the local complaint, and in a few days our patient will be able for duty, provided he has been obedient, and done nothing to interrupt the proceedings.

If it should so occur, that the tumour is large and inflamed, yet no feeling of fluctuation ere the patient makes his appearance, what is to be done, seeing as we imagine that there is but little chance of discussing it. There surely can be no harm to try and curb the irritation and inflammatory process, otherwise this would continue to increase so long as the peculiar action lasted, by these proceedings we curtail at least the inflammatory and suppurative process. This should be another reason for our interference, for the tumour spreads so long as a particle of inflammation or irritation is in excess, by which the suppurative process is much encouraged and extended. Such action is most effectually checked by the plan recommended. We must however, not overlook the

evils likely to arise from the loss of too much blood, in cases which can ill spare it. In all those constitutions in whom this is not likely to be productive of much injury, we need not be over scrupulous. But if under any circumstance it is deemed expedient to stop the bleeding, particularly where many leeches have been used, we ought to do so by the usual means, by applying pledgits of lint dipped in brandy, alcohol or spirits of turpentine, our great object in all cases, being only to detract blood from the part, and not so much, to act on the general system, in this manner may we gain our object. In all cases where the malady becomes extensive we ought to recollect, that in the end there is much more permanent debility produced than what could occur, in the first instance, from the use of numerous leeches, but this is only partial, and capable of being soon recruited. Is it not much better to subdue this local affection at the very first, by these means, with comparative little expense to the general system, than in the end to be laid up from day to day nay, month to month, waiting the result. Such a plan do those adopt who use nothing but lotions, or some other insignificant applications during the treatment, mild they no doubt are, such, however, will not in the end be found to be the humane side of the question.

Another patient presents himself with a tumour in which there is evident fluctuation, attended by considerable pain and inflammation in the skin, and adjacent parts, what is to be done in such a case? I believe our best plan will be, to follow the same method, and I have little doubt but that the whole proceedings will terminate well. I have seen cases of this sort which were recommended to be opened, fortunately, however, the patients objected on the suggestion of the above, which was put in execution, and they were astonished to find the buboes gradually disappear, this too in the course of a few days, some of these

by no means small, and full of matter. If they do not yield under this treatment, we of course try the other methods, and now certainly under more favourable circumstances, as there is necessarily a subduction of much of the irritation and inflammation, particularly in the parts below the skin, and when opened the lips of the wound are not so likely to inflame, we also lessen the tendency there is to such extensive induration of the cellular texture, and curtail the suppurative process.

Suppose we have an open bubo with considerable induration and inflammation around the parts, particularly in the edges of the wound, in this instance a few leeches might be very judiciously used with the intention of reducing, not only the irritation of the surface, but that underneath, consequently inducing a healthy action, thus allowing granulations to rise, better disposed to heal. Thus we may save our patient months of annoyance and many in all probability from looking forward to the caustic applications, or a change of climate as their *dernier resort*.

In those cases in which matter seems evidently formed or forming and previous to our opening the swelling, we ought to be particular in applying leeches, on purpose to reduce the action within, thus limit the extent of the tumour, and have healthy pus, for we do know that in these swellings, unless the inflammation be of a true sort, we have not healthy pus. In many cases how often do we see the discharge of the sanies or icherous consistence, this too frequently in excess, of course so long as this continues we cannot expect the parts to heal. Our object is therefore to change the action, and substitute a healthy inflammation, if the term be allowed, for that in existence which is a combination of the phlegmonous and the erysipelatous. That the severity of the true inflammatory action even of the phlegmonous

species alters the nature of the secretions, there can be no doubt, we must also be aware that a deficiency in this respect does the same. In the latter instance stimulating remedies are the applications. It may be superfluous to add that this sanies, or icherous discharge, seems at times to have some action on the adjacent parts, in some manner like phlegmonoid erysipelas implicating the neighbouring tissue, hence if not counteracted the malady may exist for a very long time, until perhaps the system becomes recruited, or we alter the nature of the discharge, which is frequently in our power by the use of caustics, or by leeches. Thus a healthy state may be produced, even where the sinuses are extensive, for all becomes well as the system alters, and aided by the proper use of local applications. Even granting that our patients were reduced by the leeches when early applied, this is only for the time being, as now the innate stamina are certainly greater than what they would be after fighting for months with such a malady, where we often have great difficulty in restoring the powers of the system, nay, under these circumstances of debility, the climate has every chance of laying strong hold of the constitution. By using leeches early then we have the greatest chance of obviating this evil.

When leeches cannot be procured, how would it do to adopt the lancet punctures, as recommended in erysipelas, then fomenting the parts we might obtain much blood, then apply the poultices. In this case we cannot have the same benefit, for the action, the leech-bites cause in the skin is conducive to the cure, the lancet punctures in general soon heal. It is not altogether then from the quantum of blood abstracted that we are to expect permanent good, but it is from the degree of stimulus given to the skin that such occurs, which no other skin tormentor can so fully accomplish as the leeches.

There are some who may say that these bites, by becoming inflamed, will cause much disturbance, if not an actual spread of the malady in bad habits. In the former examples no such thing will take place, I appeal to practice the best proof for such men, from this we are not led to infer that such occurrences do arise. In bad habits these bites may cause some degree of tenderness, nay, proceed the extent of suppurating, yet in healthy constitutions we have seen that this is favourable, as it excites another sort of action below, conducive to the cure, thus besides abstracting the blood, a point of no mean import, they also leave a more favourable impression than blisters or punctures for the subduction of internal irritation.

There are buboes to be met with which remain for a very long time stationary and indolent, annoy from their presence, besides at times impeding free motion. We may apply to such either the gum ammoniacum plaster, a blister, or perhaps better than all a few leeches, so as to excite the skin, now activity may thus be given them, when they may either advance or disappear. Our object in the use of leeches to all these tumours when in a painful state is to lower or suppress *in toto* the action by the substitution of another. We need not be afraid of debilitating those places of low vitality, on the contrary we give them energy. Does not the application of leeches positively call more blood to the parts, which increase, is in a good degree afterwards maintained by the leech-bites, being either in an inflamed or suppurating state, so that we perceive the reverse takes place, to what we might have *a priori* expected? Thus it happens when not used in sufficient numbers they do little good, since they cannot overcome the specific action below, or establish the desirable result above, thus they positively do harm, and we do witness from this practice many buboes ad-

vance more rapidly after the application than if they had not been used. They excite and irritate without producing sufficient impression or subduing the stimulus beneath, thus become more than harmless. I must not omit to state what at times will be met with, especially in bad habits from the inefficient mode of application, where the action not being wholly curbed, but suspended for a little, we may observe some of their bites long in healing, thus one or two of them may become the centre for, and spread of the inflammation arising around them, particularly when the parts are more disposed to the erysipelatous, than the phlegmonous action, such may be the cause of inducing the suppurative process, hence we sometimes observe the tumour enlarge and suppurate exactly beneath the place where they were used. After a time, the bad conditioned pus passes through this opening, thus it becomes an outlet for the matter when such is not confined in cells. As the pus in this last instance has but inadequate means of escape, we ought never to trust to this small opening, but at once enlarge it. If this is not done the small aperture from the bite inflames and enlarges to a considerable extent, thus a very large sore may be produced by the union of two or three leech-bites, thus more damage is done than by an incision which reaches to the bottom of the swelling. The edges of such a sore from the bites are indurated and irregular, from the nature of the process to which the parts are subjected. After a time, whether we have made an incision, or not, we may in some instances observe rising from the sore a large mass of granulations of an unhealthy nature, uniting as already stated, forming above the surface a regular sort of tumour, possessed of great powers, which draws on the efficient energies of the diseased texture, thus it happens that the parts are robbed of their healthy action, with a

consequent bad discharge and condition of the sore. It is absolutely necessary that this substance should be destroyed, in order that the real powers may not be exhausted; we will find that this requires strong escharotics, for it is of little use to trifle with those of minor importance, the speedy destruction of texture is our object; hence the *nitras argenti*, however useful in this respect in other cases, is here of minor advantage, for it is not so well calculated for the reduction as the *potassa fusa*. Much attention is likewise requisite to cleanliness, as the discharge is not only often very profuse, but of a bad sort, not agreeing with the sound skin, from which cause we may perhaps see the parts take on action somewhat analogous to phagedena, assuming the dark red glossy appearance observable in some cases of erysipelas. These occurrences are more rarely met with in diseases strictly local, than where they become in a manner associated with the system. Great care is required, or they may be productive of serious damage; here we use quinine internally, and cinchona as an absorbent powder externally, previously sprinkling the sore with the calomel and arsenic as a mild escharotic.

CHAP. IV.

POULTICES.

Much depends on the proper application of poultices. When properly made of good materials, they keep the skin soft and gently moist. Thus they in some measure prove anodyne, soothing or subduing the irritation and inflammation. Whether these agree well with the parts or not, depends greatly on the idiosyncrasy of constitution, and perhaps in some measure on the nature of the inflammation. The following may be a good rule for

our guidance in the application of all external remedies. If any of them give but little relief on their first trial, they in general should be abandoned and others applied, for what does not give ease will do no good. In general, the warm applications agree best. Much harm is often done by an inefficient mode of preparation, and application being made of bad materials, by far too soft. In place therefore of accomplishing the purposes intended we receive no benefit, thus losing time. Those substances should be preferred whose particles unite well, being neither large nor hard. Applications like the former we find inadmissible when there are open sores, since they might occasion considerable irritation, thus keeping the parts from healing, and only reducing the stamina. I have seen, from this cause alone, buboes kept open and irritable for nearly two months, of course long after this in healing. The manner in which I would recommend their application has already been stated, and I now advise the remedy from a thorough conviction of its great utility. Lintseed meal well boiled, to a pretty firm consistence, or oatmeal as a substitute; when in this state, I would then either use the strong camphorated mercurial ointment over the face of the poultice, or spread this over the hardness, then the poultice as hot as the patient can bear it, bound on the parts pretty firmly, and changed three or four times during the twenty-four hours. We often meet with buboes in very bad constitutions, or in those from previous disease, where we cannot venture to abstract blood by leeches. I recommend this plan as an excellent substitute, in fact often applicable in the best of constitutions, and find that nothing else is required. The mercurial ointment is used to the hardened parts, with the intention of not only promoting the action of the absorbents, but also for the purpose of producing an

efflorescence of the skin, which proves useful by exciting it, I believe this to be very serviceable, and when it occurs the ointment should be continued until the redness becomes somewhat extensive and troublesome, when now we leave it off for a few days; when, if the hardness does not begin to yield, it may be again applied, this however will often be found unnecessary, for we find the hardness diminish in proportion to the action excited on the skin. It may be found very useful from its stimulating the parts beneath, for it sometimes excites an inflammation in the glands, thus it proves very serviceable in many indolent cases. A patient I lately treated, used to say, that the poultices were almost as hard as biscuits, and he did not exactly like the smearing the parts with mercurial ointment, as he was sure the bubo was not venereal, this gentleman by following the plan now stated soon recovered, he had been previously greatly reduced by an hepatic attack, and was in such a debilitated state, that I did not venture to use leeches. The bubo was as large as a chesnut and to all appearances in existence for some time, being hard but not overpainful, although he complained when pressed on. From my former experience in these states of the system when labouring under such swellings, I would have said that this under the reducing treatment would have been long in healing, if in fact a change of climate would not have become proper. This patient was afraid of suppuration being produced by the use of poultices, but an extensive experience has made me draw an opposite conclusion, and if suppuration does in a few instances occur, we find that by pursuing the same method the matter will be absorbed. There is another advantage gained from the mercurial ointment, it keeps the face of the poultice comparatively soft, and for the sake of cleanliness, I have been in the habit of enclosing

the poultice in calico and applied in the same way as these applications to the eyes, and it was equally successful as when they were used naked to the tumour. In those instances in which the leeches are used, I certainly in all cases give this the decided preference, the mercurial ointment may be either spread on the poultice or to the tumour. If the irritation, or inflammation do not seem to yield, then by washing the surface clean, we can again use the leeches, this even when there is a perceptible feeling of fluctuation, then the poultices. By following this plan I have discussed buboes in each groin of the same patient when full of pus, this too in the course of a week, we ought therefore to persevere with the poultices for ten or fourteen days, at least, when the tumour will be found to yield. In such cases, I generally allowed my patients a tolerable diet with the usual quota of wine, beer, or spirits, if that was in moderation, and did not confine strictly to the horizontal posture, but allowed them to move about, taking care that this indulgence was not abused. So far from these measures doing harm, I believe they did much good by keeping up the powers of the system, although debility does increase absorption in certain cases, yet there is nothing like a healthy standard for the reduction of redundancies. I have no doubt, by a steady perseverance, in this manner we will do much good, and have but seldom to witness protracted cases, or even such as require a change of climate. This will depend greatly on the time of the patient's first appearance, for if these measures be not used till the period when the tumour is very large, we cannot expect the same benefit although it will prove advantageous, more particularly when the parts are not in an open state, here perchance other things require our attention. Some are in the habit of allowing their patients to return to duty, after the cessation of

the fever, when the parts are in an indolent and not very painful condition, and they find that in time the tumours disappear, this is by no means unworthy of our attention, as the patients are far better on full diet, walking about, than on the sick list with low or half diet and the cold applications. So much then for the principal part of the proceedings in these stages, it remains that I should examine a few other remedies, previous to entering on the subject of escharotics; these being in general use, will not detain us long.

CHAP. V.

COLD AND HOT APPLICATIONS.

As to cold or hot applications, either as fomentations or lotions, little need be said. It may be remarked that they should be used only for the purpose of relieving temporary pain, for, if the tumour be of any magnitude, we will find that from their constant use little is to be gained. In our choice of such applications we ought to be guided by the peculiar idiosyncrasy of our patient, in his receiving more benefit from the one, than the other, for with some we do find that cold agrees best, while with others the warm. There is no rule for our guidance in this respect, unless the sensations of our patient. If such be trusted to for the reduction of the tumour beyond a couple of days or so, we lose our time. They should be abandoned, as what proves simply harmless will do no good but much injury, by an unnecessary expenditure of time. Surgeons are in high degree blameable who persevere for weeks with such remedies, for they will find, that after a time the tumour enlarges in defiance of such, this too, is in some degree aided by the careless and restive disposition of the patient, who perceiving no advantage from them,

generally neglects their constant application, they become more than troublesome, for when he is in a horizontal position the parts may give but little uneasiness, on this account he is inattentive, thus much damage is done on both sides. On abandoning these, we should not have recourse to the common soft poultice, as this seems to encourage suppuration more readily than those already noticed, in this manner the tumour becomes large, and after a couple of months perseverance be perhaps in a fit state for laying open, now there is no saying what the upshot may be. The above ought not to be our principles of subduction, and I am confident, that in the majority of these pseudo swellings in a hot climate, we gain but little by an inflexible adherence to the old rules, thus is the disease increased, and the constitution materially injured.

Blisters, and antimonial ointment have been employed for the purpose of exciting the skin and absorbent system. In those instances in which there are cellular depositions, they will be found to do little good, as the parts are often for a length of time in an indolent state. The absorbent system requires a different sort of stimulus. I have shewn what this is when on the subject of leeches. In other cases, however, a blister, or the antimonial ointment may occasionally be of service, this where the fluid contents are not cellular, or likely to be so, thus they may prove of utility by increasing the action of torpid parts, but our leeches after all are the preferable remedy. Blisters are less likely to prove of advantage as they necessarily interfere in some degree with our other plan of procedure. In the latter stages when there are open sores, they may perhaps be more usefully employed, as they excite a new action in indolent parts, changing their nature, but why not use the caustic stimulants. I believe that more benefit is to be derived from

proper exercise with good diet than any thing else. As to antimonial ointment, this in some cases may prove of greater advantage than the blisters, since the pimples cause a more lasting stimulant operation, besides they act in some manner like the leech-bites when they suppurate. This ointment then may be used in those indolent cases of long standing, where there is considerable alteration of structure. At the commencement, such would be found of less utility, since we would lose the advantages gained by the detraction of blood, which quells action beneath, as well as excites a new one in the skin, the ointment then may be useful in all cases where we cannot with propriety use the leeches, but we must observe this especial precaution that the system is not rendered more irritable by the irascible pimples, as this might prove a source of much uneasiness, our object being in all cases not to irritate but soothe by every possible means.

EMETICS.—Some are in the habit of using these, and placing much confidence in them. They certainly, by rousing the absorbent system, may in some few cases do good, but in these swellings they will be found a very questionable remedy, in particular where we have a very irritable habit in a hot climate, we ought therefore to be more than cautious with them, it might be a good rule to admit them in no case. These pseudo buboes being from the nature of the deposits more firm and resisting than others, are less likely to have their contents taken up. The venereal virus besides stimulating the glands, has a great tendency to pass into the system, thus by an emetic we partially encourage the absorbents and the cause of irritation, may, aided by emetics more readily pass on, thus abstracting the stimulus it is likely, although it does not necessarily

follow, that the bubo may be discussed. But here we have a totally different cause of production, the depositions being cellular, require a more permanent action than is usually produced by the operation of an emetic. As well might we expect the peculiar cause of erysipelas of a certain stamp, not depending on derangement of the *primæ viæ*, to be removed by the action of an emetic. Hence the discriminating Surgeon will seldom use them.

There are many other local applications frequently used for the reduction of these swellings, when in an indolent state, such as binding over the parts, thin plates of lead or other articles. These occasionally may be productive of some little good, but I believe more is to be derived from the use of the poultices and leeches than any mechanical contrivance, and in many cases as well might we expect the patient's nose to be absorbed by these, as the tumour. I regret it has not been in my power to try the gum ammoniacum plaster, I think it promises well, and might be most usefully employed in many cases, it has peculiar properties, and if it does not act well on the skin, this could be heightened by the addition of a small proportion of cantharides plaster. This bound over the parts the patient might walk about, or follow his usual employment without any material detriment.

Having examined into the state of these swellings and their proper plan of treatment, in what may be regarded the primary stages, it remains that I should follow up the subject, taking now into consideration the secondary part, or that in which we have them either in an open state, or where an opening may be required. I will not confine myself to any thing like strict order in the following details, but consider these observations as of a general kind yet as connected as possible.

CHAP. VI.

INCISIONS AND CAUSTICS.

If we are acquainted with the previous habit of our patient's constitution, or if this be of a decidedly scrofulous diathesis, and former swellings have long resisted the ordinary means, how would it do in these pseudo cases to open them the moment we are perfectly aware that there is matter. For as we know the longer they remain the more extended they become. This plan promises some good, after being opened, some escharotic, as the *præcipitatis rubri* may be introduced, in order to prevent fungous or exuberant granulations from shewing themselves, thus a healthy state of the sore is produced. This is only anticipating the evil likely to arise in the end requiring strong escharotics. Thus the liability to sinuses is diminished, and a tedious suppuration from an extensive diseased surface, which when in existence adds greatly to debility and irritability of the powers. The above plan is more applicable to indolent swellings than others of the acute form, or likely to become so. We know that when such tumours are allowed to open, they are long in doing this, not unfrequently presenting an induration, with an alteration of structure around the edges, attended also at times with a livid colour of the surface, totally at variance with a healthy process. In this manner the disorder is protracted for months, and the patient before he can become well must now submit to the escharotics. I have seen buboes of this nature five months at the very least under treatment, now in a very bad state requiring these remedies which ought to have been used in the first instance, by which much of their sufferings would have been abridged. Many patients might be unwilling to submit to the use of caustics, and prefer a change of climate, but as all cannot have the advantages to be derived from this, they must

therefore be treated judiciously and energetically. Such applications should be strong enough to destroy the whole of the diseased texture, and should be used according to the benefit derived, whether this be daily, or twice or thrice a week. The point to be aimed at is a new surface, by altering that in existence. Let us recollect that the acids, although they give much pain at first, this in general is soon over, leaving our patient in a manner comfortable, whereas the lighter escharotics, as the sulphate of copper, or the stronger as the potassa fusa, are not so anodyne, there being a longer continuance of pain; this last from its potency is extremely serviceable in taking down diseased texture, and I have often given it the preference. The pain excited may remain for a few hours, but the patient afterwards will have a comfortable state of the sores perhaps for a day or so. The question as to the propriety of using these as remedies might be, whether the patients are inclined to endure a few hours pain, or to encounter that from the sore for days or weeks, and in the end be obliged to submit. Certainly the best mode will be to put an end to the proceedings as soon as possible. If the swellings are allowed to open we may, in many cases, find that they are long in doing so, as the skin very powerfully resists the suppurative action, this even when inflamed, for it is not that sort of process which ends in the destruction of the parts, but in spite of this, it retains the firmness and nature of the texture for a great length of time, thus in some measure remaining unchanged, hence it will act like a fascia, by which the action below penetrates more extensively amongst the cellular membrane, attended by the cheesy depositions. If other measures cannot be adopted when there is a full feeling of fluctuation, then they should be opened, provided the tumour seems to spread, or the

skin be the seat of a destructive action, and the nature of the irritation such as not to be aggravated by a cutting instrument, then for these reasons the sooner they are opened the better, we will soon see in how far escharotics can be usefully employed for this purpose.

Some medical men give a preference to the knife, others to caustics, for opening buboes. It may not be out of place to enquire further into the merits of each plan. If the tumour be large containing much matter, the integuments pretty sound, then it will be the most proper method to make a small opening with the knife, if this be not sufficient for the discharge of the whole, we can make another at some distance from the first, nay, if this be insufficient a third may be made, these if the tumour extend for three or four inches. Now we have an opening at each extremity and in the middle. This is decidedly superior to cutting through its whole extent. We have saved much skin, a point of no mean importance in these climates, hence we do not require to wait so long for the regeneration of new materials. When the parts have discharged for a day or so, and if now this be not considerable, we may then press the top against the bottom of the sore, then either use a compress, or a good poultice, when in all probability granulations will spring from both surfaces, thus adhesion is more quickly produced, than if the tumour had been laid open through its whole extent. At each of the openings, when first made, if adhesion be likely to occur, we may introduce a small bit of lint. These should not be continued above a day or so, for now there will be but little chance of their union before the completion of the cure.

There are cases not so well adapted for the knife, such where there is an evident redundancy of skin, or, where its vitality is so much interfered with, that it necessarily

dies, being very much thinned, or, in those cases where there is much induration of the cellular structure. All these cases may be successfully treated with the potassa fusa used according to the extent of surface wished to be removed, care should be taken to prevent this spreading, and we should always endeavour to have it good. In all cases like the above I should give a preference to the caustic, or where, independent of the state of the sore, there is considerable hardness of the parts, with sinuses, or where we have the tumour-like appearance from the luxuriant granulations, in fine then to all indurated textures if long in this state. The potass is used in the first instance for making an opening through the skin, or if this already exists, it is used for changing the unhealthy nature of the parts. The argenti nitra may be also employed, or the preference may be given to nitric acid. Any of the other escharotics, such as the sulphate of copper, or red precipitate, in general does little good, not being sufficiently strong to act on the indolent open parts, when used the pain remains longer. These may certainly be of much service in promoting healthy action after the state of the surface has been changed by the stronger. This practice should be perseveringly attended to in scrofulous habits, those also, whose constitutions are weak, evidently much under the influence of climate, this for the purpose of preventing the parts becoming indolent and indurated. There is one remedy I would prefer to many of these caustics, to open and indolent tumours—a combination of calomel and arsenic—a drachm of the former to two or three grains of the latter, this mixed well in a mortar. This is an excellent application to all indolent sores, to bad chancres, and in particular to phagedenic sores in the groin, occasioned by the sloughing of venereal buboes, or from other causes. This powder applied round

the edges of the sore has frequently an astonishing effect in arresting its spread, and producing a healthy condition. When we use it, if the sore be not very extensive, this should be sprinkled over the whole, and allowed to remain, over this a small piece of dry lint, then a poultice, or this last alone. At the next dressing we will find an ash coloured crust formed, where this is not so, a little more of the powder should be sprinkled over the bare part. On no account are we to remove this, let it remain, and in the course of from one to three days we find it coming away. Now we observe the surface of a more healthy aspect, when we use other stimulants, or escharotics, which keep up the condition and healthy action of the parts. In some cases caution is required not to use this too freely, to either healthy granulations, or perhaps those of long standing, as here some of the arsenic may act on the general system, we know that from some sores there is a rapid absorption, this powder then in the hands of a careless person might do much injury. In other cases we may use a variety of the stimulants of the escharotic family, a change of them every now and then is of advantage, such as the pure or dilute nitric acid, taking care only gently to touch the surface to be acted on, so that it may not spread too far, they may be used daily, or on alternate days until the parts shew evident signs of amendment, unless in those cases where too much pain is excited, less stimulating should be used. Generally speaking the nitric acid will be found the best, perhaps the most permanent anodyne powers, as the pain it excites only endures for a short time, and it likewise frequently reduces the inflammation around the edges of the sores.

In all pseudo buboes of much extent with evident disease of the integuments, I would certainly prefer the caustic, to the knife. An opening made with a

lancet does not in general allow a free exit to the matter unless when large. Nay in those instances where the skin is less diseased, the opening or openings would at times be very apt to unite, at all events there not unfrequently occurs an inflammation of a bad kind in the edges which is little calculated to soothe, consequently we would have much better had recourse to the caustic, although in the opinion of many this is a more severe remedy, yet it is so only in appearance and would be as soon healed as that made with the knife, if under the circumstances of inflammation attacking the edges, or perchance this would be called into greater activity and thus spread further, when now there would be a much less scar left than from the cutting. It may with truth be said that in a comparatively healthy state of the integuments the sore from the caustic would be longer in healing than the others, but such are not the cases in which this is used, unless there be hardening and an indolent state beneath, accompanied with a partial disorder of the surface, I apprehend even in these latter instances the argument might not hold good, for in general, the parts are long in a suppurative state, and by the time such could heal from the bottom our caustic opening would likely be disposed to do the same. When the caustic is properly used it generally only lays open so much as we wish, whereas the other method produces so great a disturbance, that there is no saying where such may end. Where the disease is strictly cellular, such opened with the knife might imperfectly give an outlet to the contents of the different cells, and not inducing the action required on the surface, we soon see it extending to double, if not treble, the extent of the original. For these, and other reasons, I would give a preference to the caustic potass, from the action of which I would by no means apprehend so much disturbance, as that not unfrequent-

ly the result of the keenest and sharpest edged instrument. The caustic application in these cases I believe circumscribes the inflammatory process not only of the whole tumour, but in a high degree that of the edges, from exciting one of its own. The caustic by destroying the parts acted upon, keeps the tumour afterwards patent, besides we have a less chance of losing so much skin, the cicatrices in such instances are generally less than if made by the knife, as the inflammatory action, if it occurs, generally destroys more than the other. In buboes, under opposite circumstances to those just named, a preference should be given to the knife, or in those cases where they are considerably less, here our object is to save skin, the chief point to be aimed at in the treatment of every case, so that the parts when healed may be as good looking as circumstances will permit; this is not so in the larger, when they inflame and suppurate, for in general there is more skin lost than by the caustic, unless where we open them by the two or three small punctures already noticed. In all old ill conditioned sores of the groins, our grand object should be the destruction of the ill conditioned surface supplying the bad discharge. The longer this has been in existence, so much the more imperatively are we called on to put a termination to it, which can only be efficiently done by caustics. Thus by destroying the old we have a new action produced favourable to a cure, unless we do this the patient may suffer for months. There are many patients who would care but little about the use of these stimulants, if their medical advisers would only put them in practice. In the above I have entered pretty fully into the consideration of the proper employment of caustics under the impression of their great importance, and be it remembered it is that to which I would willingly submit, if unfortunately labouring under them. I look

on the knife of less practical utility, let none accuse me of recommending a harsh proceeding, as it will in the end be found the most beneficial, consequently displays a greater sympathy for the feelings of our patients, than allowing them to be miserable for months, when perhaps in the long run they must be used ere a cure can be effected, this too perchance after our patients have suffered from two or three incisions, he is fortunate if he escapes without some sinuses being laid open.

If the sinuses run deep accompanied with others of less dimensions the best plan will be to improve the general health, and introduce on the end of a probe a small piece of lint carrying it to the bottom, then gradually withdrawing it a very little, thus we allow the bottom part to contract. This mode of procedure will often effect a cure without cutting. It may be only requisite to keep the whole surface clean until the health is greatly restored, then in proportion to this we will find the sore and sinuses doing the same, if not readily so, then we may inject either the zinc or sulphate of copper lotions. In this way we will have sinuses to heal without dividing the parts, particularly where we are not over anxious to interfere, for we might inflict by the knife an evil of severe magnitude. Let the system recruit itself, then we will see in how far our interference is necessary. If the edges are indurated or callous, we can introduce on the lint, some stimulative application for the purpose of producing a new action. If, however, they spread actively in the cellular tissue, then the sooner they be laid open the better. In those small ones which appear in a manner to be only in the skin, a little resinous ointment on the end of a probe may be introduced, they in general quickly become well. As good a plan as any will be to leave them alone until the health is restored, if this be not too long, for what can we do, so long as this is bad,

we will find that they then heal, this too without leaving puckerings or unseemly cicatrices of the parts, so very apt to follow those treated by the knife. The solution of the chloruret of lime, or lime water, will be found useful, not only for an injection, but for washing the parts daily, which adds greatly to a healthy action.

There remains to be noticed what we should do to open sores when discharging much, cleanliness in all cases is of paramount importance for this purpose, we generally have recourse to some absorbent powders, they keep the parts dry as also contribute in some degree to the production of healthy granulations. They may be selected according to the nature of the indication required, as dry lint, the powders of chalk, starch, cinchona, rhubarb, or flour, &c. At the same time we use these, the parts should be daily washed with any astringent lotion, or a very dilute solution of nitric acid, will be found useful in certain cases. Where there is a sort of moist discharge from the skin around the sore, we will do well to smear the surface with a piece of lunar caustic, this gives no pain, and does much good. Many more of these remedies could be named, but it is of no use, as every Surgeon can select those best calculated for the particular indications required. The dressings should be changed according to the nature and quantity of the discharge whether this be every four, six, eight, or twelve hours. In many cases if allowed to remain longer, the smell from the parts is often most offensive to the dresser and patient. Let us remember that so long as there is not a healthy discharge, we cannot expect to have a sound condition of the sore.

Thus in a very summary manner is completed the investigation into the causes and treatment of these pseudo swellings, or bastard buboes of the intertropical climates, and I believe the best mode of alleviation has been

pointed out. I have avoided entering more fully into the point of a restoration of the powers of the system, when in a weak or debilitated condition from disease, or the effects of climate, as each practitioner must be well acquainted with the general rules for our guidance. I have been induced to undertake the above from a positive conviction that very many medical men whom I have met, have neither comprehended their nature nor the proper treatment. I hope this will not be looked on as too severe, if so, it is nevertheless true. In the elucidation of the subject, I may possibly have done some small good to many who may be afflicted with these most annoying complaints, and I hope fewer will be compelled to look to a change of climate as their only means of relief, this from the weakness and emanation produced by months of torment. I have met with more than one instance of Officers on their way Home from India, where the application of some stimulant of sufficient power, has produced a cure, this too within the tropics, there is no doubt but that the sea voyage contributed greatly in this, by the restoration of the powers of the system.

ERRATA.

<i>Page</i> 5	<i>line</i> 2	tropical	<i>read</i> topical.
" 11	" 20	faeces.....	" facies.
" 12	" 25	measure of... ..	" measure short of.
" 12	" 35	avoiding it.....	" voiding it.
" 16	" 31	We	" It would.
" 25	" 22	by no any	" not by any.
" 28	" 7	highest	" slightest.
" 28	" 25	operates	" operating.
" 29	" 3	more frequent	" less frequent.
" 34	" 5	tribe.....	" tube.
" 43	" 16	is only	" is often only.
" 61	" 14	been greatly increased	" been increased.
" 82	" 10	cornea	" coma.
" 85	" 3	minor	" mucus.
" 88	" 22	these are intestines	" the intestines are.
" 90	" 21	or Morgagni's	" or Morgagni's.
" 90	" 31	was one	" was none.
" 97	" 8	agna	" aqua.
" 99	" 31	celerat acer	" celer et acer.
" 113	" 11	gloss	" glass.
" 114	" 8	and saponaceæ	" saponaceæ.
" 133	" 31	applied to	" applied by.
" 140	" 23	of blister.....	" of a blister.
" 144	" 25	they come	" they came.
" 156	" 22	or rather	" or other.
" 159	" 3	resembling of.....	" resembling that of.
" 160	" 15	constipulating	" constipating.
" 163	" 30	diathesis.....	" diathesis.
" 168	" 25	will be	" will to.
" 226	" 31	such as	" such is.
" 233	" 36	faeces	" fauces.
" 237	" 12	with a calomel	" with calomel.
" 254	" 5	tegomatic	" zegomatic.
" 260	" 8	iritis	" iritis.
" 271	" 5	emunction.	" inunction.
" 277	" 20	emunction	" inunction.
" 281	" 9	sumed	" sumend.
" 284	" 33	need be	" need not be.

Page 287	line 13	of a mere.....	read	of a more.
„ 289	„ 31	collignative.....	„	colliquative.
„ 289	„ 36	the absorbent.....	„	the absorbents.
„ 293	„ 27	ounces i	„	drachms i.
„ 298	„ 9	does so	„	do so.
„ 312	„ 14	enlarge thus	„	enlarge this.
„ 326	„ 16	a Captain Stewart ..	„	a Captain's steward
„ 335	„ 20	apomerosis	„	aponurosis.
„ 357	„ 17	What such	„	That such.
„ 362	„ 8	than it.....	„	then it.
„ 362	„ 22	cuticulæ	„	cuticle.
„ 408	„ 32	<i>ex nis est</i>	„	<i>ex his est.</i>
„ 414	„ 21	smelling	„	swelling.
„ 430	„ 18	the pulo :	„	the pulv.
„ 430	„ 26	sumal	„	sumat :
„ 456	„ 30	comminuted	„	communicated.

For phlegnionous, phlegnionoid, phlegnion, *s. lege, passim*,
 phlegmonous, phlegmonoid, phlegmon, *s.*











