

Searle (Chas.)

**CHOLERA,**  
**ITS NATURE, CAUSE, TREATMENT,**

AND

**PREVENTION,**

CLEARLY AND CONCISELY EXPLAINED.

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BY CHARLES SEARLE, Esq.

OF THE HONORABLE EAST INDIA COMPANY'S MADRAS  
ESTABLISHMENT.

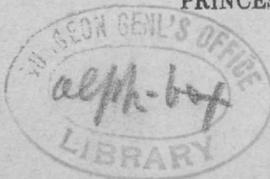
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1831.



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DIGGENS AND JONES, LEICESTER STREET.

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PRINCE STREET, SOHO.

1831

## DEDICATION.

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TO

SIR JAMES Mc'GRIGOR, M. D., F. R. S., K. T. S.

DIRECTOR-GENERAL OF HIS BRITANNIC MAJESTY'S  
ARMY MEDICAL DEPARTMENT, &c. &c.

SIR,

The interest you have taken in every thing connected with the improvement of our practice, in the disease which forms the subject of the following pages, and the encouragement you so repeatedly and kindly afforded me in prosecuting the study of the same, demand from me this tribute of respect for the distinguished situation you so ably fill, and for the talents and urbanity of your private life, so universally acknowledged.

In which consideration, allow me, Sir, to subscribe myself

Your obliged and humble servant,

C. SEARLE.

WARSAW, July 25, 1831.

OFFICE OF THE  
ATTORNEY GENERAL

STATE OF NEW YORK

IN SENATE,  
January 10, 1911.

REPORT  
OF THE  
COMMISSIONERS OF THE LAND OFFICE,  
IN ANSWER TO A RESOLUTION PASSED  
BY THE SENATE, APRIL 11, 1907,  
AND BY THE ASSEMBLY, APRIL 11, 1907,  
AND BY THE SENATE, APRIL 11, 1908,  
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## PREFACE.

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THE great fatality which attends the disease which is the subject of the following pages, being, I am of opinion, dependent not so much upon its intractable and incurable nature, as upon circumstances which appear to admit of remedy, no apology, will be considered necessary for my making the attempt to establish the means of cure and to diminish the ratio of mortality. The circumstances principally alluded to, are these : the patient, in the first place, is seldom aware of his danger, from the insidious nature of the attack, till the disease has really assumed a formidable hold upon the system—when the most judicious treatment is not always to be depended upon, even when adopted—which, however, I regret to say, is but seldom the case. Professional men generally, which must necessarily be the case from their want of experience in this disease, have but a very imperfect knowledge of its real nature. These evils, for they really are such, is the object I hold in view to remedy, by presenting the public, professional and non-professional, with a clear, concise, and yet sufficiently comprehensive treatise on the subject, embracing the nature, cause, and treatment ; to which is

also added, what I believe to be the best means that can be pursued for its prevention—a work, the general circulation of which I most sincerely believe may be the means of preserving the lives, not of hundreds only, but of thousands and tens of thousands, especially if those to whom the charge of the sick are confided, will but condescend to give their patients the benefit of the advice I have presumed to offer, instead of pursuing visionary schemes of experiment, to which I have been the witness of vast numbers having been sacrificed. The plan of treatment proposed by me, I am willing to admit, may be improved in the detail, but not in the principle, for this I am convinced is correct, and time will prove it so in despite of all opponents.

Having, as people would say, assumed such a lofty attitude, it may be justly expected of me to show cause, or offer some foundation for my pretensions. Pretensions, however, I have none to advance, or to arrogate to myself over the rest of my professional brethren, save the one of superior experience which has been afforded me during nearly fourteen years practice in India, where during the time the disease has twice obtruded itself upon my particular notice in personal attack, as well as that for nearly two months past I have been Physician to an Hospital established by the Government of Poland, for the exclusive treatment of the disease, which continues to prevail among the inhabitants of the Place—Warsaw, where I am at this present time. The following complimentary

and too flattering communication, which I am proud to acknowledge, I had the honor to receive a few days before I left England from Prince Lieven, the Ambassador of the Imperial Government of Russia, in acknowledgement for six copies of a work I published last year on the subject, and which I did myself the honour to present the Imperial Government, through the Embassy in London—I may be also permitted to advance in support of the respect I would claim for my opinions on the subject:—

“ SIR,

“ The Medical Board at St. Petersburg having highly approved of the very luminous and novel observations contained in your treatise on the Cholera Morbus, which you had the goodness to transmit them through the agency of the Embassy, his Imperial Majesty's Government have commissioned me, Sir, to convey to you their thanks for the useful advice they owe to your experience and information, and which, in the interests of humanity, they will hasten to communicate to all the medical men in Europe, employed in the treatment of this disease.

I seize this opportunity, Sir, of offering you the assurances of my distinguished consideration.

(Signed)—LIEVEN.

*Hanover Square; May 24, 1831.*

TO CHARLES SEARLE, Esq.”

In fine, a sincere and conscientious desire to fulfil what I believe to be a duty, is all my merit and all my boast ; as such I am perfectly indifferent to the opinion of the self-constituted authorities—the medical critics, who assume to themselves a right to deprecate and condemn every professional work that issues from the press, that does not square with the capability of their intellects, or tally with their high opinions. It is the public I would serve, and to them I appeal, leaving the result where it should be, in their hands, to approve or condemn.

# CHOLERA.

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## CHAPTER I.

### SECTION I.

#### CHOLERA—ITS SYMPTOMS AND ORDINARY MODE OF ATTACK.

**FIRST STAGE.**—The invasion of Cholera most frequently takes place in the night or towards morning. The patient is usually suddenly seized with giddiness, windy rumbling in the bowels, and purging; or the purging with a sense of weakness, fulness, and oppression at the præcordia;\* and symptoms of indigestion have been for some hours or even days duration. These are followed by vomiting, which, with the evacuations from the bowels, soon assume a sero-mucous or barley-water-like appearance. Great prostration of strength follows, and generally tremors or twitchings, with pain and numbness or cramps in the extremities. A dusky sunken countenance,

\* Præcordia, parts about the stomach, situate intermediate between the belly and chest.

ringing noise in the ears, or deafness, subdued voice, cold damp skin, and feeble pulse, become now very constant and characteristic symptoms.

SECOND STAGE.—*Of Excitement.*—At this period of the complaint, efforts of the system appear to be made to bring about febrile excitement, and which is accomplished under proper treatment ; but otherwise the partial excitement of inflammation only takes place: when, from the sense of præcordial oppression, heat becomes developed in the part and the patient complains of inward burning attended with great thirst, and an insatiable desire for cold water. The irritability of the stomach is now usually increased, and there is often extreme restlessless. The pulse too becomes sharp and more frequent ; and the trunk and head exhibit an increase of temperature, while the extremities mostly continue cold and in general damp. With the development of this partial excitement, tonic spasm or cramps, if they have not previously taken place, but too frequently follow :—commencing with the feet and legs, and gradually increasing, they often extend to the upper extremities ; and occasionally involve the muscles of the belly and chest.\* The exhausting influence of these spasms, or sense of internal anguish is followed by collapse :—or this state

\* Spasms, however, are by no means so frequent as I saw them in India, and cramps I think much less severe.

succeeds to the symptoms of the first stage, without the development of heat and the stage of excitement. Or in weakly persons the latter is but feebly developed,—the sickness of stomach, pain at the præcordia, and desire for cold water, only existing.

THIRD STAGE.—*Of Collapse.*—On this taking place, the stomach and bowels, which continued before irritable, retain whatever is administered, either by mouth or clyster; save that an involuntary oozing in general takes place from the bowels; the spasms cease, the extremities are livid, the skin is covered with cold sweat, and the fingers are shrivelled; the eyes are suffused with blood, or covered with a dense film, and in general half open with the whites turned up, and the countenance death-like: coma and dyspnæa ensue, and life gradually leaves its frail tenement, occasionally in ten or twelve, but generally within eight-and-forty hours from the period of invasion.

Should, however, remedial means have been timely and judiciously employed, as I have before observed, the first stage is gradually succeeded by the excitement of fever; developing, however, but too frequently, the inflammation of some vital organ in which predisposition existed or susceptibility of structure disposes to be in this way attacked: the bowels and brain are the most

obnoxious to this effect ; but the lungs are not unliable to be affected.

The above will be found to present a faithful and striking picture of the disease in its more frequent and ordinary forms : and of the symptoms, which we have divided into stages, in the order of their succession ; but as varieties do occasionally present themselves, though, as it is justly observed in the Madras Medical Report on this subject, “These varieties are not observable so much in individual cases as in what may be termed local epidemic visitations :” it will be proper to notice them, which we shall do in the following section.

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#### SECTION II.

VARIETIES.—Mr. Scot, the Secretary to the Madras Medical Board, and editor of the Report on Cholera, observes, “When the disease appears epidemically, it may on one occasion be distinguished throughout by the absence of vomiting, and the prevalence of purging ; on another, by the excess of vomiting ; and again, though more rarely, by the absence of purging. Spasms may be generally present in one instance of invasion, and in another may not be distinguishable. A frequent variety—the worst of all—is that which

is noted for the very slight commotion in the system ; in which there is no vomiting, hardly any purging, perhaps only one or two loose stools, no perceptible spasm, no pain of any kind ; a mortal coldness, with arrest of the circulation, comes on from the beginning, and the patient quickly dies without a struggle."

In exhibition of another variety and order of cases, I beg leave to add the following quotation from Mr. Orton's publication on the disease. Mr. Orton observes, "It will be perceived that the disease presents an extreme variety, and perhaps unparalleled number, of symptoms ; and that the severe form of the disease is chiefly characterized by diminished action and suppression of function. The most striking variation from these common appearances have been observed in a set of cases which are chiefly marked by the preponderance of increased action. Dr. Burrell, in a Report to the Medical Board of Bombay, after describing the low form of the disease, says, "On the 22nd Inst. I got into the Hospital a different description of cases, viz.—Men with a full pulse, hot skin, constant vomiting of white matter like thick gruel, seldom any purging, if it existed it was like the matter vomitted. The first symptoms of the attack were languor, with occasional pains and sense of numbness in the extremities, violent head-ache;

and shortly after there ensued nausea, vomiting of slimy matter, weight over the præcordia, with griping in the bowels, and small stools of white slimy matter ; no appearance of bile from either stomach or bowels. The spasms followed in many cases so violently as to require six men to hold the patient. If relief was not immediately given, it is astonishing how soon the system sunk under the attack, marked by the ends of the fingers and toes becoming cold ; the pulse and motion of the heart ceasing, with a livid circle round the eyes."

Mr. Whyte reports also to the same Board—  
"The disease continues to present a milder aspect, and now occurs but rarely. Loss of pulse and coldness are but seldom observed. It often first shows itself by a severe pain in the belly, attended with cramps of the lower extremities; sometimes by a sudden giddiness and confusion, loss of memory, and vomiting, attended also with cramps. Indeed, but for these cramps, it would be impossible to distinguish this stage from fever at the beginning ; and these are rarely attended with any danger." And the same is inferred by the success which attended Dr. Burrell's practice, who saved, by bleeding principally, eighty-eight out of ninety of the like cases.

## CHAPTER II.

## APPEARANCES ON DISSECTION.

THESE have been so uniformly the same, that they may be comprised in one very short sentence, at least such that would appear essential and pathognomonic of the disease:—Namely, congestion of all the venous trunks of the body. I say all, for I have found it equally to obtain in the extremities, on cutting down upon the brachial and femoral veins; though the organs more particularly noticed in the various reports as being the seat of the engorgement, have been the stomach and small intestines, and the brain; and next in degree the liver, the spleen, and the lungs. The spinal marrow, whenever this has been examined, has been also found congested; and the heart is frequently found dilated and relaxed. Added to this, however, whenever the patient has survived a sufficient period and there has been energy enough in the system for the development of the second stage of the affection, there has been found inflammation of the stomach and small intestines; and, in some cases, arterial

distension also of the membranes of the brain, and effusion beneath the arachnoid, and at the base of the brain, extending down the spinal canal.

The urinary bladder has uniformly been found contracted, and generally to its smallest dimensions—thus obliterating its cavity. And the intestines, the large, however, more particularly, have likewise often been found much contracted. The contents of the gall-bladder is of various consistence, but of no very extraordinary quality; it being fluid or tarry, dependant upon the stage of the affection, and period the patient may have survived the attack. The body externally of a livid or plum-colour, more particularly, however, to be noticed at the extremities, and in the more dependant parts, whatever the position the body may have remained in for a short time after death. The blood extremely fluid in the small vessels, as the forementioned remark evinces, in consequence of the coagulable part being consolidated in the larger trunks, and forming, what is generally the case, polypi in the heart.

## CHAPTER III.

## THE CAUSES OF CHOLERA.

THE immediate cause of Cholera would appear of the same nature as that which ordinarily gives rise to fevers of the intermittent and typhoidal character: hence it attacks those most particularly who reside near to or frequent damp marshy situations, or respire an atmosphere otherwise contaminated by the exhalations arising from organized substances, vegetable or animal, in a state of decomposition; hence, too, it is, that filthy, low, unventilated situations are its more prolific sources.\* To the developement of the disease, or to render the individual susceptible of its attack, it would appear, however, that a certain condition of system or predisposition must exist, or it would be of more general prevalence than we ordinarily find it; this I believe to consist principally in debility; hence the indifferently fed, the badly clothed, and comfortless

\* If evidence is required in proof of this, see what is adduced in a work I previously published; entitled, "Cholera, its Nature, Cause, and Treatment, with original views on Fever."—Wilson, Princes Street, Soho.

poor, or those exposed to the inclemencies of the weather and vicissitudes of temperature, and particularly under exhaustion from the want of food and bodily fatigue are the most frequent subjects of its attack. And to these causes, troops marching are so liable to be affected. The causes enumerated I consider quite equal to the production of the disease, but in the character of an influential agency, I am constrained to add, a peculiar condition or epidemic influence of atmosphere; seeing there are times in which it prevails to a considerable extent—over-stepping the boundary we have marked out and assigned to it by predisposition. And other times, again, when the causes enumerated would appear to be in operation without its production. This atmospheric agency or modifying cause I believe, however, to be, without attempting to define its nature, though I think it probably dependant upon a negative condition or peculiar electrical state of the air or earth, in character one simply of depressing influence; which being superadded to the amount of causes which under ordinary circumstances are productive only of that degree of depression of system and cold stage of fever which, like the shock of cold water, eventually excites the system to the reaction of fever—is, from being thus multiplied in extent, analogous to extreme cold, productive of that overpowering

depression whereby the energies of the system are rendered unequal to the development of the stage of excitement or febrile condition. The analogy is, however, perhaps better illustrated in the operation of opium upon the system; this being a poisonous agent of the same sedative class as malaria—the pestiferous exhalation before alluded to, and immediate cause both of Cholera and of fever. A small quantity of opium, like unto the shock of cold water, producing excitement of the system; whereas a large dose, like unto extreme cold, produces narcoticism or overpowering stupor—in fine, apoplexy and death. And thus is malaria productive of both fever and Cholera. In short, the symptoms denominated Cholera are nothing more than those attending the cold stage of fever in an aggravated degree; and this is most strikingly exemplified in the fact, that as the system resuscitates under the favorable operation of remedies, or as the influence of the cause is mitigated, feverish excitement invariably becomes developed, and is therefore the sure indication of amendment. In further proof, if any were required, of the truth and justness of these views, I may mention the fact, founded upon observations made both in India and in Poland, that in localities notorious for intermittent fever, when Cholera has prevailed, fever has been of much less frequent

occurrence; but which has returned with the cessation of Cholera. And, again, that in situations ordinarily healthy, fever has not unfrequently succeeded to, or has been conjointly prevalent with, Cholera, during its epidemic visitation: and is the case, at the time I am now writing, here at Warsaw; Cholera and fever of a remittent type being both extremely prevalent, and the milder attacks of the former lapsing in most cases into the latter.

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#### CHAPTER IV.

##### OPERATION OF THE CAUSE IN PRODUCING THE PHENOMENA OF THE DISEASE, OR EXPLANATION OF THE SYMPTOMS.

OF the various causes adduced in the foregoing chapter, we hold but one to be the essential agent and immediate cause of the disease; and that to be a mephitic vapour or miasm, of the nature of, if not identical with, Malaria, in the common acceptation of the word; which, being received into the system by respiration, contaminates the blood with its poisonous agency, and, in common with the other poisons of a sedative

class—of which it is one, operates immediately and specifically upon the capillary vessels, in depreciating or arresting their functions; and hence, as they enter into the composition and structure of every organ and part throughout the system, and as their function is nutrition, secretion, calorification, and in short all that appertains to the life and health of the part and system in general—it necessarily follows that the depreciation of their action is attended with debility of all the functions: from which follows, primarily, the sense of languor, indigestion, and giddiness; and, secondarily, from depreciated action of the heart and brain, the ensuing symptoms: purging, vomiting, coldness, and spasms, as we shall briefly explain. The action of the heart is two-fold, that of a forcing and a sucking-pump; by its contraction the blood within it is propelled through the arteries to all and every part of the system; by its dilatation, the blood, aided by the impulse it receives from the propelling column in the arteries, is again drawn up or returned to the heart by the veins; and at the same time air is sucked in from the lungs and surface of the body, and fluid nourishment from the stomach and bowels—through pores or apertures which are to these fluids permeable in the veins: from which it follows that the heart's diminished influence will be attended with engorgement or congestion

in the veins, and that this congestion will take place to the greatest extent at those points of circulation the most remote from the heart's influence; which obtains to by far the greatest degree in the veins of the stomach and bowels and spleen, from the peculiarity of those vessels constituting the roots of an extra system—the vena portæ, for the conveyance of the blood to the liver, for the purpose of being there purified of the bile and divested of anything that might prove injurious to the system before it is received into the general circulation; hence the veins of the stomach and bowels (the permeability of which in health admitted of absorption) being now in a state of engorgement and condition in which the sucking agency is almost nugatory, admit of exudation of the more aqueous parts of the blood; and hence the sero-mucous or barley-water-like appearance presented by the evacuations, after the pre-existing contents of the stomach and bowels have been expelled. Distension of these vessels necessarily excites irritation, and this induces expulsion, and hence the purging, sense of pain, fullness and oppression at the præcordia; and from the same cause, added to the diminished energy of the brain, vomiting occurs. The liver and kidneys not performing their functions, there is neither bile nor urine secreted; and hence, too, a reason why the eva-

cuations are colourless. Feebleness of the voice deafness, and sighing, are fairly attributable to diminished energy of the brain; and difficulty of breathing, in the more advanced stage of the affection, is dependent upon a more aggravated state of the same cause, added to congestion of the lungs. Numbness, pain and cramps in the extremities, originate in distension of the veins, and consequent irritation, of the spinal marrow, at the origin of the nerves of the affected muscles. And spasms are attributable to the same cause, but having developed a certain degree of inflammation in the part. And to the circumstance of congestion having developed inflammation in the stomach and bowels, wherein vitality is the greatest, is to be attributed the sense of internal heat, desire for cold water, and partial excitement of the second stage. Coma evinces an engorged or apoplectic condition of the vessels of the brain; lividity of surface and cold sweat, congestion of the cutaneous capillaries, and exudation therefrom.

## CHAPTER V.

## TREATMENT OF THE DISEASE.

WITH the explanation I have offered of the symptoms and their cause, what are the indications of treatment? They simply amount to this, the removal and superseding the action of a sedative poisonous agency upon the system, and the effects resulting therefrom—the truth of which there can be no question. And what are the surest and best means of accomplishing these purposes? In reply to which, I have only to offer the result of my experience. The plan to be pursued must depend upon the stage of the affection, and particular state and constitution of the individual. The patient should be placed in bed, between a pair of warm blankets, in an airy room. And to preserve his strength it is of the utmost consequence that he be confined to the recumbent posture; contrivances should therefore be adopted to preclude the necessity of the patients removal from this state for any of the purposes of evacuation: they may be received both from the stomach and bowels in a basin or bed pan, or cloth, if the latter be not at hand; and whatever it becomes necessary to

administer to the patient, should be while he remains in the same recumbent state. This injunction cannot be too strictly enforced, two patients having under my own immediate observation lost their lives from want of attention to this particular, so exhausting is the disease. As a deranged state of the stomach is, I am of opinion, no unfrequent exciting or predisposing cause of the attack, or if not, as indigestion invariably succeeds to it, as a general rule, I think it always advisable to commence the treatment by evacuating the stomach, whether the patient has vomited before or not. With this intention let the patient drink freely of warm water, or (which I am of opinion is better, as it operates almost instantly, and more perfectly accomplishes the purpose, and is always available, and from its stimulant and mild aperient qualities is useful also with these intentions)—is a *large* table spoonful of common culinary salt (muriate of soda), dissolved in half a pint of hot water, and drank as warm as it well can be: should it fail in producing the desired effect, which however is but seldom the case, a second dose may be repeated five minutes afterwards. Prior to the emetic, I think it however advisable, whenever the state of the patient admits of it, particularly if there be pain in the head, or oppression about the præcordia, that the patient be bled from a

small orifice, in the recumbent posture, to a moderate extent, as this tends immediately to the relief of these symptoms, which are dependent upon accumulation of blood in these parts; and the emetic following the bleeding to the restoration of an equilibrium of the circulation.

Bleeding further operates advantageously in several ways. First, by diminishing the quantity to be circulated by the heart, to its diminished power of accomplishing it; bleeding indirectly acts as a stimulant to the system at large. Secondly, by removing oppression from the brain, and distension from the vessels of the stomach and bowels, it directly leads to the cessation of vomiting and purging, and consequently to the retention of our remedies, more particularly curative. But before we have recourse to them, and after the operation of the emetic, hot flannels should be applied to the region of the stomach; and if there be cramps in the extremities, or they be cold, they should be rubbed likewise with hot flannels, for half an hour; when, as a stimulant to the capillaries, twelve grains of calomel should be administered, and in furtherance of its action, and as a stimulus to the stomach and system in general, occasional cordials should be administered. To those who may doubt the operation of calomel being, as I believe it to be, a stimulus to the capillaries in

general, I have only to say, give it then with the intention of re-exciting the secretive organs, and the liver in particular, for in so doing you will not only restore a very important function, but, I would add, tend immediately to the removal of the cause, in the blood's purification. With these intentions, therefore, I recommend the calomel, and in large doses ; which in effect in this disease, are but equal to small ones under ordinary circumstances, from the diminished absorbing power of the stomach and susceptibility which assists to its influence ; added also to the necessity which exists in the treatment of this disease, of accomplishing our intentions with the least practicable delay. Twelve grains should therefore be the first dose, which being simply placed upon the tongue, should be washed into the stomach by a cordial ; and a very suitable one is a desert or table spoonful of brandy, with double the quantity of hot water ; and the same dose of calomel should be repeated every hour or two, according to the urgency of the case, and commensurate with the improvement of the patient in smaller doses, should it be continued, till bilious stools and urine are restored, when it may be given in conjunction, or alternately with some mild aperients, till healthy secretions are established.

The brandy and water, in the quantity of two

table spoonfuls, may be also continued every quarter or half hour, as long as it is agreeable to the patient, or until feverish excitement becomes developed, when the patient usually desires cold water, with which he may now be gratified, in the quantity of two or three spoonfuls occasionally. When fever has pretty well declared itself, to each dose of calomel from three to five grains of antimonial or James's powder may be added; and a solution of sulphate of soda, (glauber salts), in the proportion of an ounce of salts to a pint of cold water, administered in the quantity of a wine glassful every hour. Should the fever run high, or be attended with much pain in the head, chest, or bowels, bleeding will be necessary, or a dozen leeches or more may be applied over the seat of affection; and on their removal the patient may be usefully immersed in a warm bath for fifteen or twenty minutes, but the latter is not indispensable.

Should vomiting return at this period of the disease, or at any other time prove a troublesome symptom, it evinces inflammation of the stomach or bowels, or a state bordering thereon. The immediate seat of the affection will be determined by the pain complained of, upon slightly compressing the bowels. If the pulse admits of it, the patient should be bled, to the extent of from six to twelve ounces, or a dozen or more leeches

should be applied over the seat of affection, and repeated if necessary two hours afterwards. The patient at the same time should be particularly enjoined to attend to the dictates of nature, and relieve the bowels whenever the slightest inclination to do so is felt; and in furtherance of the same intention, a clyster, consisting of a pint of warm gruel in which two tea-spoonfuls of salt is dissolved, should be administered, and repeated every half hour; for by thus keeping the bowels excited, tranquillity of the stomach is materially insured. And should at the same time sense of internal heat be complained of, another characteristic of inflammation of the stomach, the solution of the sulphate of soda, previously advised, in the quantity of two or three table spoonfuls, should be administered occasionally, as the patient's common beverage. Should the patient's state forbid the bleeding, or the vomiting prove untractable, which, however, I have seldom found the case, in addition to the means already recommended, and after a sufficient number of leeches have been applied, a sinapism, or a thickly spread plaster upon cloth, of flour of mustard mixed with boiling water, may be applied over the whole region of the bowels, and kept on as long as the patient can bear it, short of its producing a blister, which it will do if the mustard be strong, and the plaster

be kept on sufficiently long, without it be desirable to produce this effect, but which I do not think generally necessary in these cases.

Cramps in the extremities will in general be relieved by compression, and rubbing the affected limbs with hot flannels, and occasionally administering a warm clyster. Should these means, however, fail, or spasms take place, a small bleeding may be put into practice, and a sinapism or mustard plaster applied to the seat of affection; and the bleeding be repeated if necessary.

Should the patient not come under treatment till an advanced stage of the affection, and the symptoms present be vomiting, with pain at the præcordia, coldness of the skin and tongue, livid extremities, and feeble pulse: a state closely bordering upon collapse—and which may succeed immediately to the first stage, or as a sequel to the second of excitement, and therefore be accompanied, or not, with inflammation of the stomach: a circumstance, however, which may be readily determined, either by the patients complaining of sense of inward burning, or by attending to the feeling he expresses, or desire for cold water, on presenting him with some brandy and water, which it would be well to do, with the first dose of calomel, (which should be in the dose of twenty grains) and act accordingly afterwards. The desires of the patient,

and indications of nature, I am of opinion, being the rule which should invariably guide us, not only in these cases, but I believe upon all occasions. The treatment in other respects is the same, and the following is what I should advise. First, a small bleeding, if the pulse admits of it, and then to apply a dozen or twenty leeches over the stomach, and if the patient appears, from oppression of the brain, dull of aspect, and heavy to sleep, six or more leeches to the temples or behind the ears, allowing the blood to flow from the bites till it spontaneously ceases, which is the plan I adopt upon all occasions; watching at the same time its effects, that the bleeding may not prove injurious. A clyster should, however, precede all other measures, and the same be repeated every half hour during the continuance of vomiting. And after being well rubbed with hot flannels, the legs (between the knees and insteps) should be wholly enveloped in hot mustard poultices or plaisters, as before advised, securing and covering them, as well as the knees and feet, in hot flannels, with a view of retaining their heat. As resuscitation takes place, which however is never very apparent till bilious evacuations are procured, inflammation of the stomach and bowels from the previous congestion is very apt to become considerable, requiring the use of the lancet, in conjunction

with leeches, clysters, and the warm bath; and of internal administration the solution of the sulphate of soda or castor oil, with an occasional dose of calomel and antimonial powder: means which should be diligently and temperately persevered in, till health is restored.

If the patient is not seen till vomiting and purging have spontaneously ceased, with the extremities livid, and pulse scarcely or not at all to be felt—in short in the stage of complete collapse, little can be hoped for, or expected from any treatment; though a few will recover even under these circumstances, if judiciously managed. As this is but a severer grade, or sequel of the stage we have considered in the preceding paragraph, it requires but a modification of the same plan of treatment. A few leeches may be applied to the temples, and a dozen to the præcordia, and these repeated if amendment should follow. The arms as well as the legs should be enveloped in hot sinapisms, with the precautions previously advised, to retain their warmth. The clysters should be administered, as well as the calomel (a scruple) every hour, with a little hot brandy and water or not, as previously noticed. And in addition to these means, a liniment, composed of two ounces of strong mercurial ointment, with two drachms of camphor and two ounces of liquor ammoniæ,

may be well rubbed into the skin for an hour, along the inner parts of the thighs, the arms and arm-pits, along the course of the spine or back bone, and upon the chest ; and repeated as often as convenient.

Having furnished most ample instructions for the treatment of the disease under, I believe, almost every circumstance that is likely to present itself, I shall now finish with some observations upon diet. Patients will, from irritation of the stomach, sometimes crave for food, but until bilious evacuations take place, it will be wrong to give any, further than a little barley-water, or decoction of pruens, or some bland nutrient fluid of this description ; as till this effect is induced, or the evacuations have become green, food will not be digested, and consequently would prove but an additional source of irritation: when, however, bilious evacuations do take place, a little nourishment may be afforded, as gruel, sago, or light broth ; and as improvement takes place the quantity may be increased, and quality improved. Observation, during twenty years that I have been practising medicine, justifies me in saying, that harm will seldom or never accrue from gratifying the patient's desires in moderation ; on the contrary, the dictates of nature demand our especial respect ; that when cold water is desired, it should be granted the

patient, with the precautions I have given with respect to quantity; and the same with regard to his desire, should he at any time express any, for a little wine or spirit and water; for timely attending to the dictates of nature will often ward off much evil. So convinced am I of this, that I make a point from time to time of consulting the patient on this head, particularly if I feel any doubt in my own mind, as to the right line of practice to be pursued. After the evacuations have assumed a healthy appearance, to establish the health and strength of the patient, as well as to ward off further attack, I most strongly recommend that two ounces of bark powder, or twenty grains of sulphate of quinine be dissolved in a bottle of burgundy, port, or claret, and that a wine glassful of the same be taken three or four times a-day, and persevered in for some time; and that the diet be, during the same time, moderate in quantity, but rather generous in quality. And as a means also of establishing the strength, that the shower or cold bath be used daily, at about noon, if sea-bathing is not available; for by thus imparting tone to the skin, you associatedly communicate strength to the digestive organs and system in general.

## CHAPTER VI.

MEANS TO BE ADOPTED IN PREVENTING THE  
DISEASE.

Avoid marshy, dirty, or low and ill ventilated places: and when necessity obliges you to travel through, or frequent such places, smoke a segar, at such times, if you are accustomed so to do; or otherwise keep a smelling bottle under your nose. If obliged to remain in such a situation occupy the uppermost stories of the house, and particularly as your sleeping apartment; experience having proved that those who sleep on the ground are the most subject to the disease, less so those who are elevated upon a bed, and those occupying upper floors less liable than either. If travelling, make a survey of the neighbourhood, notice the wind, and take up your abode on the highest ground, to windward as much as possible of any and every source of evil: or, if this is not to be accomplished, place yourself under the protection of some building, or row of trees, to leeward of the evil. And avoid also as much as possible the night air. Endeavour at the same time to support the best

state of health possible, by avoiding excess of every kind ; do not therefore fatigue yourself by either bodily or mental exertion, but use both in moderation ; and be not apprehensive of the disease, for fear has a great tendency to induce it ; and there really can be no occasion for it by attending to the precautions I am giving : or should it really occur, no serious grounds of alarm, if proper measures are early resorted to. With the same view, keep the body comfortably warm ; a flannel shirt in damp weather is no bad thing. With respect to your diet it should be moderate in quantity, and of rather generous quality. Remember, the purpose for which you have a stomach is simply to supply the waste and excitement of the system ; do not therefore weaken it by any unnecessary duty ; refrain then from slops and all superfluities, but at the same time attend to the dictates of appetite and of nature, and support the necessities of the system by a due supply. And as a general rule, you will find whatever agrees with you is good for you, in moderation : no very unnecessary self-denial needs therefore be practised. In Cholera times, it is particularly advised that you should not leave home in the morning with an empty stomach ; a cup of coffee, with or without a tea spoonful of brandy in it, and a biscuit, is indispensable, if too early for breakfast. And a light

supper, with a little spirits and water is no bad thing before going to bed, which should be early. Should you feel out of health, and your system deranged, at a time when the disease is prevailing, take two or three grains of calomel at night, and a dose of rhubarb, magnesia, and ginger, or castor oil, in the morning; and after its operation, a wine glassful of the quinine and wine two or three times a day, as I have advised in the last chapter, and continue the latter, which I consider an excellent antidote, and one I should advise to all weakly persons during its epidemic prevalence.

I have only to add, that after all I have heard, either in India or in Poland, after all I have read, seen, or thought upon the subject, I arrive at this conclusion—that the disease is not contagious. The only specious grounds for supposing it otherwise, is the particular route by which it has reached, and has been extended in Europe. This, I know to be a question involved in difficulties, it would be in vain for me to contend. I shall therefore make no attempt of the kind, but conclude the subject with an observation which, perhaps, may have some weight, or if not, prove not altogether undeserving notice: viz. That the diseases giving rise to contagion are pretty uniformly based upon high action, and the contagious fomites or semen—the result

of an elaboration of humours, connected with increase of temperature and high vascular excitement, the very reverse of which obtains in Cholera, the evacuations which take place in this disease being, as I have explained, simple exudations, from defect of power, and the fever which succeeds, of a bilious inflammatory character.

FINIS.