

Circulars, instructions and reports

Publication/Creation

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MEMORANDUM.

HORSE GUARDS,

17th December, 1831.

The preservation of the Troops from the effects of the formidable Malady which has unhappily made its appearance in this Country, having engaged the anxious attention of the General Commanding in Chief, he has had recourse to every means in his power for the accomplishment of this important object, and the enclosed Instructions from the Central Board of Health, and the Army Medical Department, are transmitted to you, with Lord Hill's earnest injunctions, that they may be strictly observed and carried into effect, as far as may be practicable, by yourself and the Medical Officers under your Orders.

His Lordship trusts, that by your joint co-operation for this purpose, the threatened evil may be averted, and the Health and Efficiency of the Troops preserved.

By Command of the Right Honorable

The General Commanding in Chief,

JOHN MACDONALD,

Adjutant General.

No. 1.

MEMORANDUM.

17th December, 1831.

and Circular Letters
Concerning Cholera

Received by the Chairman

M3/2

Central Board of Health,
Council Office, Whitehall, 13th Dec. 1831.

SIR,

AGREEABLY to the Intimation given by this Board in the concluding Paragraph of their Circular, dated 14th Ult., I have the Honor to transmit the subjoined "sanitary Instructions for Communities supposed to be actually attacked by Spasmodic Cholera," with some Observations on the Nature and Treatment of the Disease, drawn up by Drs. Russell and Barry.

Every Individual being deeply interested in the Preservation of the Public Health, it is the bounden Duty of all to endeavour to arrest the Spread of Disease at its very Commencement. In order to attain this important Object—

1st. The most efficient Arrangements should be made by the Local Boards of Health, and other Authorities, to obtain the earliest, and most correct Intelligence of every suspicious Case which may occur within their Jurisdiction.

2nd. All unnecessary Communication should be prevented, as far as possible, between the infected and the healthy.

3rd. As Space, Cleanliness, and pure Air are of the most vital Consequence, both to the Recovery of the sick Person and to the Safety of those about him, the Patient labouring under Spasmodic Cholera should either be placed in a separate, well-ventilated Apartment of his own House, if it afford such Accommodation, and be attended by as few Persons as the Circumstances of his Case will admit, or be induced to submit to an immediate Removal to such Building as may have been provided for the Reception of Persons whose Circumstances will not afford the Advantages at Home, of Space, Air, and Separation from the healthy.

4th. When an Individual shall have been attacked with this Disease, and placed under the most favorable Conditions, as already pointed out, both for the Recovery of his own, and the Safety of the Public Health; — the Room or Apartment where he may have been attacked, and from which he may have been removed, should be purified by scrubbing, lime-washing, free Ventilation and Fumigation by heated Sulphuric Acid and Common Salt, with Black Oxyde of Manganese, or the same Acid with Nitre; or, when these Materials cannot be obtained, by strong Vinegar thrown upon heated Bricks. The Bed, Bedding, and Clothes should be immersed in Water, washed with Soap, and afterwards fumigated as above.

5th. To correct all offensive Smells, Chloride of Lime may be applied; but great Caution is recommended in the Use of this Material, its Fumes continued for any Length of Time, having been found highly prejudicial to Health, more particularly in delicate Persons.

6th. A Number of steady Men, proportionate to the District in which they are to act, should be appointed to lime-wash and purify, as ordered above, under the Direction of Medical Authority, such Apartments as may be pointed out by the Inspectors of the Local Board.

7th. Those who die of this Disease should be buried as soon as possible, wrapped in Cotton or Linen Cloth saturated with Pitch, or Coal Tar, and be

To the Chairman of the Board of Health
at

carried to the Grave by the fewest possible Number of Persons. The Funeral Service to be performed in the open Air.

8th. It is of the utmost Importance to the Public Health that an improved Diet, and Flannel Clothing, at least Flannel Belts and Woollen Stockings, should be given to the Poor. No Person should ever allow himself to sit down and get cool, with wet Feet: Indeed the most particular Attention should be paid to keeping the Feet dry and warm. Repletion and Indigestion should be guarded against; all raw Vegetables, acescent, unwholesome Food and Drink avoided. Temperance should be most rigidly observed in every thing. In short, no Means should be neglected which may tend to preserve individual Health. The Neglect of any or all of these Cautions would not of themselves produce the specific Disease called Spasmodic Cholera; but such Neglect would most assuredly dispose the Individual living in an infected Atmosphere to be attacked by this Disease, when most probably he might otherwise have escaped.

The most effectual Means by which this Disease may be prevented from extending, is to enable the Poor, who are generally the first attacked, to oppose to its Influence, as far as practicable, those Ameliorations in Diet, Clothing, and Lodging which public, and private Charity will, it is hoped, not fail to produce.

*Observations on the Nature and Treatment of the Disease, drawn up by
Drs. Russell and Barry.*

“ Of the Two great Classes of Functions performed by the Organs of which Man is composed, One only is attacked in this Disease. The Operations of the Senses and of the Intelligence are either left untouched, or are affected but in a secondary Manner.

Those Functions, on the contrary, by which Existence as a living Being is preserved; those complicated Powers, by Means of which we are for ever appropriating and converting into a Part of ourselves Portions of the Matter around us; are all and at once deranged by the Attack of this terrible Malady. Nutrition is annihilated; Respiration becomes difficult, irregular, and inefficient; the involuntary Muscles no longer perform their Task; the voluntary are drawn into Contractions by other Powers than the Will; the Blood ceases to circulate; its Physical Properties are altered; its serous Portion is suddenly thrown out upon the intestinal mucous Surface of the Body; the Secretions are all arrested; and animal Heat is no longer produced.

Under such rapidly destructive, and almost universal Derangement of Function, the most energetic Efforts should be directed to reproduce what the Disease has rendered Nature unable to keep up; viz',

- 1st. Fluidity, Heat, and Motion in the Blood.
- 2nd. Regulated Action in the voluntary, and involuntary Muscles.
- Lastly, but above every other Consideration, renewed Energy in the Nervous Centre, the Source of all Vitality and Function.

No Remedy at all approaching to the Nature of a Specific has been as yet discovered for this Disease. In fact, no One Mode of Cure can be usefully

employed under all the Circumstances of any Disease. The Grades of Intensity, and the grouping of the Symptoms with which Spasmodic Cholera makes its Attacks, vary with the Conditions of the Subject; its Treatment, therefore, must vary with these Grades and Conditions.

The leading preliminary Symptoms generally are, either Diarrhœa, Spasms, Apoplectic Vertigo with Nausea, imperfect vomiting, or various Combinations of these Symptoms.

When the Diarrhœa affords Time for distinct Treatment, it ought to be arrested at once by the most prompt and efficient Measures;—by Opium in moderate Doses; Astringents; local Bleeding by Leeches, if the Subject be plethoric; by Cordials and Sulphate of Quinine, if there be cold Sweats; by confining the Patient strictly to Bed, and keeping up Heat; by Diet; by Emetics.

Should Spasms be the first and leading Symptom, Subnitrate of Bismuth, Cupping along the Course of the Spine, Cordial, and Antispasmodic Medicines, Opium, Frictions, and dry Warmth are indicated.

But when the Patient is suddenly seized with Vertigo, Nausea, Coldness, Loss of Pulse, Blueness of the Skin, shrinking of the Features and Extremities, with more or less watery Discharges and Cramps; constituting an aggravated Case of the worst Type; whether this State shall have come on without Warning, or shall have supervened upon either, or both of the preliminary Sets of Symptoms already mentioned, Time must not be wasted upon inert Measures. Such a Patient will inevitably perish, and within a very few Hours, if the paralysed vital Functions be not quickly restored.

Let him then be immediately placed between warm Blankets; and should no Medical Person be at hand, let Two Table-spoons full of common Kitchen Salt, dissolved in 6 oz. of warm Water, be given immediately, and at once, if he be an Adult. Let dry and steady Heat be applied along the Course of the Spine, and to the Pit of the Stomach, (if no other Means be at hand,) by a Succession of heated Plates or Platters. Let the upper and lower Extremities be surrounded with Bags of heated Bran, Corn, Ashes or Sand, and assiduously rubbed with a warm Hand, and a little Oil or Grease to protect the Skin. Energetic, complete vomiting will probably be produced by the Salt; and perhaps bilious purging, with Tenesmus.

Should a Medical Man be on the Spot, a moderate Bleeding, if it can be obtained, would be desirable, previously to, or immediately after the Administration of the Salt, or of any other Emetic which may be preferred.

The extensively deranged Action of those Organs, whose Nerves are chiefly derived from, or connected with, the Spinal Marrow; the anatomical Characters found about that great Source of Vitality, after Death, in many Cases of this Disease; together with the Success stated by Dr. Lange, Chief Physician at Cronstadt, to have attended the Practice mentioned below, founded upon these Views, in Twelve out of Fourteen aggravated Cases, fully justify the following Recommendation.

In Cases such as those just described, let the actual Cautery be freely applied to One or Two, or more Places on either Side of the Spine, as if for the Purpose of forming good-sized Issues. Should the heated Iron have produced

any Excitement of the nervous Power, and the Salt-emetick have caused any Portion of the Bile to flow through its proper Duct, a great Step will have been accomplished towards Recovery from the Stage of Collapse. Cordials and Opiates judiciously administered; Sinapisms and other external Stimulants; Mercurials, with mild Aromatic Aperients, which the Intelligence and Activity of British Medical Practitioners will not fail to adapt to the actual Circumstances of each Case, will conduct the Patient safely to the Stage of Re-action.

The Organs, during the Collapse of this Disease, probably owing to deficient Vitality, often give no Indication of having been acted upon by repeated Doses of certain powerful Medicines, which under other Circumstances would have produced the most pronounced Effects. It is therefore suggested, that this temporary Insensibility of the System should not inculcate the Administration of such repeated Quantities as could, by Accumulation, when the Organs begin to recover their Vitality, give rise to unfavorable Results.

Thirst being a most distressing Symptom of this Disease, the Quality and the Temperature of the Drink should perhaps be left to the Choice of the Patient; but the Quantity taken at a Time should not exceed Four Ounces, and should be acidulated with Nitrous Acid, if the Patient will bear it.

Should the Disease prove extensively, and rapidly epidemic in a large Community, it would be prudent to establish Stations at convenient Distances from each other, where Medical Assistance and Medicines might be procured without the Risk of Disappointment or Delay. The Details of these Arrangements are left to the Wisdom of Local Boards of Health.

As the Symptoms of the consecutive Stage of feverish Re-action in Cholera differ but little, if at all, from those of ordinary Typhus, except perhaps in the greater Rapidity with which they but too often run to a fatal Termination; and as this Kind of Fever is treated in no Part of the World with more Success than in England, the entire Management of this Stage of the Disease is left to the Zeal and Science of the Profession at large.

Attentive Nursing, and assiduous, well-directed Rubbing, are of the utmost Importance; a strictly horizontal Position, however, must be maintained until the Heart shall have, partly at least, recovered its Action. An erect or even semi-erect position, during the Collapse, has been often observed to produce instant Death. Warm Baths therefore, for this and other Reasons, are worse than useless; evaporating Fluids, and indeed all Moisture applied to the Skin, seem to be contra-indicated for obvious Reasons. Hot Air Baths, so contrived as to be applicable in a recumbent Posture, and admitting Access to the Patient for the Purpose of Friction, may be of use."

I have the Honor to be,

SIR,

Your most obedient Servant,

E. STEWART, Chairman.

Revised 10/11/1867

M3/3

EXTRACT of a Letter from the Army Medical Department.

We are of opinion that the Disease called Spasmodic Cholera is infectious; but there are many circumstances which render Individuals peculiarly susceptible of the Disease, and perhaps also increase the virulence of it. These are intemperance, dwelling amidst a crowded population in small rooms and badly ventilated, unwholesome food, deficiency of clothing, of bedding, and of fuel; therefore the object of preventive measures should be:—

- 1st.—To prevent the introduction of the Disease into the Barracks.
- 2nd.—To render the Soldiers, as much as possible, unsusceptible of the Disease, and to expose them as little as possible to the infection of it.

The first object might be obtained completely by cutting off all intercourse between the Barracks and every place where Cholera prevails; but as this is impracticable, all that can be done is to restrict the intercourse between the Soldier and the Civil Population, so far as may be practicable;—therefore, so soon as it shall be known that Cholera has appeared in the Vicinity of a Barrack, no Soldier should be allowed to leave the Barrack, except upon duty; and the Wives and Children of Soldiers, residing in Barracks, should not be allowed to go out of the Barracks on any account. The Wives and Children of Soldiers, residing out of the Barracks, should not be allowed to enter the Barracks, nor should any Female be allowed to enter to the Soldier. Itinerant Pedlars, and Beggars, should also be prohibited.

The regular Barracks being in general well built, and the rooms being of good dimensions, capable of being kept at a proper temperature by good fires, and at the same time properly ventilated, and the Soldiers being well fed and clothed, there is but little danger of their contracting the Disease; but during the prevalence of Cholera, so far as circumstances will admit, the Soldiers, during a march, should sleep in large Barns or other Buildings, instead of Billets, and should have each clean fresh straw and two blankets.

Infection is also to be dreaded by means of the Women who live out of the Barracks, who generally lodge in dirty Apartments, and are badly supplied with bedding, clothes, and fuel; we would therefore suggest, that their Lodgings be frequently inspected, or that Houses should be taken for them, they paying towards the expense of the rent the sum they are accustomed to pay for Lodgings.

The clothing of the Soldier is of such good quality, and cleanliness is so generally observed personally, and in the Barracks, that we have little to remark upon the subject, except to recommend that worsted stockings should be worn during the Winter.

Suggestions

Suggestions from the Army Medical Board, for obviating the appearance of Spasmodic Cholera among the Troops, grounded on various Circular Communications and Correspondence which have passed with Staff and Regimental Officers.

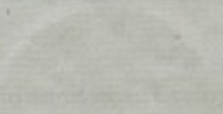
- 1st.—That extraordinary attention be at this time paid to the personal cleanliness of the Men, and of their Quarters and Barracks, more especially of the temporary Barracks hired or supplied, which are generally situated in the middle of crowded Towns, and where ventilation is very imperfect, and that strict attention be directed to the Instructions for the management of Regimental Hospitals on this subject.
- 2nd.—The utmost attention should be given to the drains, dust-holes and privies; into the latter Chloride of Lime should be thrown daily.
- 3rd.—That damp and moisture be most sedulously avoided; that as soon as possible after the Soldiers getting wet, care be taken that they change their clothes.
- 4th.—That instead of washing the floors of Barrack Rooms, dry rubbing be always had recourse to, as pointed out in the Book of Instructions.
- 5th.—That no Parade be permitted during the Winter Months, before the Men get their Breakfast.
- 6th.—That special attention be paid to the diet of the Soldier, that Coffee or something warm be always given him before he goes out on morning or night duties; and smoking should be allowed to all who like it, or are accustomed to it.
- 7th.—That especial care be taken in the cooking of victuals, particularly of vegetables; the chief vegetables for Soups should be leeks, onions, and barley; potatoes well boiled may be used, but fruit of every kind should be forbidden; the quality of the table beer requires to be attended to, as well as the porter, ales, and spirits sold at the Canteens.
- 8th.—Intemperance, and remaining out at night, are among the chief of the predisposing causes to this disease, and must be most particularly guarded against.
- 9th.—Provision should be made, that, on the appearance of the disease, all the women and children of a Corps be accommodated in the Barrack, or some neighbouring

neighbouring Building, by which means all intercourse, as far as possible, would be closed between the Inhabitants of the Town and the Soldiery.

- 10th.—As it has been found, that on receiving medical aid in the very first stage of the Disease, success in the treatment mainly depends, that the very first appearance of illness of a Man, Woman, or Child, be immediately reported to a Medical Officer.
- 11th.—At the Morning and Evening Parades, that a strict Inspection of the Men be made by the Medical Officer, and any Man of a sickly or suspicious appearance be placed under observation. An apartment in the Hospital should be set aside as an Observation Ward in Winter; in Summer a Marquee may be appropriated to this purpose.
- 12th.—That farther, there should be regular Inspections of every Woman and Child, as well as Officers' Servants, Cooks, Orderlies, Followers, and in short of every Individual attached to a Corps, they being the most likely to carry infection.
- 13th.—The personal washing, and washing of Clothes, should, as much as possible, be done either in the open air, or in rooms appropriated for the purpose, for moisture in the Barrack Rooms should be avoided as much as possible. The Bedding should be shaken but not exposed to the open air in Winter.
- 14th.—Attention to be directed to His Majesty's Order, in the Book of Instructions for Regimental Hospitals, on Contagious Diseases, on extraordinary Sickness, Inspection of Barracks and Quarters, Ventilation and Fumigation. On requisition, each Corps or Detachment will be furnished with a supply of Chloride of Lime, with Instructions for its use.
- 15th.—The boundary outside the Barrack wall, and road leading to the gate, should be cleaned every day by the Troops.



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Received 20th January

MB/4a

Circular

Horse Guards,
29th December 1831.

Sir,

I have the honor to transmit to you the enclosed extract of a Letter from the Principal Officers of the Army Medical Department, and as the General Commanding in Chief perfectly concurs in the propriety of the suggestions therein contained, it is Lord Hill's desire that they may be carried fully into effect in every quarter in which the local circumstances will admit of such arrangements.

I have the honor to be

Sir,

Your most obedient
humble servant,

J. M. Gordon
J. M.

Officer Commanding
Regt. 33rd Regt

Received by Henry

M3/46
(attached to M6/4a)

Extract of a Letter from the Principal Officers
of the Army Medical Department.

In the regulations for the prevention of Cholera amongst the Troops, which we had the Honor to submit for the consideration of Lord Hill on the 13th Instant, we mentioned that danger was to be apprehended from intercourse between the Servants of Officers and the Inhabitants of Towns infected with Cholera; on reflection, we think that these persons, from various causes, are particularly likely to contract and to convey Infection; we therefore feel it our duty to bring the subject specifically to the notice of Lord Hill, and to suggest, and to recommend most earnestly, that so soon as it shall be ascertained that Cholera has made its appearance, in any place in the vicinity of a Barrack, that the Servants to Officers should be subject to the same restrictions as other Soldiers; we also beg leave to suggest that Tradesmen and their Servants should not be permitted to enter the Barracks, but that the Sergeant of the Guard, or a Non-Commissioned Officer, appointed for the purpose, should receive and send either to the Mess Room, or to the Officer's Rooms, Letters or Parcels, or Articles of Provision that may be brought to the Barracks; and that all Letters or Parcels for the Town should be returned in the same manner. —

Apr 2

Worcester Guards 29 Decr 1831

Circular enclosing Rem^y
from Board of Health
regarding
Cholera

Recruits of the 33rd Foot

M3 / 5

Horse Guards,
5th January 1832.

Circulars

Sir,

The General Commanding in Chief considering it highly desirable that every possible precaution should be adopted to prevent the introduction of Cholera among the Troops, I have it in Command to desire, that, in the case of Recruits, the utmost care may be taken to obviate the chance of their conveying infection into the Barracks, by their Apparel, or otherwise. —

With this view, on their joining, they should be immediately taken to the Hospital, duly inspected, and thoroughly cleansed, supplied with proper Clothing, and, if the Barrack affords sufficient means, they should then be placed in a separate Apartment or Building, for the space of Three Weeks, at least, and not permitted, during that time, to associate, further than may be absolutely necessary, with the rest of the Corps. —

The Wearing Apparel, in their possession when they enlist, should be fumigated, and afterwards carefully washed, unless it be deemed advisable, with the consent of the Owner, to destroy it altogether.

Lord Hill trusts that these Instructions will be strictly attended to, and the safety of the Troops thereby insured, as far as depends upon the exertions of every Officer in Command. —

I have the Honor to be,

Sir,
Your most obedient
humble Servant,

Officer Commanding
Regt Co's 33rd Foot

J. M. Macdonald
J. M.

103
No. 3
Circular dated Howlands
5th January 1852
Regarding Asiatic
Cholera

Army Medical Department,
12th March 1832.

Sir,

You will receive herewith a copy of Instructions issued by order of The General Commanding in Chief, dated 17th December 1831, on the subject of Cholera, to which you are enjoined to pay strict attention, and as it is of consequence to be prepared for this formidable disease, you will, so soon as you shall hear that Spasmodic Cholera has made its appearance amongst the Civil Population in your Neighbourhood,

1st - Request your Commanding Officer to make application to the Barrack-Master to hire a House as an Hospital for Cholera Patients; - if the Barrack-Master is unable to comply, then the Application should be made to the Ordnance Department, forwarding a copy of your Application to The Director General -

But in the mean time, until a House can be procured from the Department specified, application must be made for a Barrack-room, in which you will place such ordinary cases of Sickened as can be treated therein with safety, and appropriate a Ward in the Hospital for the Cases of Cholera, using your best discretion that the same shall be as detached as possible from the other Patients, and to be kept distinct and separate -

2nd - The Kalkieses & Bedding will be taken with such Patients to the Cholera Ward, - vide Paragraph C.

3rd - Application should be made to your Commanding Officer to have in readiness, an intelligent Non-Commissioned Officer to act as Steward, with a proportion of Orderlies for this duty, to be paid according to the Circumstances as may hereafter be reported and decided upon, understanding however that no issue of Pay can take place until they have been actually employed. -

4th - A certain number of Beares on the appearance of Cholera, should be applied for to this Department, and Enquiries may be made as to the practicability of hiring a Horse and Covered Cart for the conveyance of Cholera Patients to Hospital. -

5th - The utmost attention should be given to the Drains, Dust-Holes & Privies. - Application should be made to the Barrack-Department, who have received the necessary Instructions to issue Chloride of Lime, where Cholera is prevailing. -

6th - The Clothing and Bedding of Cholera Patients must be either thoroughly washed and fumigated, or destroyed. - On the statement of the Circumstances as they occur, to this Department, special directions will be afterwards

D. Mazarin given -

Asst. Surgeon
33rd Foot
Dudley.

Yth

- 7th As it is probable that Cholera may be communicated to healthy persons by means of Effluvia emanating from the dead Bodies of those who have died of that disease, also by means of the Clothes worn, and Bedding used by such Patients. We have to request that you will take care that the Bodies of Soldiers who shall die of this disease be sprinkled immediately after death with a strong solution of Chloride of Lime, and then wrapped in a coarse sheet, matted or steeped in a strong solution of Chloride of Lime, which should be repeated in the Dead House (to which the Body should be immediately conveyed) and especially at the time the Corpse is consigned to the Coffin.—
- 8th We also recommend that the funeral of such Cases should take place at a very early period after decease, and that the Coffin should not be carried to the grave on the Shoulders of Soldiers, but should be carried in a Covered Cart.—
- 9th In fatal Cases the Clothes and Bedding which may have been used should be destroyed.—
- 10th The Memorandum from the Adjutant General's Office, dated 5th January last, in regard to the Clothing &c of Recruits and Deserters to be carefully attended to.—
- 11th We shall confidently look to you to be informed as to the earliest appearance of Cholera, or any suspicious disease, either in your Corps or Neighbourhood, and to continue daily reports until Counter-manded
- 12th When this takes place you will immediately make a Requisition for such Materials for fumigation and purification as you may be in want of, and lose no time in completing your Equipment of Bedding and Medicines suited to the emergency.—
- 13th The decision on the admission of Women and Children into Hospital when labouring under Cholera has not yet been received from Head Quarters, but will be communicated so soon as it shall arrive.—

We have the Honor to be,
Sir,
Your most obedient
Humble Servants

J. M. G. W.
W. V. R. K.

Asst. Department
No. 4 - March 12 1852
Circular regarding
Cholera

Circular.

M3/7

Horse Guards,

9th July 1832.

Sir,

I have the Honor by direction of the General Commanding in Chief, to transmit to you the enclosed Copy of a Communication which has been received from the Army Medical Department, relative to the precautions to be adopted at the present Season in regard to Cholera, which is reported to be unfortunately prevalent in many Districts; and I am to signify Lord Hill's desire, that you will use your best exertions in carrying into effect the suggestions of the Medical Department, which appear to His Lordship well adapted to answer the intended purposes, and to preserve the Health of the Troops.

I have the Honor to be

Sir

Your most obedient,
humble Servant,

John Macdonald
A.S.

J. Hall Esq.

Surgeon

33rd Foot

Weedon—

125
Apr 5
Horse guards 9 July 1832
+
am. Depart June 1832
Circulars regarding
Cholera -

Copy.

Army Medical Department,
June 1832.

Sir,

We have the honor to submit for the consideration of Lord Hill, that it appears by the daily reports issued by the Central Board of Health that Spasmodic Cholera is no longer reported as existing in London, or at Sunderland, Newcastle, or many other places where it prevailed some time ago; however it seems to us that doubts may be reasonably entertained of its having ceased in London, since well authenticated cases of Spasmodic Cholera, and these of a virulent nature, are still reported to have recently occurred by respectable Medical Journals, - and in Glasgow, where it was reported by Authority to have ceased, it is now admitted to have re-appeared, and apparently with unabated violence; in Edinburgh too, and many other Towns in Scotland it continues to rage with undiminished mortality, one out of every 2 persons attacked having fallen victim to it. - It is extending its ravages over various parts of England, as at Leeds, Liverpool, Chester, Stockport, Manchester, Carlisle, the Isle of Ely &c, &c, and the proportion of deaths to those attacked is fully as high as it was on its first appearance in England, which seems to indicate that the disease had not diminished in malignity.

Taking into consideration, that this disease originated in the East Indies, where the temperature is high, and that it has never been extinct there, since its first appearance in the year 1818, and coupling this with the insidious nature of the disease, and with our imperfect knowledge of the causes of it,

To
Major General
Sir John Macdonald,
Adjutant General &c &c &c
Horse Guards. -

it

it - it seems prudent to suspect that it may spread widely in Autumn, and may re-appear in places where it at present seems to have declined, and perhaps with increased violence, as by reference to the many valuable reports from the three Inspectors General in India we find this to have occurred there during the last fifteen years.

This too seems very probable from the fact which is generally admitted, that Fluxes and other disorders of the bowels frequently precede Spasmodic Cholera, and it is well known that these are more prevalent in Great Britain in the Autumnal season, than at any other - they are usually mild, and when properly treated, not dangerous, but under existing circumstances they may degenerate into Spasmodic Cholera.

Influenced by these considerations, and being desirous that Soldiers should be rendered as unsusceptible of this disease as possible, we beg to suggest, that strict attention may continue to be directed to the Diet of the Soldiers, particularly to the quality of the Spirits and of the Malt liquor which they drink, in order to ensure that they use only what is of good and sound quality - They should be restricted as far as may be practicable to the Barrack Canteen, and measures should be adopted to provide the Canteen with Ale & Porter of good quality, - with this view proper persons should be appointed to taste all the liquors which are for sale at this place, and every Cask of Malt liquor which shall be found of bad quality, should be returned to the brewer, but as it is difficult in hot weather to find Porter and Ale which is not somewhat acid, the acidity should be corrected by means of Chalk, or Carbonate of Soda, or some other corrective - In Cider countries great attention should be paid to the quality of this article. - In regard to Spirits, it would be desirable that the Soldier should abstain from the use of them altogether - but as this is impracticable, the Spirits sold in the Canteens should be of good quality, which, if properly diluted, and drunk

in moderate quantities will be less injurious—

As Crude Vegetables, and unripe Fruits, such as Cucumbers, Cherries, Plums, and Peas, especially when eaten in large quantities, often produce bowel complaints in Autumn, Soldiers should be admonished to eat cautiously of these articles, and those of bad quality should be excluded from the Barracks—The Soup should be well seasoned with pepper & onions—Roast or Baked Meat might be usefully substituted twice in the week for Soup and boiled Meat—Pork should be interdicted during the hot weather of Autumn, and all kinds of stale Fish, particularly large Crabs, Lobsters and Eels.

It may be proper to advert to the treatment of Spasmodic Cholera, and we regret to say, that when the stage of exhaustion and collapse has taken place, Medical art has little power over the disease, but it is now generally admitted by persons of experience, that there are certain premonitory symptoms which frequently precede an attack of Cholera, such as bowel complaints of various kinds; fortunately, these if treated promptly and judiciously, are easily removed, and we are warranted in asserting, that Spasmodic Cholera may be thus very often prevented.

We have therefore directed the Medical Officers in charge of Corps to endeavor by frequent health Inspections, and by all other means in their power, to discover bowel complaints on their very first appearance, and we beg leave to suggest, that for the purpose of aiding the Medical Officers in this important duty, the Commanding Officers of Regiments and Detachments, should be directed to explain to the Men the security to be obtained by regularity in diet, and the benefit to be derived by reporting themselves on the first appearance of any disease of the bowels, and the great risk which is incurred by concealment.

The Non-commissioned Officers should be directed to be vigilant, and if they observe any Soldier to go frequently to the Privy, particularly in the night time, he should be forthwith reported to the Surgeon.

In conclusion we beg leave to bring under the notice of Lord Hill, what we doubt not will be very gratifying to His Lordship, that although nearly twelve months have elapsed since the first appearance of this formidable disease in Britain, not a single Soldier, Soldier's wife or Child of the Line, has been attacked with the disease, until a few days ago, when a fatal case was reported in a Corps recently arrived from Ireland, in which the disease prevailed while in that Country. In making this statement it has not escaped us that two Cases have been reported in the 1st or Royal Regiment, but these admit of satisfactory explanation, and form no exception.

We have no doubt that the same favorable result would have followed had it been possible to have confined to Barracks the Soldiers Women and Children of the Guards.

We bring this remarkable fact under the notice of Lord Hill, as evincing the fully beneficial effect of His Lordship's Orders on this subject, and the correctness with which they have been carried into effect; and we are now induced to entreat that no relaxation whatever may be yet permitted in the rigid execution of those Orders, as we feel justified in the conviction, that if strictly adhered to, the same happy exemption of the Army which has already been gained, may be expected to be continued to them.

We have the honour to be

Sir
Your Obedient Servants

Signed) J. M. Grigor
W. Franklin.

Circular.

Army Medical Department,
12th July 1832.

Sir,

Under the firm conviction that the Instructions conveyed in the General Order dated Horse Guards, 17th December 1831, have been highly conducive to the preservation of the Troops from Spasmodic Cholera, and under the impression that this formidable disease prevails with unabated virulence in many parts of the United Kingdom, and is rather extending than declining, we felt it to be our duty to bring the subject under the consideration of The General Commanding in Chief, who has been pleased to issue a Circular bearing date the 9th Inst. — To this Circular we have to direct your most pointed attention, as well as to the former Circulars on this important subject, particularly to those parts which relate to Diet, to Health Inspections, and to vigilance in detecting and reporting immediately all Soldiers and others who may be suffering under Looseness, Fluxes, or other diseases of the bowels.

We have to request that you will use every means in your power to obtain early information of the appearance of Cholera amongst the Inhabitants in any place where you may be stationed, as there is reason to suspect that it has frequently prevailed for some time in many places before it has been officially admitted to be Spasmodic Cholera. —

Whenever you shall have cause to believe that Spasmodic Cholera has appeared, you will, without waiting for its being officially announced, state your opinion and

To
J. H. H. Esq.
Surgeon 33rd Foot
Weldon

The

the grounds thereof in writing, to your Commanding
Officer, and to the Director General -

We attach much importance to the early
treatment of this disease, and we consider
Looseness - Flux, &c, to be very often premonitory
symptoms of Spasmodic Cholera, and we think
that these diseases may be easily cured, and that
Spasmodic Cholera may be thus prevented, -
whereas, when it has assumed its more formidable
character, we regret to state that all remedies
hitherto tried seem to have failed.

With reference to the Annual Report and
Return of Cholera required from you in our letter
of 30th June 1832, we beg to call your special
attention to two of the modes of treatment more
recently proposed in this disease, which you will
see in some of the Public Journals, particularly
in the Medical Gazette, viz. The Internal use
of Saline substances, and the injection of them
into the Veins. -

On requisition you will be furnished
with an additional pipe to Reid's Syringe,
by which the Injection may be performed.
In doing this we need scarcely add that great
attention and delicacy are required in the
operation, as well as in selecting proper
cases for it, which we beg may be fully
detailed in the Annual Reports on Cholera -

We have the honor to be,

Sir,

Your Obedient Servants,

J. M. S. M.

W. W. W.

Army Medl Depart^t
No. 12 July 1832
Circular regarding
Cholera

Circular.

M3/10

Army Medical Department,

30th June 1832.

Sir,

Assuming the 1st September to be the period at which Cholera Spasmodica first made its appearance in this Country, and being desirous to have the most complete historical Account of the origin and progress of this Complaint in the Army, We have to desire that you will make out a Monthly Abstract of all the Cases which have occurred in the Coops under your Superintendance from the above date to 30th August of the present year, according to the following form. —

Date	Cholera Simplex		Cholera Spasmodica or Indiana		Diarrhoea		Colica		Total Sick
	Treated	Died	Treated	Died	Treated	Died	Treated	Died	
1 st Sept. to 1 st Oct.									
1 st Oct. to 1 st Nov.									
Total									

A. Hall Esq. A similar tabular view will be required of
Surgeon
33rd Foot
Weedon

of the Cases occurring among Officers,
Women and Children -

Along with this we shall expect
a Report on the probable Causes, - the
Symptoms, - treatment, and Contagious
or Non-Contagious nature of the
Malady, with such remarks, as not
only your own experience, but that
of your Medical Brethren in Civil
Life may enable you to supply -

We have the honor to be
Sir,

Your most obedient
Humble Servants,

J. M. G. W.
W. G. W.

Army or Department

1832 30th June 1832

no 7

Circular regarding
Cholera

M3/11

INSTRUCTIONS
TO
ARMY MEDICAL OFFICERS,
FOR THEIR GUIDANCE
ON THE APPEARANCE OF
SPASMODIC CHOLERA
IN
THE UNITED KINGDOM.

War Department, 1856.



LONDON :
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY,
FOR HER MAJESTY'S STATIONERY OFFICE.

1856.

INSTRUCTIONS

ARMY MEDICAL OFFICERS

FOR THE PREVENTION

OF SPASMODIC CHOLERA

IN THE UNITED KINGDOM

1817



PRINTED BY GEORGE & SONS, ST. MARTIN'S LANE, LONDON.

THE NEW METHOD OF PREVENTING

A 2

INSTRUCTIONS

As Asiatic Cholera may now be considered one of the diseases of Europe, it is necessary to be prepared with a digest of the prophylactic measures to be observed in the Army should the malady again make its appearance in this Country.

The following Regulations, duly observed, will ensure the practice of all the more important measures;—many others of a minor and subordinate kind will readily occur to Medical Officers, should the occasion arise to put them in force.

These Regulations are to be considered as General Orders, and are to be observed as such by all Persons to whom they may apply:—none of them are to be modified or disregarded, unless special reasons shall exist for so doing, and not even then, without the consent of the Director-General, unless the delay which would be necessary to obtain that sanction, should be likely to occasion injury, either to individuals or the public. In the event of there being reason to anticipate such result, the alterations considered necessary may be effected, but their nature and extent must be immediately reported by the Medical Officer who adopts or advises them.

INSTRUCTIONS.

When Cholera shall have been officially reported to be prevailing in the Country, but distant from Military Stations.

1. Medical Officers will exercise more than common vigilance in the discharge of their professional duties; they will devote more than ordinary attention to the interior economy of their corps, the constitution of the men, and to every circumstance, however remotely affecting their health.

They will be expected to be cognizant of every military arrangement involving the health of the troops, and to put themselves in communication with their Commanding Officers on any alteration or arrangements in the ordinary duties, which they may consider beneficial or likely to afford greater security.

2. Every possible precaution must be taken to guard against intemperance, crowding in small ill-ventilated rooms, use of unwholesome food, deficiency of clothing, bedding, fuel, &c.; and if found to exist, measures must be taken to correct or remove them.

3. Medical Officers are to attend the ordinary parades, and observe the health of the men, without exciting suspicion.

4. Great attention to personal cleanliness is to be enjoined, and the men cautioned carefully to avoid unnecessary night exposure and damp, and to change their clothes when wet.

5. Especial care is to be observed in the cooking of vegetables; and lamb, pork, and stale fish interdicted.

6. Roasted or baked meat is to be provided twice a week, instead of boiled meat.

7. Drains, dust-holes, privies, and the removal of accumulated filth, are to be specially attended to.

8. The Barrack bedding is to be aired daily, but not in the open air in winter; and great caution should be observed as to the perfect dryness of fresh supplies.

9. As attacks of the disease seem to be frequently determined by exposure to wet, damp, unusual intemperance, and other irregularities, every means should be taken to prevent such.

10. At this period all ailments, particularly Diarrhoea, require the strictest attention; and the Commanding Officer should explain to the men the importance of immediately reporting themselves, when they feel in any way unwell.

11. Where there is any suspicion of the approach of Cholera, immediate steps are to be taken to establish a separate ward in Hospital, to which every case not strongly marked is to be sent on admission.

12. An abundant supply of Hospital bedding, dresses, and medicine, is to be kept in readiness.

When the Disease has appeared among the Military of a Station, or the Inhabitants in its immediate vicinity.

13. The avoidance of all unnecessary alarm cannot be too strongly enjoined; and it is hoped that Medical Officers, by their own example, will endeavour to allay apprehension in those suffering from, or in any way connected with, the disease.

14. On the appearance of Cholera in a corps, health inspections are to be made at morning and evening parades, and a daily inspection of every individual attached to the Regiment.

15. Each soldier is to be provided with two Cholera belts, as part of his necessaries. Flannel waistcoats, if thought necessary for individuals, are to be provided at their own expense.

16. Married men (if out of mess) should each be provided with a ration the same as the single men; and it is

also desirable, in Barracks in which the disease exists, that the women and children should have sufficient and regular meals.

17. Soldiers should be cautioned against intemperance; and drunkards and all men of weakly or susceptible habits, should be limited to a certain quantity of liquor at the discretion of the Medical Officer.

18. As a precautionary measure, but particularly in infected localities, drills, parades, and duties generally, should, as much as is consistent with discipline, be reduced, and favourable hours and weather chosen for them; but above all, the number of sentries, especially at night, should be diminished so that in no case shall the men have less than three nights in bed.

19. Good fires are to be provided in the Barrack rooms, to increase ventilation, and to diffuse a cheerfulness,—which last should be promoted in every way.

20. Coffee or warm drinks are to be provided to the men before morning and night duties. A hot evening meal enforced, and breakfast, if possible, supplied at the usual hour to every man before leaving his Barrack room.

21. In the event of the appearance of Cholera among the Civil population in the neighbourhood, the troops should be confined to Barracks, and all intercourse prevented. When the disease prevails in a corps, it may be found beneficial to encamp it—a proper site being selected for the purpose—should the season of the year admit of such a measure being carried out.

22. During confinement to Barracks, the minds of the men should, as much as possible, be amused and occupied; and, under proper regulation, occasional marches into the country, and trap-ball or other games in an adjoining field, permitted.

23. Officers' servants are to be under the same restrictions as others, and no person from the town should be admitted into Barracks.

24. If practicable, a considerable reduction of the numbers in Barrack should take place, as well to insure a purer atmosphere and more thorough ventilation, as to make room for the accommodation of women and children, and if necessary, for a temporary Hospital, or Observation Ward. Over-crowding, under any circumstances, is to be avoided.

—great attention paid to cleanliness and ventilation, and the floors and passages should be dry rubbed—not washed.

25. Personal washing, and that of clothes, is to be done in sheds or store-houses appropriated for the purpose, and not in the Barrack rooms.

26. The quality of the beer to be used by soldiers, is to be ascertained by a competent person, and the acid in porter or ale corrected by chalk or carbonate of soda.

27. Where Cholera is present in the neighbourhood, the women and children are to be accommodated in Barracks, or a house hired in the vicinity, and to be put under similar restrictions as to intercourse. Where this cannot be done, soldiers with their families who are permitted to live out of Barracks, are to be excluded therefrom, or placed in a temporary Barrack until it is considered safe to admit them—their quarters during this separation being frequently inspected.

28. Where a house is hired for the women, they may be required to pay their usual rent, and for coals supplied by Government at prime cost.

29. Diarrhoea either as precursory, co-existent, or prevailing by itself, should as a measure of safety, be regarded as closely allied to Cholera; and where Bowel Complaints prevail in a corps stationed in an infected district, a spare room should, if possible, be set apart for the accommodation of the healthy of any room that may become unusually subject to that complaint; and the room thus vacated must be whitewashed, cleansed, and fumigated, so as to be ready for any similar occurrence. This applies still more strongly where Cholera actually exists in a corps. Cases of common Cholera are to be removed to the Observation Ward.

30. The Regimental Hospital is to be appropriated to the treatment of Cholera, and the ordinary cases of sickness should be accommodated in Barracks; or where this cannot be done, in a hired house, the authority of the Director-General for the latter arrangement being previously obtained.

31. The appearance of Cholera in places where troops are stationed is immediately to be reported to the Director-General, without waiting for it being officially announced by the Local Board of Health.

32. From the moment that a case of common or Spasmodic Cholera occurs, a daily Report is to be forwarded to the Director-General until further orders.

33. A full Report of each case among the troops, with detail of previous habits, intercourse, diet, exposure to cold, wet, &c., and other particulars, is to be forwarded to the Director-General.

34. Daily Reports of the progress of Cholera among the Civil population where troops may be stationed, will be required from Medical Officers.

35. Cases among women and children in Barracks are to be admitted into Hospital; those in Quarters to Civil Hospital, under such Regulations as may be adopted in parishes; for the former a separate ward, or Barrack room, is to be held in readiness.

36. Cases amongst the troops of the East India Company are to be admitted into Hospital, as also those persons specified in the Hospital Regulations as entitled to medical attendance.

37. Medical Officers are to visit their Hospitals frequently, and to state the hours of visit in the Monthly Sick Report. They will be required to be always available for any sudden call of the Service; and, when Cholera prevails in the corps, they are not to leave the Barracks, except on imperative duty.

38. Smoking to those habituated to the indulgence may be permitted.

39. Corpses are to be removed to the dead-house without delay, buried as soon as possible, and conveyed in a covered cart—not on men's shoulders.

40. *Post mortem* examinations are not to be discontinued, but performed under such modification as the occasion will readily suggest.

41. Bodies of patients dying of Cholera are to be sprinkled with chloride of lime, and wrapped in a coarse sheet steeped in a strong solution of the same; and some of the powder should be put into the coffin.

42. In infected places, Divine Service should preferably be performed in Barrack, instead of the troops being marched to Church.

43. The old clothes of recruits are to be washed and fumigated; or if necessary destroyed, and new clothes issued.

44. The clothes and bedding of Cholera patients are to be immersed in cold water for forty-eight hours, then washed and steamed in boiling water, and dried in the open air.

45. The place whence a patient is taken is to be thoroughly washed, the bedding and bedstead removed, and fumigation made by chlorine gas, if possible; if not, by nitric acid gas or fumes of vinegar.

46. The Barrack bedding is to be removed with Cholera or suspicious cases to the Hospital, or Observation Ward.

47. Deserters, recruits, and men from escort or furlough, on rejoining, should be separated from the other soldiers for a period varying from seven to twenty-one days, according to circumstances.

48. Attention is called to Her Majesty's Orders, in the Book of Instructions for Regimental Hospitals, on Contagious Diseases, extraordinary Sickness, Inspection of Barracks and Quarters, Ventilation, and Fumigation.

49. For the purification of drains, privies, clothes of recruits, &c., chloride of lime will be issued by the Ordnance Department, on the requisition of the Commanding Officer.

50. Bearers are to be applied for to the Ordnance Department, and a horse and covered cart hired for the conveyance of the sick, should the distance from the Hospital require it.

PANMURE.

WAR DEPARTMENT,
18th June 1856.

APPENDIX.

THERE being reason to fear Cholera may shortly re-appear in this country, the Medical Officers of the Army are recommended to prepare for the probable event, by carefully studying the best works on the disease, in order that they may hold available all the useful information extant in reference to it.

As many will have to treat the malady, should it re-appear, who had no experience of it during its first visitation, it has been thought advisable to furnish a short account of its progress and consequences on that occasion, as they were observed amongst the troops which were then quartered in Great Britain and Ireland. And it has further been deemed necessary to supply, for the use of Officers who may not have an opportunity of consulting the various works which have been published, a series of extracts bearing on the treatment of the disease.

The following Table shows the prevalence of this disease, and the mortality consequent thereon, among the troops in Great Britain in each of these years:—

Great Britain.	Strength of Troops.	Cases of Cholera.	Deaths.	Ratio per 1,000.		Proportion of Deaths to Admissions.
				Admitted.	Died.	
1832	22,066	174	60	7·9	2·7	10 in 29
1833	21,321	51	19	2·4	·9	10 in 27
1834	19,251	27	7	1·4	·4	10 in 38
Total	62,638	252	86	4·	1·4	10 in 29

The number of admissions and deaths in each Regiment will be found detailed in TABLE IV.

For the purpose of estimating the relative prevalence of and mortality by Cholera among the military and civil population, TABLES II. and III. have been compiled from "a Summary of the Daily Returns sent to the Central Board of Health from 422 places in Great Britain," as published by Dr. Merriman in the 27th volume of the *Medico-Chirurgical Transactions*.

From these it appears that in the principal towns in which troops were quartered in Great Britain in 1832, among a population amounting to 3,159,669, there occurred, during the epidemic of that year, 42,445 cases of Cholera, whereof 17,983 died, being in the ratio of 13·4 and 5·7 per 100 respectively. As the population of those towns only in which the disease prevailed has been included, it is obvious that to form a correct estimate of its relative influence, these results should be compared, not with the ratios calculated on the aggregate force serving in Great Britain, but on the aggregate strength of those corps only in which cases occurred. This amounted to 124,766, and the admissions being 174, and deaths 60, the ratios will consequently be 14 and 4·8 per 100 of the strength. Thus it appears that Cholera was slightly more prevalent in the regiments which were affected by it, than among the civil population, but was less fatal in its character; the proportion of deaths to cases among the former being 10 in 29, and among the latter 10 in 24. This apparent greater

PART I.

History of the Cholera, as it appeared among the Troops quartered in Great Britain and Ireland, during the Years 1831, '32, '33, and '34.

During the summer and autumn of 1831, bowel complaints were unusually prevalent and severe, both among the military and civil population, and several cases closely resembling Spasmodic Cholera were reported to have occurred. The first unequivocal case of the disease, however, appeared at Sunderland, on the 26th October, though not officially notified by the Local Board of Health to the Central Board in London till the 1st November.

The first recognized case among the troops in Great Britain occurred in the 3rd Light Dragoons, at Piershill Barracks, near Edinburgh, on the 2nd January 1832; and the second in the Grenadier Guards at Knightsbridge Barracks, London, on the 30th January. No farther case occurred among the military till March, when seven admissions and four deaths were reported in the Coldstream Guards in London. From this period the cases gradually increased, occurring in different corps throughout the country, till the disease reached its maximum in August, when the admissions amounted to 71, and the deaths to 32. It then rapidly subsided, and in November the troops in Great Britain were entirely free from it. In December it again broke out in Portsea, and several cases occurred in that and the following month. The admission and deaths in each regiment and at each station in Great Britain during 1832, will be found in TABLE I, from which it appears that the greatest number of cases occurred in London, Plymouth, and Glasgow.

In 1833 and 1834 Cholera continued to appear occasionally among the Troops, but was chiefly confined to those quartered in the large towns, where it still prevailed among the civil population; the majority of the cases having occurred in London, Manchester, Exeter, Portsmouth, and Sheerness.

prevalence, however, probably depends on the circumstance that all cases of the disease among the soldiers must necessarily have been reported, while there were no means of enforcing this among the civil population, or of ascertaining the extent of the omissions. The lower rate of mortality may be fairly attributed to the advantages enjoyed by the soldier, and particularly to the prompt application of remedial measures early in the disease.

Among the troops in Ireland the first case reported was that of a man of the 59th Regiment at Enniskillen on the 22nd February, 1832, but it is very doubtful whether this was any more than a severe case of British Cholera. The first undoubted case of the disease occurred on the 10th April in the 28th Regiment at Dublin, and proved fatal. Cholera then spread rapidly over the country, and in June the cases amounted to 212, of which 51 died; in July, to 140, and 41 deaths; but in August the admissions fell to 76, and the deaths to 20. The disease continued to prevail, though in a less degree, during the remainder of the year, and also in 1833 and 1834.

The following Table shows the admissions and deaths by it among the troops in Ireland, in each of those years:—

Ireland.	Strength of Troops.	Cases of Cholera.	Deaths.	Ratio per 1,000.		Proportion of Deaths to Admissions.
				Admitted.	Died.	
1832	23,517	712	173	30	7.3	10 in 41
1833	21,293	172	52	8	2.4	10 in 33
1834	19,336	127	54	6½	2.8	10 in 24
Total	64,146	1,011	279	1.7	4.3	10 in 36

The number of cases and deaths in each Regiment, will be found detailed in TABLE V. From the numerous detachments, the repeated changes of quarters, and the frequent escorts, it has been found impossible to trace with accuracy the prevalence of the disease at each military station in the same manner as in Great Britain. The places in which it prevailed to the greatest extent among the troops were Dublin, Clare Castle, Limerick, Fermoy, Naas, Templemore, Castlebar, Mullingar, and Drogheda

The regiments which suffered most, were the 68th, the head-quarters of which were stationed in Clare Castle; and the 27th, in Limerick and Fermoy. In the former corps 112 cases, and 23 deaths; and in the latter 100 cases, and 17 deaths, occurred in 1832.

The history of the epidemic in the 68th Regiment, is interesting and instructive. The first case was that of an officer's servant, who was attacked on the 9th of June, in Clare Castle. The disease immediately spread with frightful rapidity, and on the 17th it was deemed advisable to remove the troops from the Castle, and encamp them on the heights of Carnely, about a mile distant. This measure was attended with the most beneficial results; no case having occurred after the 20th. During the twelve days from the 9th to the 20th of June, out of a strength of 251 at head quarters, 96 were attacked, and 18 died; 16 cases occurred among the women, all of which recovered; and 7 cases and 2 deaths among the children.

Similar results followed the encamping of the 27th at Limerick, and of the 83rd at Castlebar, when these corps were suffering to a great extent from the disease, but in neither of these did it assume so malignant a form as on the occasion above quoted.

On reference to the preceding Tables, it will be seen that Cholera was much more prevalent and fatal among the troops in Ireland than in Great Britain. The proportion of deaths to cases, however, was considerably less—a result which must have arisen either from the disease having been less severe, though more generally prevalent in Ireland, or from the Medical Officers having reported as spasmodic, cases which in Great Britain were deemed to be simple Cholera. The same difference existed in the cases among the soldiers' wives and children, 8 having died of 21 attacked in Great Britain between April and September 1832, while in Ireland only 25 died of 130 cases during the same period; being in the proportion of 16 in 26, and 10 in 52 respectively.

If instead of estimating the relative prevalence and mortality by Cholera on the aggregate force employed, the ratios are calculated on the strength of such corps only as it suffered from the disease, the difference, although not quite so great, is still very marked, as will be seen by the following Table:—

Year.	GREAT BRITAIN.				IRELAND.					
	Strength of Corps in which Cholera prevailed.	Cases.	Deaths.	Ratio per 1,000.		Strength of Corps in which Cholera prevailed.	Cases.	Deaths.	Ratio per 1,000.	
				Admitted.	Died.				Admitted.	Died.
1832	12,476	174	60	14	4.8	20,809	712	173	34	8.3
1833	8,233	51	19	6	2.3	16,167	172	52	11	3.2
1834	4,697	27	7	5½	0.9	12,190	127	54	10	4.4
Total	25,406	252	86	10	3.4	49,166	1,011	279	20	5.7

It has already been stated that the first case of Spasmodic cholera among the troops in Great Britain occurred on the 2nd January, and in Ireland on the 10th April, 1832. The following Table shows the number of cases in each month of that year among the soldiers, and also among the women and children.

1832.	GREAT BRITAIN.				IRELAND.			
	Men.		Women and Children.		Men.		Women and Children.	
	Adm.	Died.	Adm.	Died.	Adm.	Died.	Adm.	Died.
January	2	..	..	..	..	..	..	..
February	..	..	..	..	..	..	..	..
March	8	5	..	..	..	..	..	..
April	2	2	..	..	5	3	..	..
May	7	3	1	1	5	3	7	1
June	2	..	..	..	212	51	57	5
July	29	10	8	4	140	41	61	18
August	71	32	12	3	75	20	5	1
September	28	4	..	..	..	..	..	..
October	20	3	..	..	..	..	..	..
November	..	..	..	..	..	..	..	..
December	5	1	..	..	..	..	..	..
	174	60	21	8	437	118	130	25

From this Table it appears that although the disease first broke out in Great Britain, it reached its climax at an earlier period in Ireland. The returns do not enable us

to show its *monthly* progress in Ireland, or among the women and children subsequently to August 1832, but it is probable that its decrease, as in England, was progressive from that period.

In the symptoms of the disease, as witnessed among the troops, there appears to have been nothing essentially differing from those observed among civilians. The precursory diarrhoea, though occasionally denied by the patients, is believed to have almost always preceded the attack. There were several seizures, however, of persons in apparently good health; though these were rather exceptions to the kind of subject usually attacked, some premonitory symptoms, generally of the bowels, having existed, though not always complained of, the apathy and indifference in reporting, and even aversion to acknowledge these, being noticed by many officers.

Although there were several instances of very sudden seizures, rapid progress and death in a few hours, yet, as might have been expected, with the advantages possessed by soldiers, the accession of the fully established disease seems to have been more gradual. The symptoms, however, in fatal cases, were not less formidable or less characteristic of the disease in its worst form than in less vigorous subjects.

All descriptions of persons seem to have been attacked, but on more than one occasion drunkards furnished the first and usually fatal cases. Although none have been exempt, yet there are grounds for believing that the strong, healthy, and regular in habits, not only enjoyed some immunity from, but were more promising subjects under, attacks of Cholera.

Cases of consecutive fever were not infrequent. By some its intensity was stated to have borne proportion to the previous collapse, though as usually observed, of a typhoid type.

In the *post mortem* examinations nothing very different was observed from the appearances recorded in the history of other epidemics of the same disease.

There is abundant evidence of the success of prompt and judicious treatment in the premonitory stage and slighter cases of the disease; but in the more aggravated form, under every kind of medicine, little more than the alleviation of some of the symptoms seems to have been hoped for or attained. The majority of medical officers placed their faith in calomel and opium, or opium and diffusible stimu-

lants. A few speak favourably of emetics of mustard and salt, and others of enemata of gruel and brandy. The advocates of venesection place considerable dependence on it, particularly when employed in the earliest stages. There appears to have been little reliance on venous injection, and indeed, judging from the number of deaths, it seems to have signally failed. Saline medicines, as recommended by Dr. Stevens, were occasionally resorted to, but with very questionable success. The other remedies usually recommended were tried, but here as elsewhere, the most judicious and best directed means seem to have utterly failed in the more formidable and advanced cases of the disease.

On the cause and mode of propagation of Cholera, few speak pointedly. Several remarkable instances of the apparent communication of the disease, by infection from one member of a family to others, have been adduced. There are others equally strong on the other hand, where the closest attendance on, and intercourse with, those affected, have failed to produce the disease; and among those, a nearly complete exemption of Medical Officers and hospital attendants. It has attacked prisoners in jail, and others equally isolated and removed from communication with infected persons; and in its selection, though apparently more disposed to infest low and damp localities, it has not spared, but in some instances even confined its attacks to the upper and apparently most healthy rooms in a barrack. Although a few believe confidently in the infectious nature of Cholera, the majority incline to the opinion that it is only liable to become so, under favourable conditions of atmosphere, locality, and subject.

TABLE I.—Showing the Progress of SPASMODIC CHOLERA among the TROOPS in GREAT BRITAIN, from 1st January to 31st December 1832.

1832.	REGIMENTS.	STATIONS.	Cases.	
			Admitted.	Died.
January	2nd Light Dragoons	Pierhill Bks.	1	London 65-23
	Grenadier Guards	London	1	Glasgow 28-19
February	None.			Plymouth and)
March	Grenadier Guards	London	1	Devonport)
	Coldstream Guards	Ditto	4	Edinburgh and)
April	Scots Fusilier Guards	Ditto	1	Pierhill Bks.)
	1st Bn. Royals Depot	Edinburgh	1	Berwick 18-1
May	Coldstream Guards	London	1	Portsmouth 7-2
	1st Bn. Royals Depot	Fort George	1	Chatham 5-2
	51st Depot	Chester	1	Bristol 3-1
June	Grenadier Guards	London	1	Fort George 2-1
	51st Depot	Chester	1	Liverpool 1-1
July	2nd Life Guards	London	1	Windsor 1-1
	2nd Light Dragoons	Glasgow	6	Dodley 1-1
	Grenadier Guards	London	10	Maldstone 1-1
	Coldstream Guards	Ditto	2	Berth 1-1
	22nd Depot	Plymouth	2	
	91st Regiment	Liverpool	1	(On route to Dublin in Detachment Hospital.
	Garrison	Chatham	5	In 21st, 25th, 60th, and 66th.
August	Garrison	Plymouth	2	Two men of 57th.
	2nd Life Guards	London	6	
	Royal Horse Guards	Windsor	1	
	2nd Dragon Guards	London	9	Detachment.
	3rd Light Dragoons	Glasgow	11	
	14th ditto	London	1	Detachment.
	Grenadier Guards	Ditto	13	
	Coldstream Guards	Ditto	2	
	Scots Fusilier Guards	Ditto	1	
	2nd Bn. Royals	Glasgow	7	
	22nd Depot	Plymouth	6	
	33rd Regiment	Dodley	1	Detachment.
	60th Depot	Portsmouth	2	
	80th Regiment	Devonport	1	
	Cavalry Depot	Maldstone	1	A man of 4th L. Dragoons.
	Garrison	Plymouth	9	In Depots and Detachments of 71st, 77th, and 87th.
September	2nd Dragon Guards	Pierhill Bks.	4	
	3rd Light Dragoons	Glasgow	3	
	Grenadier Guards	London	3	
	Coldstream Guards	Ditto	1	
	22nd Depot	Plymouth	3	
	42nd ditto	Berwick	3	
	74th ditto	Bristol	3	
	82nd Regiment	Edinburgh	1	
	89th ditto	Devonport	6	
	Garrison	Plymouth	3	Two men of 77th and one of 87th.
October	2nd Dragon Guards	Pierhill Bks.	2	
	Grenadier Guards	London	1	
	2nd Bn. Royals	Glasgow	1	
	42nd Depot	Berwick	15	
	74th ditto	Berth	1	
December	7th ditto	Portsmouth	3	
	12th ditto	Ditto	2	
			174	60

TABLE II.—Showing the prevalence of SPASMODIC CHOLERA among the CIVIL POPULATION of the principal Towns where it prevailed among the Military, in 1832.

Towns.	Date of first Case.	Date of last Case.	Population.	Number of Cases.	Number of Deaths.	Proportion of Deaths to Cases, 10 in 100.
Edinburgh	January 22nd	December 26th	162,403	2,066	1,159	
Glasgow	February 12th	November 8th	202,496	6,581	3,174	
London	February 14th	December 18th	1,424,866	11,020	5,275	
Dublin	March 21st	December 3rd	23,043	1,228	277	
Liverpool	March 17th	September 13th	165,175	4,977	1,593	
Perth	March 10th	July 4th	20,016	114	66	
Portsmouth	June 15th	September 24th	31,080	1,805	702	
Dumfries	July 9th	September 27th	34,883	455	228	
Middleton	July 24th	October 10th	15,387	36	16	
Reelbester	July 10th	July 17th	8,075	10	3	
Chester	July 12th	September 8th	21,363	20	14	
Berwick	September 11th	November 8th	3,520	172	84	
Bristol	July 16th	" 23rd	103,886	1,612	626	
Gosport	July 30th	December 7th	6,184	5	5	
Portsmouth	July 26th	September 22nd	46,282	192	86	
TOTAL			2,299,019	30,293	13,238	
		Ratio per 1,000 of Population		13.3	5.8	

TABLE III.—Showing the prevalence of SPASMODIC CHOLERA among the CIVIL POPULATION of the principal Towns where Military were quartered, but were not affected, in 1832.

Towns.	Date of first Case.	Date of last Case.	Population.	Number of Cases.	Number of Deaths.	Proportion of Deaths to Cases, 10 in 100.
Sunderland	October 26th, 1831	April 20th	17,060	554	215	
Newcastle	November 27th	November 12th	42,760	3,487	801	
Paisley	February 15th, 1832	" 8th	57,466	767	449	
Edin	April 14th	" 2nd	28,591	820	300	
Dunelm	April 27th	" 19th	45,555	808	512	
York	June 3rd	October 8th	25,559	450	185	
Nottingham	" 5th	November 7th	50,680	769	296	
Stirling	" 7th	July 27th	8,556	54	35	
Cardale	" 13th	November 21st	20,006	448	265	
Stockport	" 19th	October 13th	66,610	66	29	
Dover	" 23rd	July 12th	11,924	15	10	
Derby	" 24th	December 3rd	23,607	32	16	
Warrington	" 24th	September 10th	16,018	420	168	
Manchester	" 29th	December 5th	142,026	1,323	674	
Salford	July 13th	November 7th	40,786	701	216	
Birmingham	" 7th	" 6th	146,986	31	21	
Gloucester	" 11th	September 22nd	11,933	366	123	
Ayr	" 20th	October 18th	7,966	436	190	
Norwich	August 21st	" 17th	61,110	321	129	
Bolton	" 23rd	September 29th	28,289	26	12	
Aberdeen	" 27th	December 31st	32,912	251	99	
TOTAL			885,650	12,145	4,745	
		Ratio per 1,000 of Population		13.7	5.3	

* The Troops were removed from these Stations immediately on the appearance of Cholera among the Civil population.

TABLE IV.—Showing the prevalence of SPASMODIC CHOLERA among the TROOPS in GREAT BRITAIN, from 1st January, 1832, to 31st December, 1834.

REGIMENTS.	1832.		1833.		1834.	
	Ad- mitted.	Died.	Ad- mitted.	Died.	Ad- mitted.	Died.
2nd Life Guards . . .	7	5	..	..	..	..
Royal Horse Guards . .	1	1	..	..	..	..
1st Dragoon Guards . .	..	..	4	1	11	2
2nd ditto . . .	6	1	..	..	..	..
3rd ditto . . .	9*	1	..	..	..	..
6th ditto . . .	..	..	..	..	1	..
3rd Light Dragoons . .	21	4	..	..	..	..
8th Hussars . . .	..	..	..	..	2	..
14th Light Dragoons . .	1†	1	..	..	..	..
Grenadier Guards . . .	30	7	30	8	4	1
Coldstream Guards . .	16	7	1	..	4	1
Scots Fusilier Guards . .	2	2	2	1	..	..
1st Bn. Royals, Depôt . .	1	1	..	..	..	..
2nd Bn. ditto . . .	10	7	..	..	..	..
7th Depôt . . .	3	..	4	4	..	..
12th ditto . . .	2	1	2	..	..	..
18th Regiment . . .	..	..	2	2	..	..
22nd Depôt . . .	9	5	..	..	..	..
28th Regiment . . .	..	..	..	..	2	2
33rd ditto . . .	1	1	..	..	..	..
42nd Depôt . . .	18	1	..	..	..	..
51st ditto . . .	2	1	..	..	..	..
73rd ditto . . .	..	..	1	..	..	..
75th ditto . . .	3	1	..	..	..	..
79th ditto . . .	1	1	..	..	..	..
82nd Regiment . . .	1	..	1	..	..	..
84th Depôt . . .	..	..	1	1	..	..
86th ditto . . .	2	1	1	1	..	..
88th ditto . . .	..	..	2	1	1	1
89th Regiment . . .	7	3	..	..	..	..
91st ditto . . .	1‡	1	..	..	..	..
97th Depôt . . .	..	..	..	..	1	..
Plymouth Garrison . .	14§	4	..	..	..	..
Chatham ditto . . .	5||	2	..	..	..	..
Cavalry Dep. Maidstone .	1¶	1	..	..	1	..
TOTAL . . .	174	60	51	19	27	7

* In a detachment of 160 men in London.

† In a troop doing duty at Kensington.

‡ At Liverpool on route to Dublin.

§ Detachments of 71st, 77th, and 87th.

|| In detachments on depôts of 21st, 25th, 40th, and 46th.

¶ A man of 4th Light Dragoons.

TABLE V.—Showing the prevalence of SPASMODIC CHOLERA among the TROOPS in IRELAND, from 1st January, 1832, to 31st December, 1834.

REGIMENTS.	1832.		1833.		1834.	
	Ad- mitted.	Died.	Ad- mitted.	Died.	Ad- mitted.	Died.
3rd Dragoon Guards . . .	..	..	..	..	10	5
4th ditto . . .	2	1	..	1	..	..
5th ditto . . .	..	..	2	1	..	..
6th ditto . . .	51	4	..	..	..	..
7th ditto . . .	..	..	2	2	..	..
6th Dragoons . . .	3	2	..	..	..	..
9th Lancers . . .	14	2	..	..	..	..
10th Hussars . . .	6	5	..	..	3	..
12th Lancers . . .	3	2	..	..	..	..
14th Light Dragoons . .	..	..	22	6	..	..
15th Hussars . . .	..	..	2	1	2	1
17th Lancers . . .	5	3	..	..	..	..
Coldstream Guards . . .	6	3	..	..	..	..
Scots Fusilier Guards . .	..	..	..	..	1	1
1st Bn. Royals, Depôt . .	..	..	..	..	5	2
2nd Bn. ditto . . .	..	..	..	..	2	1
5th Depôt . . .	7	2	2	2	..	..
7th ditto . . .	..	..	..	..	13	4
9th ditto . . .	1	1	3	3	4	2
12th ditto . . .	11	4	..	..	..	..
14th Regiment . . .	..	..	..	..	20	11
18th ditto . . .	..	..	..	..	12	4
23rd Depôt . . .	2	1	3	..	..	..
24th ditto . . .	..	..	..	..	2	..
25th ditto . . .	..	..	..	..	2	2
27th Regiment . . .	100	17	1	..	..	..
28th ditto . . .	27	10	5	2	..	..
29th Depôt . . .	2	1	..	..	..	..
30th Regiment . . .	20	4	10	4	..	..
32nd Depôt . . .	1	..	3	1	..	..
34th ditto . . .	1	..	..	..	7	1
35th Regiment . . .	..	..	..	..	..	..
36th Depôt . . .	1	1	..	..	..	..
37th ditto . . .	6	2	..	..	..	..
Carried forward . . .	269	65	57	23	83	34

Table showing the prevalence of Spasmodic Cholera among the Troops in Ireland, &c.—(continued).

REGIMENTS.	1832.		1833.		1834.	
	Ad- mitted.	Died.	Ad- mitted.	Died.	Ad- mitted.	Died.
Brought forward	269	65	57	23	83	34
43rd Regiment . . .	14	4	..	..	3	1
47th ditto . . .	4	1	4	3	..	..
50th ditto . . .	13	6	..	..	..	..
51st ditto . . .	..	..	..	..	1	1
52nd ditto . . .	4	2	..	..	6	2
56th Depôt . . .	2	..	6	..	3	1
58th ditto . . .	1	..	1	..	1	1
59th Regiment . . .	12	1	33	4	..	..
1st Bn. 60th Depôt . . .	..	..	5	3	3	1
2nd Bn. 60th Rifles . . .	39	8	10	1	..	..
61st Depôt . . .	1	1	..	..	..	..
64th Regiment . . .	2	..	8	2	..	..
66th Depôt . . .	12	5	..	..	..	..
67th ditto . . .	1	..	..	..	..	..
68th Regiment . . .	112	23	5	2	..	..
69th Depôt . . .	1	..	2	1	1	..
70th ditto . . .	..	..	3	2	..	..
74th Regiment . . .	12	2	9	1	..	..
76th ditto . . .	..	..	6	3	2	1
80th ditto . . .	16	7	5	3	..	..
81st ditto . . .	46	13	..	..	1	..
82nd ditto . . .	..	..	..	..	5	2
83rd ditto . . .	72	11	6	4	..	..
85th ditto . . .	..	..	..	..	13	9
90th ditto . . .	5	3	1	..	..	..
91st ditto . . .	44	9	6	..	4	..
92nd ditto . . .	13	6	3	..	..	..
96th Depôt . . .	..	..	..	..	1	1
97th ditto . . .	1	1	..	..	..	..
99th ditto . . .	16	5	2	..	..	..
TOTAL . . .	712	173	172	52	127	54

PART II.

Extracts on the Treatment of Cholera.

IMPORTANCE OF EARLY TREATMENT.

1. "In a disease" like Cholera, "acute beyond all others, treatment to be successful ought to be applied at the onset; life may then be saved in a very large proportion, but if unhappily the first few hours are lost, the best efforts of the physician are set at naught. In England, half the deaths occurred within the first twenty-four hours, showing the urgent necessity of early treatment."

Martin, in Johnson and Martin on the Influence of Tropical Climates.

TREATMENT OF THE PREMONITORY DIARRHŒA.

2. "Its treatment is simple. Rigid confinement to the horizontal posture; nothing but farinaceous food, with spices; and small doses of opium, with chalk mixture, after every relaxed motion: on this plan I have prevented Cholera taking on its dangerous stages in hundreds of cases."

Johnson, opus citat.

3. "In the Diarrhœa, the mildest species of Cholera, the indication being the restoration of the perspirable secretion, and imparting excitement to the liver, the following pills will be most suitable in such cases:—Calomel, *gr. xii.*; emetic tartar, *gr. ii.*; Dover's powders, \mathfrak{z} }, made into twelve pills, with conserve of roses. Two of these should be given at first, and one every half hour till full vomiting is induced, after which one may be taken every two or three hours, till bilious evacuations and free perspiration take place."

Cholera; its Nature, Causes, Connexion, and Treatment; by Charles Searle, M. D.

TREATMENT OF THE FIRST OR PRIMARY STAGE.

Emetics.

4. "Where the disease is ushered in not with diarrhoea, but by general uneasiness, nausea, and vertigo, the stomach requires to be unloaded by an emetic, and a tablespoonful of good mustard constitutes a very efficient one. A few ounces of blood should be drawn from a vein, a laxative of calomel and rhubarb exhibited, and the patient restricted to a diluent diet, and kept within doors and warm."

Cyclopædia of Practical Medicine; Article "Cholera."

5. "In all cases the treatment should be commenced with an emetic, whereby stagnation in the vessels of the stomach is removed, and the organ brought effectually into contact with the remedies afterwards exhibited, and thus absorption promoted."

Dr. Searle on Cholera, ut supra.

Diluents.

6. "Demulcents, diluents, and weak broths or soups, have been very generally given in the commencement of a choleraic attack: it is as judicious treatment as can be adopted; but in the more severe seizures much more decided means should be resorted to."

Copland's Dictionary of Practical Medicine; Article "Cholera."

Bleeding.

7. "Local or general depletion is far preferable to astringents or antispasmodics, not only in relieving the spasms and oppression, but also in checking the vomiting and purging."

Treatise on Cholera Asphyxia, by George Hamilton Bell.

8. "In plethoric or robust subjects, when the pulse is fully developed, a full or moderate bleeding may be directed, but it should be performed early."

Copland, opus citat.

9. "If marked excitement, rather than feebleness and collapse, accompanies this stage, and some points of the abdomen are painful on pressure, in such cases one general bleeding, or the very liberal application of leeches to the abdomen, has preceded the employment of other remedies."

Cyclopædia, ut supra.

Mercury.

10. "Calomel having a direct and immediate effect in exciting the action of the liver, and promoting that of the other secreting organs, it is a remedy to which more than to any other the term of specific in the cure of this disease may be applied."

Searle, opus citat.

11. "In the Diarrhoeal form of the incipient stage, it is found very advantageous to give a dose of calomel, conjoined with a proportion of opium and some aromatic, and in twelve or fourteen hours after, a dose of castor oil. A blister should be applied to the abdomen, (warmth enjoined,) the patient confined to bed, and a diluent diet directed."

Cyclopædia, ut supra.

Aperients.

12. "It is not unusual to find, on being called to a case of this disease, that aperients have been freely given with the view of promoting the evacuation of offending secretions; but this is a hazardous practice, and is often adding fuel to the flame."

Copland, ut supra.

Opium.

13. "In slighter cases, opium, if not too early exhibited, will be sufficient to cure the disease, and the instances must be few in which its use, in some form or other, can be dispensed with. When given too early, much disorder of the bowels, with more or less fever, continues afterwards to be complained of, evidently owing to the arrest of a salutary effort, and the retention of morbid secretions. The

combination of calomel with the opium has for its object to prevent this result.

Copland, opus citat.

14. "Opium is useful in checking diarrhoea on its first appearance, and, in conjunction with bleeding at the onset, has in some cases seemed to arrest the disease."

The Library of Medicine, edited by Alex. Tweedie, M.D.

15. "Opium is the sheet anchor in the cure of Cholera, and it is probable that a single dose of it alone, and at the very commencement of the disease, would in the majority of instances be found effectual in checking its progress. Valuable as it is, there is not however a more pernicious error than its abuse. * * * Given in the form of soft bolus it is less liable to be rejected, from the mechanical obstacle offered to its expulsion. * * * Four grains may be given at first to an adult, it being advisable to begin with a full dose. It may be repeated in diminished quantity in three, four, or six hours. In the last stages, it appears to be almost uniformly injurious."

Orton, opus citat.

Astringents.

16. "Acetate of lead, in conjunction with opium, has been lately recommended, in very strong terms, by Dr. Graves, of Dublin, as a remedy for Cholera. He orders a scruple of the acetate and a grain of opium to be made into twelve pills, and one to be given every one, two, three, or four hours. During the stage of collapse, they may be repeated every quarter of an hour."

Library of Medicine, ut supra.

External Applications.

17. "If the spasms, pain at the epigastrium, and sense of internal heat be severe, very warm fomentations, or the hot bath at about 100 or 102, are of much service, if used early in the attack. But neither these, nor blisters, nor sinapisms, are so instantly and perfectly remedial as the turpentine fomentations applied over the abdomen."

Copland, opus citat.

TREATMENT of the SECOND or STAGE of COLLAPSE.

Blood letting.

18. "When practised at the outset, before the circulation has become too languid, bleeding seems to have some influence in arresting the course or mitigating the severity of the disease. When the surface is cold, either no blood will flow, or we can squeeze from the arm a few ounces only of thick tarry blood, the abstraction of which is in general followed by no amendment."

Library of Medicine, ut supra.

19. "Bleeding could commonly be practised when the patient was seen within one, two, or perhaps three hours from the beginning of the attack; and in all cases in which it was resorted to under such favourable circumstances, it was more successful than any other remedy in cutting short the disease."

Johnson, opus antea citat.

20. "Bleeding has a direct effect in unloading the congested vessels, and thereby of facilitating absorption; although not always indispensable, it is a remedy when judiciously employed, from which much benefit may frequently be derived. * * * The blood should be withdrawn from the patient in the recumbent posture, the quantity being limited by its effects on the pulse, it being continued a to pint or more if the pulse improves under the operation, or arrested if the pulse falter in consequence."

Searle, ut antea citat.

21. "My own experience and enquiries have been such as to impress me with a high opinion of its good effects, and to show the necessity of caution and discrimination in its employment. * * * It is most applicable to the young, robust, and plethoric. * * * It is not necessary, and may do harm in the slighter cases. * * * The operation should be invariably performed in the recumbent posture, and care taken to prevent the patient rising after it."

Orton, opus citat.

22. "If the discharges, by the mass of matter evacuated, have induced positive debility, bleeding is to add exhaustion to exhaustion, and our attention is required to the visceral irritation, and to support the sinking powers of the constitution. But if native strength be inherent, and not as yet broken down; if the discharges have neither been of long continuance, or voided in preternatural quantity, I would always have recourse to bleeding. I feel it a subject of regret when I cannot bleed; it is in my mind next to signing the patient's death warrant when I decide that the critical moment is past and that he is no longer capable of undergoing it."

Kennedy, opus citat.

Opium.

23. "Opium generally, in the form of pills, is the medicine most to be depended on to allay the irritable state of the stomach, the spasms, and other urgent symptoms of the disease. From one to three grains of it may be taken at once."

Copland, ut antea citat.

24. "Laudanum must be at hand to gain time, for though it is a dangerous expedient to suspend evacuation, the patient must sink to death if a respite from evacuation, pain, and spasm be not procured."

Johnson, ut supra.

25. "To check the vomiting, pills of opium and camphor should be exhibited after each ejection, and an opiate enema after each dejection."

Kennedy, opus citat.

26. "When considerable collapse has taken place, opium exerts no essential influence."

Library of Medicine, ut antea citat.

Calomel and Opium.

27. "In more severe attacks, it is preferable at first to combine the opium with from 10 to 20 grains of calomel, which, in a large dose, is the most quickly efficacious means we possess of diminishing vascular irritation of the internal surface of the stomach and intestines."

Copland, ut supra.

28. "With respect to the treatment by calomel and opium, it is perhaps the best, at least not the worst, that has been employed. A full dose of calomel with opium will save life in a large majority of cases, if used early."

Johnson, opus citat.

29. "The large doses of calomel and opium which many are in the habit of prescribing, are especially pernicious. * * * There can be little doubt that much more injury than benefit has resulted from this practice; for should the disease be overcome and the medicine not have been evacuated, 10 or 20 grains of opium, and 60 or 100 grains of calomel, must act as a poison on the restored functions."

Bell, ut supra citat.

Calomel.

30. "Calomel must never be omitted, because it answers a triple purpose; it allays the inordinate gastric irritability, it excites the action of the liver, and it corrects the constipating efforts of opium."

Johnson, ut supra.

31. "If the attack requires the exhibition of two or three such doses (10 to 20 grains) of calomel, little apprehension of its affecting the mouth should be entertained, as such a state of disease admits not of the retention of the whole of it."

Copland, ut supra.

32. "Calomel, in simple doses, has been very extensively tried in this country and India, but its results have not justified the encomiums that have been so liberally bestowed on it."

Library of Medicine, ut antea citat.

33. "So far as my observation extends, the calomel practice is nearly discontinued, the lancet and opium appearing the system universally prevalent."

Kennedy, opus citat.

Stimulants.

34. "The internal stimulants of which we have been led to form the most favourable opinion, are mustard in

the dose of a drachm (a teaspoonful unheaped) at intervals of an hour or an hour and a half, carbonate of ammonia in doses of 5 grains every hour, or oleum terebinthinæ 2 drachms, every second hour."

Cyclopædia, ut antea citat.

35. "When the severity or duration of the more urgent symptoms has occasioned feebleness of the pulse, with cold skin, and other symptoms of exhaustion, restorative means are requisite. Ammonia, camphor, the æthers, brandy, cayenne pepper, the various aromatics and spices, are now the most serviceable medicines, and should be given frequently in moderate doses, variously combined, and generally with small quantities of opium. Besides these, warm brandy and water may at the same time be given at short intervals."

Copland, loc. cit.

36. "Stimulants, as brandy, aromatic tinctures, camphor, and essential oils, are strongly indicated in this disease, and there cannot be a doubt of their good effects when judiciously employed, and in moderate quantities. In the use of these medicines, as well as of opium, the principal danger appears to be that of doing too much. A strong tincture of cloves in brandy was the principal of the remedies of this class that I have employed."

Orton, opus citat.

Emetics.

37. "If there be symptoms of great collapse, it will be advisable to endeavour to rouse the system by full vomiting, and half an ounce (an ordinary tablespoonful unheaped) of mustard, or, if the attendant prefer another mode of accomplishing the object, two tablespoonfuls of common salt, a scruple of sulphate of zinc, or half a drachm of ipecacuanha, with a small proportion of brandy, may be administered. Should the emetic selected fail to produce its effect in a quarter of an hour, it ought to be repeated; or should the sensibility of the stomach be very low a larger dose of the emetic drug may be administered. We recollect having produced full vomiting by an ounce of mustard in a case of extreme collapse, in which two smaller doses had been administered successively without effect."

Cyclopædia, ut antea citat.

38. "Mustard emetics and ipecacuanha, like almost every other remedy, in turn have been extolled in the treatment of Cholera, but extended experience has not warranted the panegyrics of their advocates."

Library of Medicine, ut supra.

External Applications.

39. "After full vomiting, sinapsisms may be applied to the abdomen and along the spine, whilst the warmth of the patient is supported by bottles of hot water wrapped in flannel, bags of hot oats, and other familiar methods of applying dry heat, directed to the extremities or other points of which the temperature seems deficient. Friction of the parts affected with spasm will at the same time be probably required, and should be performed under the bed clothes. We have not found any beneficial effect in relieving the spasms from oil of turpentine or other stimulating embrocations, the coldness produced by their evaporation probably more than compensating for any benefit they are in other respects calculated to effect."

Cyclopædia, ut antea citat.

40. "Every means must be tried to determine to the surface, restore the equilibrium of the circulation and excitability, and with them natural perspiration, (not the clammy fluid forced out by pain and spasm, but a mild warm sweat,) and biliary secretion."

41. "The skin, when much collapsed, becomes insensible even to the action of chemical agents, and hence the usual vesicatories fail in producing any effect. The application of mineral acids and of boiling water in this condition of skin, produces little or no effect. I have seen little benefit from the warm bath, the exertion of getting in and out of the bath generally increases the internal serous hæmorrhage."

Johnson, opus citat.

42. "For the alleviation of the torments occasioned by cramps, no means have proved so successful as diligent friction. The relief given by it is immediate: * * * it may be performed by the hand with flannels, or with a

small hand brush. A good mode of applying heat is by bags of hot bran or sawdust, which retain their heat a long time; but one still better is the hot air bath."

Library of Medicine, ut antea citat.

43. "The various means of exciting counter irritation on the surface of the body, are amongst the most valuable and least objectionable of our remedies in Cholera. With this view hot water blisters, nitric acid, moxa, &c., have been employed, but it is doubtful whether a rapid is not more desirable than an instantaneous effect. In some instances, I have rubbed the part intended to be blistered, strongly with oil of turpentine and sand, previous to applying the blister, and have found such a degree of inflammation immediately produced, that the blister had its full effect, even on the scalp, in two or three hours. A very simple and elegant method has been suggested of applying neat and aqueous vapour to the surface of the body, by burning spirits under the patient as he lies on his cot. This ingenious invention has generally superseded the use of the warm bath, which is very troublesome in its preparation and annoying to the patient. A strong objection to this air bath, however, is its vitiating the air the patient breathes."

Orton, opus citat.

44. "There is one method of using heated spirit vapour which is well calculated for applying heat immediately and generally to the body. An arched frame is made, rising a foot or 18 inches, 5 feet long by 2 broad; the arched part of this frame is fitted up with basket work, and one end is closed up with a half circle of wood, the lower part and upper end are open. This is placed over the naked body of the patient, and covered with blankets, the patient's head being left free, the small and upper end of a curved tin chimney is introduced through a hole in the boarded part, the other end being placed over a spirit lamp. Heat to any extent may thus be introduced within the basket work, and brought into contact with every part of the patient's body. * * * Assistants may also introduce their hands within the basket work, and use frictions or embrocations, or apply leeches, without exposing the body of the patient to cold."

Bell, opus citat.

Enemata.

45. "When all medicines by the mouth have been ineffectual in allaying the orgasm of the stomach and bowels, laudanum, by way of injection, has succeeded, and should be had recourse to, though it is generally neglected."

Johnson, opus antea citat.

46. "Injection, or the introduction of solid opium into the rectum, are valuable methods of employing this remedy."

Orton, ut antea citat.

47. "For unloading the congested vessels of the stomach and bowels, and favouring absorption, another remedy of great value is saline clysters. A large tablespoon of table salt, dissolved in a pint of warm gruel or water, and used as a clyster every half hour, the patient continuing at the same time in the recumbent posture, and passing it afterwards into a cloth at his pleasure, cannot be too strongly advised. As a substitute for saline clysters in a more advanced stage of the disease, or in cases where the evacuations have been copious and the patient much exhausted, I advise the injection of half a pint of gruel, milk, beef tea, or the like, with a tablespoonful or two of brandy."

Searle, opus citat.

48. "The employment in the period of extreme collapse, of an enema, consisting of 2 pints of warm water, from 4 to 8 ounces of brandy, and from 1 to 2 drachms of laudanum, or Bentley's sedative liquor has the happiest effect in abridging that stage of the disease. * * * An enema, containing a drachm of powdered mustard, has been found to be very instrumental in restoring the urinary secretion. * * * The tobacco enema has been suggested by Mr. Baird, of Newcastle, and, as he assures us, employed with considerable success."

Cyclopædia, ut supra.

Drinks.

49. "Draughts of any liquid have frequently been found to bring on returns of the vomiting; but the thirst is so excessive that it would be a great cruelty to refuse to

gratify it. I have constantly allowed moderate quantities of an infusion of fresh or dry ginger, which, with the addition of sugar and a little milk, forms a beverage very agreeable both to the palate and stomach, and is at the same time a gentle stimulant and a light kind of food."

Orton, loc. citat.

50. "A tablespoonful or two, but not more, at a time, of brandy and water, (warm or cold, as most acceptable to the patient,) in the proportion of one part of the former to three of the latter, may be administered."

Searle, ut antea citat.

51. "If the tendency to collapse be considerable, a little weak brandy and water should be given at intervals; but should the circulation be tolerably vigorous, and the temperature good, simple diluents, such as toast and water, constitute the most suitable beverage."

Cyclopædia, ut antea citat.

52. " * * * Hence the cravings of the patient for cold drinks, which ought to be allowed *ad libitum*, and is infinitely better than the burning stimulants that have been given, and which too often aggravate the disease."

Johnson, ut antea citat.

53. "Several authors have recommended the use of cold or iced fluids with the view of allaying the heat complained of in the stomach. * * * The nitric acid drink has been much employed in India in cases of Cholera."

Copland, opus citat.

Posture.

54. "In this disease the powers of the system cannot be too scrupulously husbanded in every possible way. I have known several patients lose their lives by getting up to relieve the bowels; so that whatever is given to the patient, should be given while he continues in the recumbent posture, and the evacuations should be received at all times in a basin (bedpan?) or towel."

Searle, opus citat.

Venous Injection (Sanguineous).

55. "The physiological effects of the transfusion are most remarkable. I have seen men who have been lying pulseless and as cold as death for hours, revive under transfusion, with good pulse, warmth, and red colour of the lips; but, alas! they all died of the consecutive fever, generally with inflammation of the brain. Still there are many cases on record, where final recovery took place after transfusion, and in desperate cases it certainly merits a trial."

Johnson, opus citat.

Venous Injection (Saline).

56. "This method of introducing salines was first proposed by Dr. O'Shaughnessy, and extensively tried in Edinburgh by Dr. Mackintosh. He employed a solution of \mathfrak{ss} of muriate of soda, \mathfrak{v} of sesquicarbonate of soda, in ten pints of water, at a temperature varying from 106 to 120 Fahr. This solution was injected slowly, half an hour being spent in the gradual introduction of about 10 pints. By the time three or four pints have been injected, the pulse has become good, cramps have ceased, the body that could not be heated has become warm; * * * the voice, before hoarse and almost extinct, is now natural; the mind cheerful; restlessness and uneasy feelings have vanished; * * * and thirst, however urgent before the operation, has ceased. Of 156 patients treated in this way only 25 recovered—a small proportion; * * * but the method was adopted only in cases considered hopeless."

Library of Medicine, ut antea citat.

Saline Treatment.

57. "Its adoption was founded on the opinion held by Dr. Stevens respecting the nature of the disease, which he supposed to consist essentially in deficiency of the saline ingredients of the blood. This deficiency it was his object to restore, and he advised for this purpose that the patient should take, every half hour or hour, according to circumstances, half a drachm of the sesquicarbonate of soda, a scruple of muriate of soda, and 7 grains of chlorate of potass, dissolved in half a tumbler of water. * * *

Most medical men agree in considering it a remedy of very doubtful efficacy."

Library of Medicine, ut supra.

Inhalation of Oxygen.

58. "The inhalation of oxygen gas has been suggested from many quarters, and in some cases in which it has been tried here, an instantaneous amelioration has been manifest, the pulse having become more vigorous, the lips florid, and the patient having experienced relief from præcordial oppression and other distressful feelings, to an extent and with a promptitude not afforded by any other measure.

* * * This effect, however, is very transitory."

Cyclopædia, ut antea citat.

TREATMENT OF THE THIRD STAGE, or that of REACTION.

General Rules.

59. "The termination of Cholera in gastric bilious remittent, and intermittent fever, or in dysentery, ought not to be overlooked. * * * When it has passed into these diseases, it must necessarily be treated according to the new form it has assumed."

Copland, ut antea citat.

60. "The treatment now to be pursued will not require such lengthened discussion as that of the preceding stages, which may be considered as belonging more exclusively to this disease, for recognised principles, applicable to the treatment of pyrexia in general, must be our guides in conducting this fever. The fever constituting this stage * * * has inflammation accompanying it, of which the principal sites are the brain, and the lining of the brain and the digestive canal; and to the subduing of these, by such measures as the state of the system admits, our attention should be carefully directed."

Cyclopædia, ut antea citat.

Bleeding.

61. "But there is another period at which bleeding can be practised, namely, after the establishment of decided reaction; and here it seems to have been productive of benefit

in moderating inflammation of the abdominal viscera, or the pneumonia, which exists so frequently in the secondary form of the disease."

Library of Medicine, ut antea citat.

62. "The more excited form of the febrile stage admits of one general bleeding with advantage, the amount of blood drawn being regulated by the degree of vascular action, of head-ache, of injection of the eyes, and various circumstances which would influence our proceeding in any ordinary form."

Cyclopædia, ut antea citat.

Local Depletion and Counter Irritation.

63. "The consecutive fever, as might be expected, is violent in proportion to the previous collapse. It is almost invariably connected with local inflammation of some organ, chiefly the mucous membrane of the stomach and bowels, or the meninges of the brain. Hence the necessity of watching the symptoms, and checking the inflammation by leeches and blisters."

Johnson, ut supra.

64. "Should the head, as it generally does, continue affected after the blood letting, the application of leeches and cold should be resorted to; the former being repeated if necessary. Diarrhœa, the discharges being deeply bilious, a red, glazed, and very dry tongue, some degree of fulness and tension of the abdomen, and of pain on pressure there; * * * such intestinal disorder demands the free application of leeches to the parieties of the abdomen, and the internal exhibition of mild mercurials, such as hydrg. c. creta, or blue pill, with a small quantity of opium. The kind of permanent fomentation which is afforded by hot poultices to the abdomen after the application of leeches has been found beneficial."

Cyclopædia, ut antea citat.

Laxatives.

65. "Having relieved the more urgent symptoms, * * * and having allowed some time to elapse in order that the viscera may recover their functions, it will be necessary to promote the discharge of the secretions which may have

accumulated during the calm. * * * In cases where calomel has been freely given, mild stomachic aperients will be all that is necessary; but they should be given with caution, and at a time when there appears no risk of re-exciting the choleraic attack, which may readily be done by the too early exhibition of purgatives. It will, therefore, be better to trust chiefly to enemata."

Copland, opus citat.

66. "After the favourable crisis, purgatives are chiefly to be depended on for preventing or removing that numerous train of fatal signals which so frequently attend the disease. Calomel is highly useful, but it appears advisable, in general, to avoid its full effect on the mouth. Great irritability of the stomach, * * * often present in this stage, will render it necessary to choose those purgatives which sit more easily on the stomach. This advantage will be found to arise in a considerable degree from combining them with bitters."

Orton, opus citat.

Diet and Regimen.

67. "The diet during the period should be nutritious, but of the blandest description, consisting of sago, tapioca, chicken broth, rice boiled till quite soft, with butter, milk, jelly, and light puddings. A spoonful or two of wine, with water, may be given occasionally, if there be much exhaustion, and an opiate, if necessary, to secure the night's repose. The tepid shower bath, in the morning, may also be an useful auxiliary. In furtherance of the recovery, I cannot, however, too strongly recommend a change of air as soon as it is possible to remove the patient, and a very cautious return to more solid sustenance."

Scarle, opus citat.

68. "The employment of stimulants and a nourishing diet appear highly reprehensible. On the contrary, a strict antiphlogistic regimen is commonly necessary to prevent the setting in of highly dangerous inflammation. The food should be simple, chiefly vegetable, and in small quantities at a time; and if any stimulating liquors are ever allowed, their quantity should be very small.

"Among prophylactic measures, the advantages of high, dry, and airy situations stand pre-eminent. The removal of troops when attacked by the epidemic, to such places, is a means which is almost always in the power of higher authorities to employ, and it promises to save more lives than all the curative efforts of art."

Orton, ut supra.

69. "We must endeavour to regulate the secretions by gentle alteratives, and to procure their discharge by enemata. The patient ought to abstain from all irritating and indigestible kinds of food, and heating liquors, and from overloading the stomach. Change of air, gentle travelling, and moderate exercise, are extremely conducive to perfect recovery."

Copland, ut antea citat.

Stimulants.

70. "Even whilst endeavouring by local depletion to relieve partial determinations of blood, the general state of the system has been such as to require a little stimulus, and wine and water has been given, especially at an advanced stage of the disease; and occasional medicinal stimulants, as carbonate of ammonia, camphor, and sometimes as a tonic, sulphate of quinine; but we cannot say that much benefit has resulted from the latter class of agents."

Cyclopaedia, ut antea citat.

Diluents.

71. "When reaction has taken place and the stomach has ceased to reject liquids, and has become again disposed to absorb, the most important indication is to avail ourselves of this organ as a channel through which to repair the loss the blood has sustained in its serous part. This is best accomplished by giving liquids frequently in small quantities. We have employed soda water at this period, and would strongly recommend it on account of its being easily tolerated by the stomach, and from its containing some of the saline ingredients which are deficient in the blood. The prescription of Dr. Stevens seems to promise advantages in this stage of the disease."

Library of Medicine, ut antea citat.

72. "A formula transmitted by Mr. Walker, of St. Louis, Mobile, is the following combination, employed to check the diarrhoea, the usual precursor of cholera:—

R	Pulveris Capsici	ʒ ij.
	Camphoræ	ʒ ij.
	Opil	ʒ ij.
	Tannini	ʒ ij.
	Spiritus tenuior	ʒ x.
	Macera per horas xlvij, cola et adde	
	Ol. Caryophilorum	ʒ ij.
	Dosis, guttæ l—lx in unciam aque.	

On Common Salt as a preventive of Cholera.

73. "The efficacy of common table-salt as a preventive of Cholera has of late been prominently and urgently brought forward by Dr. Beaman. After a long and varied experience, in several epidemics, he is satisfied that salt, taken in the granular form, thrice a day, at equal intervals, and in quantities of about a salt-spoonful with breakfast and supper, and twice the allowance with dinner, will effectually prevent the attack of the disease, provided the plan be rigidly and fully carried out during the prevalence of the pestilence. The quantity to be taken at a time should be so much as the person can bear without unusual sense of thirst or discomfort. For an adult, $\frac{1}{2}$ to $\frac{1}{4}$ oz. per diem will be amply sufficient.

"Care must be taken that the salt is used in rather coarse powder with the food, and that it is clean:—no one should be deceived into the belief that the saline constituents of salted food, soups, &c. form a substitute for salt in substance.

"The habitual and free employment of salt with each meal, in choleraic times, is supposed to correct or remove those functional derangements, and that general weakness of the gastro-intestinal mucous membrane, which, short of diarrhoea, has been found so extensively to predispose to attacks of Cholera.

"In addition to the use of salt on such occasions, and with similar intentions, that of peppers, and especially of a small quantity of Cayenne, will be found a beneficial adjunct to the ordinary prophylactic means in force during epidemic visitations."

EXTRACTS.

74. Mr. Tucker observes, "I feel deeply convinced that the health of our soldiers and sailors might be maintained by the daily use of good fermented cider or vinegar, with the occasional use of pepper as a condiment, and that by the observance of such, they would be rendered much less liable to attacks of Cholera, dysentery, and fever, and that many valuable lives might yet be saved."

"For some time past my attention has been given to the use of vegetable and mineral acids as prophylactics of Cholera and dysentery, and from my own experience, and from the testimony of others, I feel at present convinced of their efficacy.

"In cider districts, where the inhabitants drink good (fermented) cider, freedom from Cholera exists; indeed, evidence is recorded of persons who have recovered from attacks of Cholera by drinking good cider alone.

"I am enabled to bear testimony of the efficacy of cider, as well as vinegar, as prophylactics of Cholera, used in 1849 and at the visitation in 1854 among my own patients. I believe I possess information of that character which would serve to convince sceptics even, that in some of the vegetable acids there is a property which is calculated to protect the system against the influence of Cholera."

"Had this patient died under my care, I should have certified that his death was occasioned by Asiatic Cholera. I attribute (as far as medicine is concerned) his recovery to the use of sulphuric and nitric acid, four drachms of each of which, in their diluted forms, were administered as medicine and drink during sixteen hours from the period of their first administration.

"Having, after this occurrence, read from time to time, in the medical journals, the reported successful mode of treatment of diarrhoea and choleraic diarrhoea by sulphuric acid alone, I gave it trials in many cases of severe diarrhoea, and am prepared to speak of its merits. I have given it in many instances, and to persons of various ages, from seventy to children under one year old, and must state that I have found the remedy most efficacious."

Extracts from a Publication by Dr. Kingsley
of Roscrea.

75. "Should ordinary fecal looseness be present in times of Choleraic visitations, he recommends that the patient should at once be placed in a warm bed, that the temperature of the room should be kept up if necessary by a good fire, and that two of the opium and camphor pills marked A. in the formula appended should be given, one pill to be repeated every half hour till the alvine relaxation shall cease. Should the ingression of the diarrhoea be sudden and violent, the opium and lead pills as in formula B. are to be taken at once, the patient's feet to be bathed in hot water with table salt dissolved in it; frictions to be employed to the surface under the bed clothes; dry heat in every form to be applied; sinapisms and epithems of turpentine to the epigastrium.

"Should the vomiting and purging of rice-coloured fluid come on, one of the stimulant pills marked C. is to be given, and repeated every half-hour; repeat also the sinapisms and terebinthenate epithems: rub the upper and lower extremities with the warm hand, or with flannel firmly rolled up,—press most when *rubbing towards the body*; afterwards, put on flannel roller-bandages.

"Apply to the extremities, and also to the body, bricks carefully heated by standing in boiling water, dried and rolled in flannel or any other appliance for conveying dry heat to the person; the patient is not, on any account, to be allowed to sit up.

"Stimulants are to be given,—a dessert spoonful of brandy, real and genuine gin, or old malt whiskey, in a tablespoonful of cold water; these stimulants, or egg flip, or mulled port wine, may be taken every twenty minutes till reaction takes place; the stimulants must then be carefully withdrawn, as their continuance instead of being useful would produce irreparable injury—nay, death, if persevered in. The judicious and skilful management of this stage of the disease (reaction) is of the utmost importance, as an injudicious continuance of stimulants will produce congestion of the brain that may prove fatal in a few hours, or, at all events, may merge into consecutive fever that in itself is a very fatal disease.

"Mild and nutritious drinks, chicken broth, beef tea, rice whey, with isinglass dissolved in all of them.

Mr. Kingsley considers water the best drink in Cholera, "as it does not undergo the process of digestion but passes quickly and unaltered into the circulation.

"Mint tea will be found useful in settling the stomach, also clove tea; the former can be made by letting an ounce of the spearmint leaves stand in a vessel with a quart of boiling water till cold; and the latter by infusing a quarter of an ounce of cloves in a pint of boiling water; both to be strained, and a little white sugar added if wished for.

Formula.

A.	R	Opium pulv.	grana vj.
		Olei Juniperi	guttas iij.
		Camphoræ rase	grana xij.
	Misce	optime et adde	
		Pulv. Glycyrrhizæ	grana vj.
		Mucil. Acaciæ, q. s.	
			Misce

et divide in pilul. xij.

Two to be taken at once, and one repeated every half hour or hour till the purging ceases.

B.	R	Plumbi Acetatis	grana xxxvj.
		Aceti Destillati	m x.
	Misce	optime et adde	
		Pulv. Opii	grana vj.
		Pulv. Gum. Acaciæ vel, q. s.	

fiant pilulæ xij, in pulv. Glycyrrhizæ involve, et in phiala bene obturatâ serva.

Two to be taken immediately, and one repeated every half-hour or hour till the looseness ceases.

Stimulant Pills.

C.	R	Camphoræ rase	grana xij.
		Olei Juniperi	guttas iij.
	Misce	optime et adde	
		Calomelanos	grana xij.
		Opii pulveris	grana ij.
		Capsici	grana iij.
		Confec. Arom.	grana v.
		Mucil. Acac. q. s. fiat massa in pil. xij dividend.	

One to be taken every half hour.

Mr. Kingsley further insists that the late Dr. Graves, of Dublin (a name of European celebrity), "had the highest opinion of the value of sugar of lead in 'Asiatic Cholera,' in which, from ample experience, I fully concur.

"Since Dr. Graves' death, this excellent remedy has fallen into disuse, the cause of which appears to me to be in the manner in which the 'Sugar of Lead Pills' have been prepared hitherto, in consequence of which they have become so hard as to be passed unaltered through the bowels, therefore inert. I have completely succeeded in remedying this defect, by making them up according to formula B. I have been now nearly six months carrying about a bottle of those pills in my medicine chest, and they are quite soft and fit for use, as I have lately tested their activity, by exhibiting them in *bad* cases of diarrhoea, and I found they had not lost anything of their powerfully astringent properties.

76. Mr. Franks, a medical practitioner of London, directs attention to the efficacy of the formula appended in the treatment of diarrhoea, the almost invariable precursor of Cholera when present in an epidemic form.

He writes, "During the choleraic epidemic of last year I had ample proofs of the efficacy of the composition in the variety of cases which came under my care when I thought it advisable, and did arm each of my patients with a few doses to carry in their pockets in case of an attack, which was the means in many instances of at once restraining the diarrhoea." He further states, "I consider the medicine a desideratum for an Army on active service in the instance of a pervading choleraic epidemic, as well from its uniform efficacy as its simple form."

R Extracti Arnicae, gr. v.
Cupri Sulphatis, gr. j.
Morphiae Hydrochlor, gr. ss.
Pulv Capsici, gr. iij.
siant pilulae duae sumendae pro re nata.

The above on any threatening of Cholera, or to check its premonitory diarrhoea.

A supply of the extract of arnica has been ordered for the use of the Army in the East.

77. Mr. Bull writes:—"I am induced again to try and bring before the authorities a method of treating Asiatic

cholera by external applications, which I have found to answer most satisfactorily. Its apparent simplicity has perhaps hitherto frustrated the benefits which its adoption in practice would most surely confer.

"A strong *aqua regia* bathing removes all the symptoms as if by magic."

78. "During recent epidemics in England, acetate of lead and morphia administered in *solution*, according to the subjoined formula, in preference to pills, proved highly efficacious in military and civil practice, in premonitory and in well marked choleraic diarrhoea; in cases too, which had merged into Cholera, with rice-water evacuations, accompanied by much general depression; and remarkably beneficial in dysentery, acute as well as chronic—the latter occurring chiefly in invalids arrived from the tropics.

"When given in *solution*, instead of in substance, these remedies were found to act with far greater promptness and vigour; and the beneficial effects were more permanent, while at the same time the frequency with which the doses may be repeated, and the extent to which they may be carried, can be more readily and exactly estimated.

"Employed in hundreds of cases, and in the hands of numerous practitioners, this mode of treatment was found greatly superior to that by cretaceous compounds or acid mixtures.

"Aided by rest and light farinaceous diet, with gentle stimulation when necessary, sinapisms and dry heat, numerous cases verging even upon collapse have been recovered; while in simple or in choleraic diarrhoea it was never found to fail, when persevered in, if a repetition of one or two doses was required, in arresting the onward progress of the disease.

R Morphiae Acetatis grana iv.
Plumbi Acetatis xxxij.
Acid. Acetici diluti ℥ss.
Aque ℥viij.

Solve.

Half an ounce a dose—to be repeated every 10 or 15 minutes if necessary.

"Opium or laudanum may be substituted for morphia without any loss of efficacy in the mixture, though meconate of lead is precipitated. In this case, the mixture must be shaken before use.

On the Treatment of Cholera by Ox-Gall.

79. "The employment of Ox-Gall having, in the experience of Mr. Brooks, a practitioner of Crickdale, Wilts, been found eminently successful in the treatment of Cholera, the following is the mode of use of this substance—

"The patient in the very ingression of the disease has given to him two scruples of calomel and two grains of opium. Hot sinapisms are applied to the extremities and turpentine epithems to the abdomen; brandy, wine, or any other available stimulant being also employed.

"In about an hour after this preliminary treatment, twelve grains of ox-gall, ten grains of calomel, and the fourth of a grain of opium, are given and repeated every hour, till relief is obtained: the bile introduced into the stomach as a substitute for that, the secretion of which is suspended, is believed by Mr. Brooks to be the principal curative agent in the treatment."

Dr. Carl Müller's Mode of treating Cholera.

80. "Dr. C. Müller, director of the Cholera Hospital of Pentzing, near Vienna, states that he has treated 319 cases of Cholera without losing a single patient.

"His mode of treatment consists in administering, in doses of a tablespoonful every few seconds or every few minutes, according to the urgency of the case, a potion composed of cold water moderately acidified with 'Haller's acid;' in applying stimulating plaisters of mustard or horse-raddish to the belly and inner sides of the arms and thighs, and in rigid abstinence from other treatment, food and drink.

"When the evacuations have entirely ceased, and complete collapse has ensued, he recommends that two drachms of powder of ipecacuanha be mixed with cold water, and gradually administered to the patient. In half an hour or an hour reaction ensues, and the use of the acid drink must then be resumed.

"Haller's acid, which can be readily prepared by mixing carefully and gradually one part of the officinal sulphuric acid of the Pharm. Lond., and three parts of rectified spirits of wine, is in high esteem in Germany, diluted to the taste of the patient, as a drink in fevers, and as a prophylactic in choleraic times."

Cholera and Diarrhœa Specific.

81. "Dr. Jennings sought and found a chemical agent that would, at the ordinary temperature of the human body, flash into an atmosphere of vapour, possessing the property of rapidly and powerfully stimulating the system, fast sinking under the potent energy of the disease, and which, at the same time, possessed a most intense alkaline element; so that, if the morbid poison within the system possessed an acid character, it would instantly be taken up and neutralised; while, on the other hand, if the morbid action set up be of an alkaline nature, the other element (equally powerful) should produce a similar change upon it, and thus destroy its deleterious effects. After several trials, Dr. Jennings adopted acetate of ammonia, rendered as anhydrous as possible, made by combining the strongest pyro-acetic acid with liquor ammonia of 820°, until perfect saturation is obtained: but as this is most difficult, from the violent chemical action and the great volatility of ammonia, the most perfect method of obtaining the desired salt is by forming it from the union of the vapours of the acid and alkaline bases in a proper apparatus."

"The above substance, then, is the main chemical agent upon which the curative effect depends. A long period of experience, extending over a large and varied circle of population, both in England and France, since 1834, justifies the most reasonable and certain hope that a remedy for Cholera and diarrhœa exists."

"As adjuncts, Dr. Jennings combines tincture of opium, sulphuric æther, creta preparata, tincture of guaiacæ ammoniata, and essential oil of peppermint, with simple syrup as a vehicle, and also to afford the power of graduating the dose, as well as to render the medicine more palatable."

"The proportions adopted are such as will probably meet every case and symptom, and are calculated for cases where the patient has not the advantage of medical advice and attendance; but where that is possible, the medical practitioner will regulate the proportions, or omit any of them, as he may judge necessary. But as the ingredients in themselves are destitute of any dangerous quality, and are generally compatible with the usual symptoms attending this formidable and rapid disease,

the whole may be safely exhibited, and perhaps with advantage, as well calculated to keep off some of the most severe and distressing effects produced during the general course of the malady.

"The astonishing diffusiveness of anhydrous acetate of ammonia, assisted by the effect of sulphuric ether, ensures that every internal part will be acted upon instantaneously, and that a great surface of nervous and venous tissue will be exposed to the action of the antidote, assisted by the sedative properties of the opium and the tincture of guaiacum, which tends to arrest the course of the secretions by contracting the orifices by which the fluid parts of the blood enter, thereby arresting the flood of diarrhoea. Dr. Jennings is warranted, by the certainty which he has acquired from most formal and abundant evidence, to assert, that his mixture, in its combined form, will immediately arrest, and, in a very short time perfectly cure, the most severe cases of common gastric and bilious diarrhoea, whether caused by the absorption of deleterious miasmata, abuse of food and drink, or adulterations of aliments, or any of the usual causes; so that, in the absence of cholera morbus, or malignant diarrhoea, a most valuable domestic remedy is ever at hand to alleviate and cure a disease of every-day occurrence, and which, if not arrested in time, may, and often does, prove fatal."

The following is a copy of the formula supplied by the gentleman from whose printed communication the above has been extracted:—

RECIPE:—	
Spiritus Mindereci,	ʒj.
Tincturæ Opii,	
Tincturæ Guaiaci Ammoniatæ,	aa. ʒj.
Cretæ Preparatæ,	ʒj.
Ætheris Sulphurici,	ʒiiss.
Ess. Ol. Menthæ Piperitæ,	ʒʒ. xij.
Syrupi Simplicis,	ʒj.
	Misce.

G. H. JENNINGS.

Take two teaspoonsful directly, and two every 30 minutes until all bad symptoms subside.

Extracts from Observations on the Epidemic Cholera which appeared among the Russian Troops in the Caucasus, in 1847; together with Suggestions as to the use of Naphtha in its Cure. Reported by Dr. Audreyinsky, of the Russian Service.

THE first threatening symptom of the invasion of Cholera, and the one most commonly and most certainly indicating the existence of the "Choleraic Miasma," is a peculiar form of diarrhoea, characterized by frequent watery and *painless* evacuations.

Against this premonitory affection, no remedy that has been tried has exerted such a decided, rapid, and beneficial effect, as the genuine white or rose-coloured naphtha, which, even in a single dose of from 4 to 8 drops, and administered in brandy, white wine, or a cold aromatic infusion, has often been found sufficient to effect a cure. In the event, however, of the looseness continuing after the lapse of two or three days, the above dose may be repeated, with an almost certain favourable result.

When the diarrhoea is attended with pain, it is altogether different from that premonitory of Cholera, and is not then successfully treated with naphtha, opium alone in such a case being the proper cure.

In no stage of Cholera, either early or advanced, was bleeding or mercury found to be of any use.

Even when the disease had become fully established, the naphtha was found to produce singularly beneficial results: the dose must then be augmented to 15 or 20 drops, given in the same vehicles as before, and repeated once or oftener, as the presence of vomiting may render necessary. When the symptoms begin to give way, and the spasms to abate, its exhibition may be suspended, not to be resumed unless a relapse takes place.

When the disease had reached the stage of perfect collapse, ere the patient was seen, the following mixture, called the "Elixir of Worowze," was substituted for the

pure naphtha, and appeared to cause great and rapid amendment. Take of

Spirits of Wine	7½ pints.
Sal Ammoniac	1 drachm
Pure Nitre	1¼ "
Pepper	1¼ "
Aq. Regia	½ "
(10 drops Nitric, and 20 Muriatic Acid.)	
Vinegar of Wine	1½ pint
Petroleum	½ drachm
Olive Oil	1 ounce
Peppermint	7 ounces

Mix, digest twelve hours, and then strain.

Two teaspoonfuls of the above to be taken every quarter of an hour, till sickness ceases and warmth returns to the surface.

While Cholera is prevalent, as a precautionary measure against an attack, it is recommended to wear on the epigastrium a plaister of the following composition, viz. :—

R Emplast Litharg.	3 vi.
Resinæ Alb.	3 ij.
Ol. Cajeput.	

Misce, et extende in corio albo.

ANDREW SMITH, M.D.

Director-General,
Army Medical Department.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.

For Her Majesty's Stationery Office.

M3/12

MEMORANDUM.

SALT taken in *Substance, with the Food*, to the extent of One Salt-spoonful Night and Morning, and Two Salt-spoonfuls at Dinner, is said by Dr. Beaman to prevent Cholera.—This quantity may be doubled should it agree with the individual, and the addition of a small quantity of Cayenne Pepper is useful.

The use of this simple precaution is recommended, as well as that of constantly wearing a Cholera Belt next the skin.

1st June, 1855.

Mem^o

Common Salt as a
Preventive of Cholera

M3/13

MÉMOIRE

SUR LA VISIBILITÉ DES MOLÉCULES DE L'AIR

ET LA

GUÉRISON DU CHOLÉRA

PRÉSENTÉ A L'ACADÉMIE DES SCIENCES LE 15 JANVIER 1855

J'ai l'honneur de soumettre à messieurs les Membres de l'Académie des sciences, section de Médecine et de Chirurgie, quelques observations sur le Choléra; elles sont basées sur une découverte que j'ai faite il y a plus de dix ans.

A l'aide d'un procédé chimique, je suis arrivé à aimer le globe de l'œil comme on aime un morceau d'acier.

Le fluide magnétique glisse alors constamment sur la prunelle, et par l'influence du rayon visuel, on peut arrêter et tenir en suspens dans l'air, à la distance que l'on désire, un certain nombre de molécules de ce fluide.

L'image de ces molécules, sous forme de petites aiguilles à coudre, se reproduit sur la rétine.

En fixant une feuille de papier placée près des yeux, et en tournant la tête de gauche à droite et de droite à gauche, le nombre de ces molécules augmente graduellement par l'attraction; les petites aiguilles piquent la figure, entrent dans le globe de l'œil, suivent le nerf optique, pénètrent dans le cerveau et produisent un picotement désagréable qui force à porter la main sur la tête pour soutirer le fluide.

La visibilité de ces molécules m'a permis de suivre des phénomènes de l'atmosphère inconnus jusqu'à ce jour.

En tenant ces molécules en suspens dans l'air à une certaine distance de l'œil, on voit d'autres molécules, en forme de petits cercles, se fixer sur les molécules du fluide magnétique; leur nombre varie suivant la température et suivant la distance du globe de l'œil.

Par le froid et par l'éloignement de l'œil, les petits cercles sont plus nombreux; par une grande chaleur et dans le mouvement imprimé aux molécules magnétiques par le rayon visuel, leur nombre diminue, et ils disparaissent entièrement quand ils sont tout près de l'œil, et que le rayon visuel a assez de chaleur pour les éloigner.

Par un temps humide, les molécules des deux espèces sont imprégnées de brouillard, et les molécules magnétiques se meuvent difficilement, et sont moins nombreuses.

J'ai remarqué à Paris, en 1849, et près de mon pays, en 1854, que dans les endroits envahis par le Choléra, les molécules sous forme de cercles disparaissent, les molécules magnétiques sont plus nombreuses; elles reçoivent à chaque instant des secousses électriques qui influent sur la poitrine et forcent à tousser.

J'ai remarqué aussi qu'en descendant dans un puits, dans un trou, on retrouvait toujours, même pendant le Choléra, les molécules, sous forme de cercles.

Les molécules sous forme de cercles sont les molécules d'oxygène, absentes pendant le Choléra, et que l'on peut retrouver dans la terre à l'aide d'une pompe aspirante.

Nous avons remarqué, par l'attraction du rayon visuel aimanté, que les molécules d'oxygène, éloignées par le magnétisme, cherchent à reprendre leur place dans l'atmosphère: c'est du déplacement de ces molécules et de l'attraction magnétique que se forme le foyer de combustion qui existe dans les poumons, et, en général, de la combustion de toute matière inflammable.

Les commotions de l'atmosphère réunissent journellement; par le frottement, un certain nombre de molécules magnétiques qu'elles détachent du courant.

Si la réunion des molécules magnétiques ne se trouve en contact avec aucun corps pouvant lui servir d'aliment, l'oxygène reprend sa place; mais si des émanations grasses s'échappent accidentellement de la terre, elles forment un nuage et donnent un aliment aux molécules magnétiques produites dans l'atmosphère. L'oxygène n'a plus de prise sur les molécules magnétiques enfermées dans une substance quelconque mise en mouvement, et là où le nuage s'abat, il déplace l'oxygène et apporte le Choléra.

On voit quelques fois des épidémies se localiser et revenir périodiquement dans les mêmes bâtiments; c'est toujours par la même cause que le Choléra: des animalcules s'y fixent et y restent.

On pense généralement que le Choléra est contagieux; c'est là une grande erreur. Les molécules entrées dans la poitrine, exhalées ensuite par le malade, sont moins dangereuses que celles qui y entrent pour la première fois. Parce qu'elles ont été forgées, pour ainsi dire, à une température plus élevée que celle des poumons, les poumons ne peuvent les dissoudre et les digérer; mais les molécules exhalées ont reçu une première atteinte, et en passant successivement par plusieurs poitrines, elles finiraient par ne plus être nuisibles.

Quand une personne est atteinte du Choléra, le meilleur remède est de la porter dans un endroit où ce fléau n'existe pas, et il est certain qu'il y aura moins de danger, pour la personne non atteinte, dans la chambre qu'elle viendra habiter, que dans celle qu'elle aura quittée.

Le Choléra provient donc, d'une part, d'une réunion de petits animalcules produits par des commotions atmosphériques et par les émanations accidentelles de la terre; d'autre part, ce qui en est la conséquence, par l'absence de l'oxygène.

Voici le moyen que je propose pour combattre le fléau: purifier l'air des appartements envahis par le Choléra, au moyen d'un fourneau portatif, long et étroit, que l'on ferait circuler lentement et à toutes les hauteurs jusqu'au plancher; tous les corps malsains se décomposeraient.

Pour se procurer l'oxygène, creuser un trou ou puits sans maçonnerie, le couvrir hermétiquement, introduire dans le couvercle le tuyau d'une pompe, et avec la pompe faire passer

l'air du puits dans les appartements; si les appartements sont éloignés du puits, on peut comprimer l'air dans des tonneaux ou de grandes bouteilles en fer et le transporter à volonté.

On peut aussi répandre de l'eau et la faire évaporer; les molécules magnétiques détachées du courant sont alors paralysées par l'humidité, à un tel point qu'il est impossible que le Choléra se forme dans les endroits bas et marécageux.

On emploie généralement, pour purifier l'air, un fourneau de rappel, où l'air malsain doit venir se purifier: ce moyen est insuffisant. Cet air impur est formé de molécules magnétiques ou d'azote. Pour que l'attraction magnétique et la combustion puissent avoir lieu, il faut le contact; l'oxygène qui se trouve répandu entre le fourneau et l'air vicié en empêche le déplacement et le contact.

Au lieu d'air impur, il arrive du dehors au foyer de rappel un courant d'oxygène. Ce courant peut s'imprégner, en passant, d'une partie du gaz répandu dans la pièce que l'on désire purifier, mais seulement de la partie la moins nuisible; car une partie de l'air, vicié par un long séjour, forme des animalcules très dangereux, que l'on ne peut pas chasser, mais que l'on décompose par la chaleur, et seulement dans le rayon où le foyer exerce son influence et isole les animalcules en déplaçant l'oxygène.

En frottant sur un corps dur une allumette chimique, on écarte les molécules d'oxygène, on crée un centre d'attraction des molécules magnétiques qui se trouvent dans la préparation chimique de l'allumette; les molécules étant plus déliées que celles de l'allumette même, se réunissent comme un éclair, et si l'oxygène qui les entoure n'est pas en trop grande quantité, le magnétisme l'emporte sur l'oxygène, et le foyer de combustion s'établit; il attire les molécules magnétiques du bois de l'allumette, et la combustion suit régulièrement son cours; c'est le commencement d'un incendie: il ne manque plus que des corps combustibles mis en contact.

L'oxygène et le magnétisme jouent un grand rôle dans les phénomènes que nous observons journellement; nous allons en citer quelques-uns.

Si une quantité de bois destinée à faire le charbon est recouverte de gazon pendant la combustion, le foyer s'éteint et le charbon de rouge devient noir; il meurt avec les symptômes du Choléra, parce qu'il est privé d'oxygène.

Divers maux, tels que le cancer, le charbon, sont autant de foyers de combustion. Si, par un courant magnétique, on faisait l'application d'un remède où il n'entrerait pas d'oxygène, ou autrement, si on pouvait empêcher le contact de l'oxygène avec la plaie, il n'y aurait pas d'inflammation possible, le foyer de combustion s'étendrait comme celui du charbon de bois, le venin serait rejeté ou absorbé à petites doses sans danger pour le malade.

On conseille ordinairement pour les maladies de poitrine un climat plus doux, où il y ait moins d'oxygène. Ce climat, on pourrait le procurer artificiellement, car l'oxygène est susceptible de se mélanger et de s'imprégner de substances pectorales; mais une autre cause des maladies de poitrine, c'est qu'en bonne santé il existe aux poumons deux centres magnétiques très prononcés, et que ces centres magnétiques sont déplacés chez les poitrinaires.

Ce n'est donc que par une connaissance parfaite de l'atmosphère que l'on parviendra à rendre de grands services à l'humanité.

L^e LEVEAU,

A Cloyes (Eure-et-Loir).

Châteaudun, imp. A. LECESNE.

*... de lui en mesure de fournir l'autre renseignements; dans la mesure de
constate l'altération et le changement de forme du moulage de l'air de son charbon
à l'air.*

*... de la part de l'auteur au Docteur Hall, Chief of the medical
Department of the English Army Crimea.*

Memoire
Sur la visibilité des
Molécules de l'air
et la
Guérison du Choléra

par D. Lavoisier

Il est connu que les gaz sont composés de molécules qui se déplacent continuellement dans toutes les directions. On a vu que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions. On a vu aussi que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions. On a vu aussi que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions.

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Il est connu que les gaz sont composés de molécules qui se déplacent continuellement dans toutes les directions. On a vu que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions. On a vu aussi que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions. On a vu aussi que ces molécules ont une vitesse moyenne qui est la même dans toutes les directions.

E X T R A C T S.



Mr. Tucker observes, " I feel deeply convinced that the health of our soldiers and sailors might be maintained by the *daily* use of good *fermented* cider or vinegar, with the occasional use of pepper as a condiment, and that by the observance of such, they would be rendered much less liable to attacks of cholera, dysentery, and fever, and that many valuable lives might yet be saved."

* * * * *

" For some time past my attention has been given to the use of vegetable and mineral acids as prophylactics of cholera and dysentery, and from my own experience, and from the testimony of others, I feel at present convinced of their efficacy.

" In cider districts, where the inhabitants drink good (*fermented*) cider, freedom from cholera exists; indeed, evidence is recorded of persons who have recovered from attacks of cholera by drinking good cider alone.

" I am enabled to bear testimony of the efficacy of cider, as well as vinegar, as prophylactics of cholera, used in 1849 and at the visitation in 1854 among my own

patients. I believe I possess information of that character which would serve to convince sceptics even, that in some of the vegetable acids there is a property which is calculated to protect the system against the influence of cholera."

* * * * *

"Had this patient died under my care, I should have certified that his death was occasioned by Asiatic cholera. I attribute (as far as medicine is concerned) his recovery to the use of sulphuric and nitric acid, four drachms of each of which, in their diluted forms, were administered as medicine and drink during sixteen hours from the period of their first administration.

"Having, after this occurrence, read from time to time, in the medical journals, the reported successful mode of treatment of diarrhoea and choleraic diarrhoea by sulphuric acid alone, I gave it trials in many cases of severe diarrhoea, and am prepared to speak of its merits. I have given it in many instances, and to persons of various ages, from seventy, to children under one year old, and must state that I have found the remedy most efficacious."

Extracts from a Publication by Dr. KINGSLEY of Roscrea.

"Should ordinary fecal looseness be present in times of Choleraic visitations, he recommends that the patient should at once be placed in a warm bed, that the temperature of the room should be kept up if necessary by a good fire, and that two of the opium and camphor pills marked A. in the formula appended should be given, one pill to be repeated every half-hour till the alvine relaxation shall cease.

Should the ingression of the diarrhoea be sudden and violent, the opium and lead pills as in formula B. are to be taken at once, the patient's feet to be bathed in hot water with table salt dissolved in it; frictions to be employed to the surface under the bed-clothes; dry heat in every form to be applied; sinapisms and epithems of turpentine to the epigastrium.

"Should the vomiting and purging of rice-coloured fluid come on, one of the stimulant pills marked C. is to be given, and repeated every half-hour; repeat also the sinapisms and terebinthinate epithems; rub the upper and lower extremities with the warm hand, or with flannel firmly rolled up,—press most when *rubbing towards the body*; afterwards, put on flannel roller-bandages.

"Apply to the extremities, and also to the body bricks carefully heated by standing in boiling water, dried and rolled in flannel or any other appliance for conveying dry heat to the person; the patient is not, on any account, to be allowed to sit up.

"Stimulants are to be given,—a dessert spoonful of brandy, real and genuine gin, or old malt whiskey, in a table spoonful of cold water; these stimulants, or egg flip, or mulled port wine, may be taken every twenty minutes till reaction takes place; the stimulants must then be carefully withdrawn, as their continuance instead of being useful would produce irreparable injury—nay, death, if persevered in. The judicious and skilful management of this stage of the disease (reaction) is of the utmost importance, as an injudicious continuance of stimulants will produce congestion of the brain that may prove fatal in a few hours, or at all events, may merge into consecutive fever that in itself is a very fatal disease.

"Mild and nutritious drinks, chicken broth, beef tea, rice whey, with isinglass dissolved in all of them.

Mr. Kingsley considers water the best drink in cholera, "as it does not undergo the process of digestion but passes quickly and unaltered into the circulation.

"Mint tea will be found useful in settling the stomach, also clove tea; the former can be made by letting an ounce of the spearmint leaves stand in a vessel with a quart of boiling water till cold; and the latter by infusing a quarter of an ounce of cloves in a pint of boiling water; both to be strained, and a little white sugar added if wished for.

Formulae.

A.	R	Opii pulv.	grana vj.
		Olei Juniperi	guttas iij.
		Camphoræ raso	grana xij.
	Misco	optime et adde	
		Pulv. Glycirhizæ	grana vj.
		Mucil. Acaciæ, q. s.	

Misco

et divide in pilul. xij.

Two to be taken at once, and one repeated every half hour or hour till the purging ceases.

B.	R	Flumbi Acetatis	grana xxxvj.
		Aceti Destillati	m x.
	Misco	optime et adde	
		Pulv. Opii	grana vj.
		Pulv. Gum. Acaciæ vel, q. s.	

fiant pilulæ xij, in pulv. Glycirhizæ involve, et in phiala bene obturatâ servâ.

Two to be taken immediately, and one repeated every half hour or hour till the looseness ceases.

Stimulant Pills.

C.	R	Camphoræ raso	grana xij.
		Olei Juniperi	guttas iij.
	Misco	optime et adde	
		Calomelanos	grana xij.
		Opii pulveris	grana ij.
		Capsici	grana iij.
		Confec. Arom.	grana v.
		Mucil. Acac. q. s. fiat massa in pil. xij dividend.	

One to be taken every half hour.

Mr. Kingsley further insists that the late Dr. Graves, of Dublin (a name of European celebrity), "had the highest opinion of the value of Sugar of Lead in 'Asiatic Cholera,' in which, from ample experience, I fully concur.

"Since Dr. Graves' death, this excellent remedy has fallen into disuse, the cause of which appears to me to be in the manner in which the 'Sugar of Lead Pills' have been prepared hitherto, in consequence of which they have become so hard as to be passed unaltered through the bowels, therefore inert. I have completely succeeded in remedying this defect, by making them up according to formula B. I have been now nearly six months carrying about a bottle of those pills in my medicine chest, and they are quite soft and fit for use, as I have lately tested their activity, by exhibiting them in *bad* cases of diarrhoea, and I found they had not lost anything of their powerfully astringent properties."

Mr. Franks, a medical practitioner of London, directs attention to the efficacy of the formula appended in the treatment of diarrhoea, the almost invariable precursor of cholera when present in an epidemic form.

He writes, "During the choleraic epidemic of last year I had ample proofs of the efficacy of the composition in the variety of cases that came under my care when I thought it advisable, and did arm each of my patients with a few doses to carry in their pockets in case of an attack, which was the means in many instances of at once restraining the diarrhoea." He further states, "I consider the medicine a desideratum for an Army on active service in the instance of a pervading choleraic epidemic, as well from its uniform efficacy as its simple form."

R Extracti Arnice, gr. v.
 Cupri Sulphatis, gr. j.
 Morphin Hydrochlor, gr. ss.
 Pulvi Capsici, gr. iij.
 fiat pilule due sumende pro re nata.

The above on any threatening of cholera, or to check its premonitory diarrhoea."

A supply of the extract of Arnica has been ordered for the use of the Army in the East.

Mr. Bull writes:—"I am induced again to try and bring before the authorities a method of treating Asiatic cholera by external applications, which I have found to answer most satisfactorily. Its apparent simplicity has perhaps hitherto frustrated the benefits which its adoption in practice would most surely confer."

"A strong *aqua regia* bathing removes all the symptoms as if by magic."

During recent epidemics in England, acetate of lead and morphia administered *in solution*, according to the subjoined formula, in preference to pills, proved highly efficacious in military and civil practice, in premonitory and in well marked

choleraic diarrhoea; in cases too, which had merged into cholera, with rice-water evacuations, accompanied by much general depression; and remarkably beneficial in dysentery, acute as well as chronic—the latter occurring chiefly in invalids arrived from the tropics.

When given in *solution*, instead of in substance, these remedies were found to act with far greater promptness and vigour; and the beneficial effects were more permanent, while at the same time the frequency with which the doses may be repeated and the extent to which they may be carried, can be more readily and exactly estimated.

Employed in hundreds of cases, and in the hands of numerous practitioners, this mode of treatment was found greatly superior to that by cretaceous compounds or acid mixtures.

Aided by rest and light farinaceous diet, with gentle stimulation when necessary, sinapisms and dry heat, numerous cases verging even upon collapse have been recovered; while in simple or in choleraic diarrhoea it was never found to fail, when persevered in, if a repetition of one or two doses was required, in arresting the onward progress of the disease.

R Morphia Acetatis grana iv.
 Plumbi Acetatis xxxij.
 Acid. Acetici diluti ℥ss.
 Aquæ ad. ℥viij.
 Solve.

Half an ounce a dose—to be repeated every 10 or 15 minutes if necessary.

Opium or landanum may be substituted for morphia without any loss of efficacy in the mixture, though meconate of lead is precipitated. In this case, the mixture must be shaken before use.

Chloride of lime; in cases too which had resisted this
treatment with the usual medicinal compounds, especially
gentle aperients; and certainly beneficial in dysentery,
as well as cholera—the latter occurring chiefly in
tropical climates from the tropics.

When given in solution, instead of in substance, these
remedies were found to act with far greater promptness and
vigour; and the beneficial effects were more permanent,
while at the same time the frequency with which the dose
may be repeated and the extent to which they may be carried
that has been readily and exactly estimated.

Employed in remedies of course and in the hands of
experienced practitioners this mode of treatment was found
generally superior to that of mucous compounds or solid
medicines.

Aided by rest and light nutritious diet, with gentle
stimulation when necessary, stimulants and dry heat, are
in some cases yielding even more extensive benefit than
repeated; while in simple or in cholera dysentery it was
never found to fail when properly used in a repetition of
one or two doses, and in attending the cholera
cases of the disease.

R. Martin
J. Martin
A. Martin
of
Apes

It is in cases a dose to be repeated, every 10 or 12 minutes
if necessary.

Opium or Laudanum may be substituted for morphia
whenever loss of energy in the patient, though moderate
of local is perceptible. In this case the mixture must be
photon before use.

E X T R A C T S.

On the Treatment of Cholera by Ox-Gall.

The employment of Ox-Gall having in the experience of Mr. Brooks, a practitioner of Crickdale, Wilts, been found eminently successful in the treatment of Cholera, the following is the mode of use of this substance.

The patient in the very ingression of the disease has given to him two scruples of calomel and two grains of opium. Hot sinapisms are applied to the extremities and turpentine epithems to the abdomen; brandy, wine, or any other available stimulant being also employed.

In about an hour after this preliminary treatment,—twelve grains of ox-gall, ten grains of calomel, and the fourth of a grain of opium, are given and repeated every hour till relief is obtained: the bile introduced into the stomach as a substitute for that, the secretion of which is suspended, is believed by Mr. Brooks to be the principal curative agent in the treatment.

Indian Baël in Dysentery and Diarrhœa.

The efficacy of Baël in dysenteric affections and various forms of diarrhœa is supposed to depend on the presence of *tannin*, in combination with a large amount of a mucilaginous principle, *sui generis*, a concrete essential oil, and

an aromatic as well as a bitter principle. According to some authorities there reside also in this fruit sedative or anodyne properties.

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In the cases in which recurrence did take place, the paroxysms were much milder and longer deferred. In most of these the bowels had been constipated, and thus the action of the quinine appeared to have been interfered with.

Quinidine, or amorphous quina, is also in high repute, being preferred to quinine by many Indian practitioners.

Liquor arsenicalis, though not nearly so powerful as the preparations of quina in checking the paroxysms, was found to be an excellent substitute for it, especially in old cases, when once the paroxysms had been checked.

In many cases of ague a brisk emetic was given, with the best effects, on the onset of the attack.

Dr. Carl Müller's mode of treating Cholera.

Dr. C. Müller, director of the Cholera Hospital of Pentzing, near Vienna, states that he has treated 319 cases of Cholera without losing a single patient.

His mode of treatment consists in administering, in doses of a tablespoonful every few seconds or every few minutes, according to the urgency of the case, a potion composed of cold water moderately acidified with "Haller's Acid;" in applying stimulating plasters of mustard or horse-radish to the belly and inner sides of the arms and thighs, and in rigid abstinence from other treatment, food and drink.

When the evacuations have entirely ceased and complete

collapse has ensued, he recommends that two drachms of powder of Ipecacuanha be mixed with cold water and gradually administered to the patient. In half an hour or an hour reaction ensues, and the use of the acid drink must then be resumed.

Haller's Acid, which can be readily prepared by mixing carefully and gradually one part of the officinal sulphuric acid of the Pharm. Lond. and three parts of rectified spirits of wine, is in high esteem in Germany, diluted to the taste of the patient, as a drink in fevers, and as a prophylactic in choleraic times.

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His mode of treatment consists in administering, in doses of a tablespoonful every few seconds or every few minutes, according to the urgency of the case, a potion composed of cold water moderately acidified with "Haller's Acid;" in applying stimulating plasters of mustard or horse-radish to the belly and inner sides of the arms and thighs, and in rigid abstinence from other treatment, food and drink.

When the evacuations have entirely ceased and complete

collapse has ensued, he recommends that two drachms of powder of Ipecacuanha be mixed with cold water and gradually administered to the patient. In half an hour or an hour reaction ensues, and the use of the acid drink must then be resumed.

Haller's Acid, which can be readily prepared by mixing carefully and gradually one part of the officinal sulphuric acid of the Pharm. Lond. and three parts of rectified spirits of wine, is in high esteem in Germany, diluted to the taste of the patient, as a drink in fevers, and as a prophylactic in choleraic times.

gestion had been present during the paroxysm, did any unpleasant symptom arise from the treatment. Of 115 cases thus treated, in 59 per cent. the paroxysms were at once checked; in 37.9 per cent. there was only one, and in three cases only were there two returns after the administration of a single large dose of quinine.

In the cases in which recurrence did take place, the paroxysms were much milder and longer deferred. In most of these the bowels had been constipated, and thus the action of the quinine appeared to have been interfered with.

Quinidine, or amorphous quina, is also in high repute, being preferred to quinine by many Indian practitioners.

Liquor arsenicalis, though not nearly so powerful as the preparations of quina in checking the paroxysms, was found to be an excellent substitute for it, especially in old cases, when once the paroxysms had been checked.

In many cases of ague a brisk emetic was given, with the best effects, on the onset of the attack.

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It is also recommended in cases of cholera, when the patient is unable to take any food or drink, and when the bowels are relaxed, and the evacuations are profuse, and when the patient is in a state of collapse, and when the pulse is small and frequent, and when the skin is cold and clammy, and when the patient is in a state of prostration, and when the patient is in a state of exhaustion, and when the patient is in a state of debility, and when the patient is in a state of weakness, and when the patient is in a state of languor, and when the patient is in a state of torpor, and when the patient is in a state of stupor, and when the patient is in a state of coma, and when the patient is in a state of insensibility, and when the patient is in a state of death.

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