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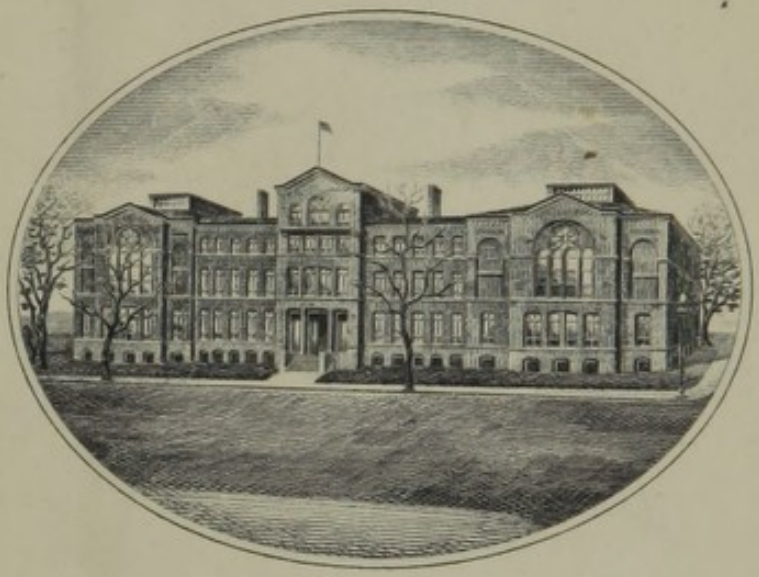

SAILOR'S PHYSICIAN,

CONTAINING

Medical Advice,

FOR

SEAMEN AND OTHER PERSONS AT SEA,

ON THE

TREATMENT OF DISEASES,

AND ON THE

PRESERVATION OF HEALTH IN SICKLY CLIMATES.

BY USHER PARSONS, M. D.

ellow of the Massachusetts and Rhode-Island Medical Societies,
and formerly Surgeon of the U. S. Navy.

SECOND EDITION.

PROVIDENCE:
PRINTED BY BARNUM FIELD & CO.
1824.

ADVERTISEMENT

To the Second Edition.

In publishing a second edition of this book, important additions have been made, while its price has been reduced nearly one third.

EXTRACTS

From a review of the work, contained in the New-England Medical Journal of 1821, *conducted by the Medical Professors and other distinguished Physicians of Boston.*

"We trust that this work will meet with an extensive circulation. We think it would be an object, well worthy the attention of our principal merchants, to introduce it among the masters of vessels in their employ. They would, no doubt, find themselves amply repaid for the trifling expense to which it would subject them in the greater safety and health of their crews, and the security of their own property. With a due observance of the precautions and preventives insisted upon in the book of Dr. Parsons, we should not so often hear of the extensive and dreadful fatality which sometimes befals merchant vessels, and sweeps off one after another their whole crews. If the commanders of vessels make it their study, as it is their duty, to understand, so far as they are capable, its contents, there can be no doubt they might arrive at tolerably correct ideas of the nature and treatment of those diseases to which seamen are more particularly subject. At any rate, they can-

not fail of acquiring much very valuable information from the latter part of this volume, with respect to the prevention of diseases, a subject which deserves by far the gratest portion of their attention.

Dr. Parsons has, we think, performed a valuable service to the public in this work. His official situation in the service, has given him an ample field for experience and observation, and this he has improved with great assiduity and intelligence. We find constant evidences of a thorough and well grounded knowledge of the profession, and a practical acquaintance with all its details. Nothing is done for show, or for the purpose of making a display; nothing is out of place; there is a constant exhibition of accurate views of pathology and practice, and, throughout, a careful adaptation of every thing to the capacity and attainments of those for whom he has written. The descriptions of diseases are brief and perspicuous; giving, not a medical history of its phenomena and its progress, but a view of such of its principal symptoms, as would convey a vivid impression to the mind of an unprofessional observer. The method of treatment recommended is also of that kind, which can best be understood and practised by those for whom this work is intended as a guide; and does not run out into those details, nor include those varieties which could only be embarrassing to individuals who are deficient in a medical education. We have no hesitation in recommending it to the attention of the public, as calculated to do much good, and to supply a deficiency, which has been, we doubt not, much felt, and which we are surprised there has been heretofore no successful attempt to fill."

INTRODUCTION.

It may be safely doubted whether attempts to diffuse medical science among all classes of people, and make every man his own physician, be conducive to the interests of the medical profession or the cause of humanity. The remark of the poet, that "a little learning is a dangerous thing," is particularly true in regard to the science of medicine. The danger of tampering with remedies and assuming the important prerogatives of the profession unqualified by previous education, appears the more striking, when it is considered that a whole life spent in the investigation of disease is insufficient to secure one against occasional error in practice.

What is a little remarkable, popular works on medicine are in greatest circulation where they are least necessary, among large communities well supplied with physicians, while sailors and such as are liable to be out of the reach of physicians, have been quite overlooked. Had the authors of *Domestic Medicine*, *Manuals of Health*, *Family Physicians*, &c. bestowed a small share of their labor in supplying the forlorn sailor with some directions for relieving his pains and preserving his health, when tossing upon the dreary ocean, where no physician can be consulted, human suffering would have been lessened, without any interference with the interests of the profession.

For the want of a few simple directions for setting broken bones and reducing dislocations, sailors are often crippled for life; often the company of transport ships are swept off by the malignant diseases of sickly climates, that might have been arrested at the very onset; and there is scarce a marine hospital in the country, that does not exhibit noseless faces and mutilated bodies, the sad vestiges of a long protracted disease, which, with suitable instruction, the patient himself might have removed with the greatest facility These considerations, and a fear that the subject will continue to be neglected by those who are better qualified for writing upon it, have induced me to put together the substance of the following pages.

The diseases are classed into general and local; the first including fevers, scurvy, jaundice, dropsy, dyspepsia, epilepsy, apoplexy, lockjaw, small pox, and measles. The second class is subdivided into diseases affecting particular portions of the body, as of the head, the neck, the chest, &c. &c. This is done with the view to assist the sailor in referring to an account of his disease.

If ignorant of the name of his complaint, and therefore unable to refer to it by the index, he certainly cannot be ignorant of the part of his body that is disordered, and if it be the head, or neck, &c. he has only to turn over the pages till he arrives at the one headed with diseases of that part.

The book being intended exclusively for seafaring people, nautical diseases only are included. A great number of complaints, incident to the human body, being thus left out, enables the sailor to refer to an account of his disorder more readily, at the same time that it lessens the expense of the book.

In describing the causes, symptoms, and treatment of diseases, I have availed myself of the assistance of a variety of authors. In giving the symptoms, those only are mentioned, that are most constant, obvious and invariable. The pulse, which is the grand index to constitutional affections with an experienced physician, is little understood by others, and is therefore referred to in this book in such diseases only as where the morbid change it undergoes is great, and obvious to a common observer. In these diseases it will be advisable for the person who prescribes, to compare the pulse of the patient with his own, or that of some other healthy person. Any unusual frequency, great irregularity, or other deviation from health, will then be readily discovered.

In mentioning the causes of disease, the most common only are noticed. A knowledge of these will be attended with the double advantage of enabling the patient to determine the character of his complaint, and of guarding against their influence in future.

In directions for the treatment, many valuable remedies are omitted; some, because they would increase the list of articles in a medicine-chest, and make its expense objectionable, and others, because they would be unsafe in the hands of the inexperienced. Thus, arsenic for fever and ague, corrosive sublimate for gonorrhæa, syphilis, and some other complaints, and the concentrated acids in a variety of diseases, though very valuable in the hands of a physician, are unsafe for others to prescribe, and in the medicine-chest of a merchant vessel are even dangerous.

The exclusion of technical language and the use of the most common and hackneyed names of medicines, may give the book a vulgar appearance to a well educated physician. To such it may be proper to say, that as the work was intended exclusively for the perusal and benefit of sailors and common readers, his taste in respect to style and manner of execution has been the object least regarded.

THE

PHYSICIAN FOR SHIPS.

OF INTERMITTENT FEVER, OR FEVER AND AGUE.

SYMPTOMS.

It consists of regular fits of fever, between each of which, there is a distinct and perfect intermission. The fits usually commence in the morning. They recur generally every other day—sometimes daily, and in a few instances every *third* day only.

Each fit consists of three stages, termed the *cold*, *hot* and *sweating* stage, which run their course in this order of succession, generally in the space of from three to six hours.

The *cold stage* commences with languor, sense of debility ;—yawning and stretching, and aversion to exercise. The face and extremities become pale ; the skin over the whole body seems constricted, as if cold had been applied to it, and resembles goose-flesh. The pulse is small, frequent and irregular. At length chills come on, with pain in the head, back and loins, followed by universal shaking, and sometimes by vomiting.

Hot stage. After a longer or shorter continuance of the shaking, the heat of the body gradually returns, at first irregularly by transient flashes, soon however becoming steady and intense. There is redness of the

skin, increase of pain in the head, thirst, a quick, strong and hard pulse—sometimes delirium.

Sweating stage. At length a moisture breaks out upon the face and neck, which is soon followed by universal perspiration. The heat now descends to its usual standard, the pulse is diminished in frequency, and becomes full and free, and all the other symptoms of fever disappear, leaving the patient however a little debilitated.

CAUSES.

Debility, induced by a poor diet, by great fatigue, long watching, depressing passions of the mind and preceding disease. Cold united with moisture, in whatever way applied to the body. These however only predispose to the disease, since a more efficient cause is necessary to bring it on; and this, is exposure to marshy exhalations. In proof of this, there are large districts of country in which the disease never appears, however great the exposure of the inhabitants to the first mentioned causes; while there are others, having marshes and much stagnant water, in which the disease is so common, that in the season of it, very few escape an attack, especially those who labour under any previous debility.

TREATMENT.

The first step in the cure is to cleanse the stomach and bowels. This sometimes arrests the disease of itself, and always renders the operation of other remedies more safe and certain. Thirty grains of Ipecac, answers the purpose very well, and should be given at the commencement of the cold stage. During its operation,

the patient may drink freely of warm water or weak Chamomile tea. To insure the operation of the medicine upon the bowels, add to it two or three grains of Calomel.

After these necessary evacuations, the patient is to begin with the grand remedy, *Peruvian bark.* When this medicince has been often repeated and long continued, its effects are diminished, and it should therefore be given in large quantities at first, so as to produce its effects as early as possible. About two drachms of the bark in powder may be taken every two or three hours during the intermission. If the stomach will not bear this quantity, administer half of it at a time and more frequently. When the bark in substance is rejected, it may be taken in decoction,* as much as the stomach will bear. Certain morbid effects arising from the bark may be easily obviated, by joining with it other substances, according to the particular uneasy symptoms it produces; —thus diarrhœa will be prevented, by adding an opiate to it; and costiveness by Rhubarb, or some other mild purgative.

Where Peruvian bark cannot be procured, or is of a bad quality, or has been long used to no effect, other tonic bitters are to be substituted, and taken in the same manner; as Columbo, Gentian, Quassia, &c. Also Charcoal finely powdered may be taken in substance.

The medicine should be continued for several days after the disease is arrested, otherwise it will be likely to return.

Opium has been highly recommended in intermittents, and well deserves a trial, since its exhibition does not

*See Decoctions in the Appendix.

interfere with the other remedies above mentioned. It may be given in doses of thirty or forty drops of the tincture,* at the commencement of the first cold fit, succeeding that, in which the emetic was administered. If the first dose fail to induce warmth in the space of ten or fifteen minutes, give thirty or forty more. The tendency of this medicine is, to shorten the fit and render it less likely to return.

During the fit, the patient should take freely of warm drinks, and during the interval, or between the fits, subsist on a nourishing and easily digested food.

It is of the first importance that sailors who are obliged to *wood* and *water*, or perform other duties on shore, in situations favorable to the producing of fever and ague, should exercise the greatest caution in their diet and regimen. As a preventive, it is advisable for persons in such situations to drink freely of bitters—two or three glasses a day, in wine or weak spirit and water—the best of which are those of the warm and astringent kind. Sailors should avoid exposing themselves to sudden changes of temperature, or to evening air, and if possible return to their ship before dark. They should wear warm clothing ; indulge in a plentiful diet of flesh highly seasoned ;—observe cleanliness, and preserve a healthy state of the bowels.

*Or Laudanum.

OF REMITTENT FEVER.

SYMPTOMS.

This disease partakes in some degree of the nature of intermittent fever, being generally produced by similar causes. There is however this difference between the two, that in intermittent fever, the fits return at stated periods, and on subsiding leave the patient entirely free from all febrile symptoms; while in the present disease, there is only an abatement between the fits, and an irregularity in the time of their recurrence.

It is impossible to describe all the symptoms of remittent fever, since they vary according to the situation and constitution of the patient—the season of the year—the treatment adopted, and many other circumstances, too numerous to mention. Sometimes bilious symptoms predominate, sometimes nervous, and at others putrid—nor is it uncommon to find a succession of these; or even a complication of them in the same person at the same time. Hence this disease has often been termed *mixed fever.*

It is most prevalent in warm climates, where great heat and moisture rapidly succeed each other—and particularly in marshy situations, abounding with wood and water.

TREATMENT.

It should be treated according to its predominant symptoms, or in the same way as that fever is treated to which this at the time bears the nearest resemblance.

One remedy, however, seems well adapted to every form of this, and almost every kind of fever at its commencement, and that is an emetic. Take thirty grains of Ipecac: and during its operation drink freely of warm water or weak Chamomile tea.

As it will be necessary to move the bowels with a mild laxative, add to the Ipecac: four grains of Calomel, or take a solution of Cream of Tartar, or small doses of Salts, till an evacuation is produced.

Bleeding is at best a doubtful remedy, and except in cold climates should hardly ever be resorted to.

If frequent vomiting prevail, a large blister may be applied over the stomach.

Where unnatural heat of the skin exists, it is to be allayed by the application of cold water and vinegar, or water alone, dashed upon the body, or applied with a sponge.

The patient may take freely of toast-water, lemonade, or tamarind-water, and the bowels may be moved daily with the solution of Cream of Tartar.* The food should be of the lightest and most agreeable kind, as sago, rice, barley, &c.

In a few days, this treatment will either subdue the fever, or convert it into an intermittent. In the latter case, the bark should be administered as prescribed in that disease. In hot climates, however, it will be necessary to give the bark, whenever there is a slight remission, or abatement of the fever, without waiting for a complete intermission.

Wherever this disease is prevalent, the same preventive should be taken, and the same regimen adopted, as

*See Appendix.

are directed under the head of intermittent fever; as also under the head of *advice to strangers in hot climates.*

This is the most common fever in tropical climates. It is not frequent at sea, but generally attacks men when they get into harbor, particularly such as are sent on the business of *wooding* and *watering*, and are thus exposed to the noxious effluvia by which it is produced. It is of very frequent occurrence in the West-Indies—on the seaboard and banks of the rivers of the Southern States —on the coast of Guinea in Africa, and the warmer latitudes of the East-Indies.

The higher the latitude it occupies, the milder are its symptoms. In 1813 it prevailed in the squadron of Com. Perry on the south side of Lake Erie to such an extent, as to attack one man out of four of all the crews. Its character however was so mild, that one death only occurred.

OF THE LOW TYPHUS, OR SLOW NERVOUS FEVER.

SYMPTOMS.

It commences slowly and imperceptibly, with general languor, dejection of mind—loss of appetite—alternate chills and flushes—dulness and confusion of thought. In a day or two there is a giddiness and pain in the head, with aching pains over the whole body—nausea—frequent, weak, and often intermitting pulse. At first the tongue is moist, but afterwards becomes dry, brown and tremulous; there is little thirst, and the urine is pale and watery. As the disease advances, the heat and other symptoms of inflammation increase, the urine becomes high colored; sometimes, diarrhœa and immoderate sweating ensue; there is a low, muttering delirium, a starting and twitching of the tendons; sometimes a coldness of the extremities, convulsions and death.

CAUSES.

Weak and delicate habit of body; poor living; warmth of climate; depressing passions of the mind, as grief fear, anxiety; excessive venery; intemperance.

It may be known from putrid or malignant fever, by the attack being more gradual and the symptoms milder: from inflammatory fever, by the smallness and weakness of the pulse, and by its more mild accession.

About the 7th, 14th, or 21st day from the attack, the disease usually abates, and the patient from that time slowly recovers.

TREATMENT.

Commence this by cleansing the stomach and bowels with a mild emetic and cathartic combined as follows:

Take Ipecac: thirty grains, and Calomel five; mix them and give the dose in any convenient vehicle. If

this fail to move the bowels once or twice, take some other mild purgative, and repeat it as often as there is the least tendency to costiveness.

If the disease be not arrested by this treatment within the first three days, apply blisters to the legs, and poultices to the soles of the feet. If after this there be much stupor, shave and blister the head.

The patient may take wine in sago, barley-water, or gruel. He may also take chicken-broth, beef-tea, or other light animal food, but in such quantities only as his stomach craves, and as will be likely to agree with him.

The pulp of an orange, or roasted apples, will be both cooling and agreeable to the stomach.

For common drink, he may take toast-water, lemonade, wine and water, cider, or soda water.

One of the best remedies in the early stage of the disease, after the stomach and bowels have been moved by medicine, is *cold affusions.* The cold water should be dashed on from a pitcher or bucket, wherever the heat of the skin is above the natural standard. If this heat however be confined to particular parts of the body, the cold water may be applied to them alone, with a sponge or wet cloth.

The patient should be kept as quiet as possible, and with a view to promote perspiration and induce sleep, may take every evening a Dover's powder,* and have warm poultices renewed to his feet.

During the day-time, administer the following drops: —Take Spirits Nitre and Antimonial wine equal parts, nix them, and give two tea-spoonfuls every three hours, n toast-water.

*See Powders.

PUTRID, MALIGNANT, JAIL, OR SHIP FEVER.

SYMPTOMS.

The attack of this disease is very sudden. The patient is hardly able to stand, and from the first moment seems ready to faint without any apparent cause.—There is an intense pain in the head, strong pulsation and throbbing in the temples—sometimes delirium—sickness at the stomach, followed by a vomiting of black matter. The tongue is at first white, but afterwards appears black and chapped, and the teeth are covered with a black crust—the breath is hot and offensive. The fever continuing to increase still more in violence, symptoms of putrefaction show themselves; the stools are dark, very offensive, and pass off insensibly; blood is effused under the skin, forming purple spots; bleeding occurs from different parts of the body; the pulse sinks and intermits; the extremities grow cold; hickups ensue and death.

This fever may be distinguished from inflammatory, by the smallness of the pulse;—the great dejection of mind;—the sudden and extreme debility; the putrid smell of the breath and stools—and by the purple spots. It may be known from low or nervous fever, by the suddenness and violence of the accession—the intensity of heat and thirst, and the high color of the urine;—from yellow fever by the matter vomited being void of bile; by the absence of yellowness in the eyes, and by reference to its supposed causes.

It is however sometimes the case, that this is blended with two or three other fevers.

CAUSES.

The room, or atmosphere in which a person labouring under the disease is confined;—foul air, occasioned by the confinement of a large number of persons in a narrow place not properly ventilated, as in crowded hospitals, jails or ships, especially where cleanliness is neglected;—exhalations from putrid vegetable or animal substances;—subsisting long on animal food, without a proper mixture of vegetables, or eating that which has been kept too long; hence sailors are more liable to its attacks in long voyages.

It is sometimes caused by putrefaction taking place in filthy ballast. In the frigate General Greene an instance of this kind occurred, and a loss of forty or fifty lives was the consequence. The same thing occurred also on board the frigate Philadelphia. In both these instances, the disease was entirely arrested by deserting the birth-deck and bringing the crew upon the gun and spar-decks, where there was a constant current of air.

This fever is not confined to hot climates, though from the more sudden process of putrefaction of animal and vegetable matter in warm places, and from the debility and consequently greater susceptibility of the system to the disease, it oftener appears in hot than in cold climates.

TREATMENT.

In this disease we should resort to proper remedies at the very onset, and not wait until the powers of the system are prostrated. The most proper remedy at first

will be an emetic of twenty-five or thirty grains of Ipecac: and as it will become necessary to move the bowels as early as possible, it will be adviseable to add to the emetic ten grains of calomel. During the vomiting drink freely of Chamomile tea. After it has subsided, if the bowels are still unmoved, give a solution of Cream of Tartar, till evacuations are produced.

These steps being pursued, examine the temperature of the skin, and if it be higher than natural, dash cold water on it, from a bucket or pitcher, and repeat the operation as often as the heat becomes excessive. If it be inconvenient to apply it in this manner, sponge the body frequently with water and vinegar, or water alone, wherever there is an unnatural heat.

Bleeding in this disease should be dispensed with, especially in hot climates.

The patient should take a very mild laxative, such as a solution of Cream of Tartar, or Rhubarb in small doses every day or two.

Support the strength of the patient with the liberal use of wine. It may be given in barley, gruel, sago, and likewise in his drink. The effervescing mixture* may be taken every three hours.

As soon as there is a slight abatement in the violence of the fever, give Peruvian bark, in the form most agreeable to the patient's stomach. This will generally be a mixture of Tincture and Decoction as follows;—

Take Decoction of Bark,† one table spoonful, Tincture of Bark, one tea-spoonful; mix and add Elixir Vitriol twelve drops.

This dose should be repeated every two hours.

* See mixtures. † See Decoctions

In warm climates the Elixir Vitriol and Decoction of Bark may be administered as soon as the stomach and bowels are cleansed, and without waiting for any remission.

Important circumstances to be attended to throughout the whole course of this fever, are to cover the patient lightly with bed-clothes, to ventilate his apartment and sprinkle it with vinegar or spirits. The bed and body linen should be changed frequently, and whenever a motion takes place let it be removed immediately.

It is of the utmost consequence in this disease to procure rest, and therefore where no great delirium exists, an opiate may be given toward bed-time, in the following manner:—

Take Laudanum thirty drops,
Paregoric sixty,
Spirits Nitre sixty, mixed in warm tea.

On the appearance of this or any infectious disorder in a garrison, hospital, ship or other place, where many persons are crowded together, every apartment should not only be cleansed and aired, but fumigated daily, with the following preparation.—Put into an earthen vessel a handful of table-salt, and pour into it sulphuric acid sufficient to moisten it throughout. Let it remain in the apartment half an hour, with the doors and hatches or windows closed. Or,

Where this is inconvenient, burn, by means of a hot iron, sulphur or gunpowder, previously wet with vinegar.

OF THE YELLOW FEVER.

SYMPTOMS.

In general it begins with short alternate chills and flushes of heat, seldom, however, with those rigors and shakings that mark the commencement of most other fevers. These are immediately succeeded by violent head-ach, pain in the back, universal debility, sickness and anguish at the stomach. There is commonly, in the beginning, much bile on the stomach, which is thrown off by vomiting, either spontaneous, or excited by an emetic. In the course of the disease however it is not common for the stomach and bowels to be loaded with bile; there is, on the contrary, rather a deficiency of it, particularly in the most violent and dangerous cases, as is indicated by clay-colored stools.

The eye in a few hours takes a yellow tinge, which soon after extends more or less over the face and whole skin. This is a symptom so striking and constant, that it gives name to the disease. Its first appearance on the skin is under the ears.

One of the most tormenting symptoms is a constant wakefulness. It is seldom that even delirium comes to the relief of the patient to make him forget himself for a moment; but he continues broad awake, night and day, with his reason and senses sound, in a state of the most uneasy agitation.

One distinguishing and alarming symptom is a constant vomiting, which usually commences within the first twenty-four hours, and about the third day ends in what is called the *black-vomit.*

Upon the first attack, the skin is extremely hot and dry, but the external heat soon becomes very little above the natural standard in health, and the skin feels soft and moist. The pulse, which is at first hard and frequent, is afterwards so variable as to be no sure index of danger. The degree of thirst is less in this than in most other fevers, and there is no uniformity in the colour of the urine.

Sometimes there is a remission after thirty-six or forty-eight hours from the attack, but the symptoms often recur with redoubled violence.

In the latter stage the debility is extremely great, and the breath highly offensive; bleeding sometimes occurs from the mouth or nose, the pulse sinks, swallowing becomes difficult, and death ensues.

CAUSES.

This disease, though strongly resembling the *Bilious remittent fever* in many of its symptoms, yet differs from it in this, that the air of woods and marshes is not necessary to produce it. It however often arises from the foul air of a ship, either from infectious effluvia, or from putrefaction that takes place in neglected holds. A fit of intemperance or too much exercise in the heat of the sun, serves to hasten its attack.

It is remarkable with regard to it, that it is confined almost entirely to those who have recently arrived from a cold or temperate climate. It appears also that those persons who have been exposed to unwholesome air in the neglected holds of vessels in cold climates are more particularly the subjects of yellow fever, when they arrive in a hot climate. Those strangers who are young and plethoric are most apt to be attacked.

It may be distinguished from Remittent fever, to which it bears the nearest resemblance, by reference to its causes, as above mentioned.

TREATMENT.

The mere name of yellow fever is sufficient to damp the spirits of sailors, since it occasions more deaths among them than all other acute diseases together; and with the exception of plague, the proportion of cures is less than in any other disease to which that class of people are liable. We should however not despond because the fatality of the disease is discouraging, but rather redouble our diligence in observing what assistance and relief nature may receive.

It is proper in all fevers of warm climates to commence the cure by cleansing the stomach and bowels. In yellow fever, however, there is such constant irritability of the stomach and inclination to vomit, which we find difficult to check, that taking an emetic may be omitted. During the spontaneous vomiting that occurs early, the patient may drink freely of Chamomile tea.

As a cathartic, the most effectual medicine is Calomel, which may be taken in syrup, or mixed with crumbs of bread, in a dose of twenty grains. If this fail to open the bowels, the dose should be repeated, or some other purge administered, such as is most agreeable to the patient, within two or three hours after the first.—The advantages Calomel possesses over other medicine, are, that it is less offensive to the taste, and less bulky, on account of which, and of its greater weight, it is less likely to be thrown up by vomiting.

With regard to blood-letting, a remedy in high repute with Dr. Rush and some others, the most that is

said of it by a great majority of those practitioners, who have treated the disease in ships and in the West Indies, is, that where the patient is young and corpulent, and there is a hard throbbing pulse with violent pain in the head and back, it may be advisable to draw a small quantity of blood in the first twelve hours, but that it is not safe to take any after this period.

Cold water applied externally is a powerful remedy, and sometimes arrests the disease at the onset. When therefore a person is attacked, and there is an unnatural heat of the skin, cold water should be dashed over him from a bucket or pitcher. Where the heat is confined to particular parts, the water should be applied to these with a sponge or towel. The head will probably require this, more than any other part.

The great object in the cure of this fever is to bring the stomach to bear Bark. The only obstacle to its administration is the disposition to vomit, which is the most fatal sympton of the disease, and the principal part of the management consists in the prevention or removal of it. The stomach is therefore to be treated with the utmost tenderness, and only such medicines and drinks given as are very grateful. To quiet the stomach, the effervescing mixture* is highly recommended, and may be given every two hours and to each dose may be added ten drops of Laudanum.

But the most effectual remedy for allaying vomiting is a large blister applied over the stomach, and this must be laid on early, or as soon as the vomiting has commenced.

No other internal medicine need be recommended, for whatever power of retention the stomach may have, should be employed upon the Bark.

* See Appendix.

To take inflammation from the vital parts blisters may be applied not only over the stomach but to the legs. To hasten the drawing of them, the parts may be previously rubbed with peppered vinegar or other strong stimulants. With the same view warm Mustard poultices* should be applied to the soles of the feet every twelve hours.

It is very desirable in this fever to excite a mercurial action, so far at least as to induce a coppery taste, and some spitting, but this cannot be done by mercurial pills or other internal medicines for reasons above stated, viz. the necessity of appropriating the retentive power of the stomach to bark. The object must therefore be attained by the use of Mercury externally. To this end rub a portion of Mercurial Ointment of the size of a nutmeg on the inside of the thighs every eight hours, and dress the blisters, if there be any drawn, with the same substance.

So soon as the bowels have been moved and the stomach will admit of it, administer Bark. As the stomach in this fever will hardly ever bear the Bark in substance, it must be given in decoction.† In making the decoction, add to the powder of Bark, one fourth of its quantity of Cinnamon. Or to each dose of the Bark, add three drops of Peppermint. The quantity of Bark to be taken should be as great as the stomach will bear; beginning with at least a table-spoonful, and repeating it every half hour. If the stomach retain the first dose or two, the quantity may be increased, and ten drops of Elixir Vitriol added to each dose. When the stomach rejects the Bark in every form, the decoction must be adminis-

*See Appendix. †See Appendix.

tered in clysters, in the quantity of half a pint every two hours, and retained as long as possible by the patient.

When the stomach becomes perfectly quieted, it will afford the patient great relief to procure perspiration and sleep, for which purpose a powder, consisting of Calomel, Camphor, and Opium, of each one grain may be administered in the evening.

After the first purging, the bowels must be moved every day, but as the stomach will not bear purgatives, the effect, for the three or four first days at least, must be produced by clysters of salt water.

From the first hour of the attack the patient should abstain from solid food, and subsist on sago, gruel, or barley-water. His drink may be lemonade, toast-water, tamarind-water, orange-juice, &c.

The same directions are to be observed in regard to cleanliness, &c. as are given under the head of Putrid Fever.

OF ACUTE OR INFLAMMATORY FEVER.

SYMPTOMS.

It commences with general weariness and anxiety, succeeded by dizziness, chills, and pains over the whole body, but more particularly in the head and back.—These symptoms are followed by redness of the face throbbing of the temples, great restlessness, intense heat unquenchable thirst and nausea. Light is offensive, the skin is dry and parched, the tongue becomes of a scarlet colour at the sides and furred with white in the middle; the pulse is full, hard, and quick; the urine red and scanty, and the body costive. When blood is drawn, it exhibits a yellowish or buffy crust on its surface.

When the disease is not arrested at the commencement, it usually goes through its course in about fifteen days and terminates critically, either by a perspiration, diarrhœa, bleeding at the nose, or the deposit of a copious sediment in the urine. In some instances it however terminates fatally. High fever with stupor and delirium denotes danger, but picking the bed-clothes, twitching of the tendons and involuntary evacuations portend death.

CAUSES.

Exposure of the body to sudden alterations of temperature, particularly to cold and moisture after being heated ; intemperance ; violent exersise.

This may be distinguished from all other fevers by the strength and hardness of the pulse ;—the whiteness of the tongue, and the other symptoms of high fever just mentioned.

TREATMENT.

In this and all other fevers attended with a hard, full, and quick pulse, bleeding is of the first importance, and should be employed as early as possible. The quantity of blood to be taken, must be in proportion to the strength of the patient and violence of the disease. From one to two pints may serve for a sailor's constitution at the first bleeding; but if after this his pulse should again become hard and frequent and other symptoms of fever return, it will be necessary to repeat the operation a second or even a third time, which may be done at intervals of twelve, eighteen, or twenty-four hours from each other, as symptoms may require.

The next step after the first bleeding, is to cleanse the stomach and bowels ; which may be done in the following manner :

Take Tartar Emetic, five grains,
Glauber's Salts, two ounces,
mix and dissolve them in a pint of water : give a third of this solution every half hour. If the first and second dose produce the desired effect, the third may be omitted Or,

Take Ipecac : twenty grains,
Calomel, ten grains ;
mixed in molasses or gruel.

Or, Take a common emetic,* and in twelve hours after a dose of Salts or some other active cathartic. During the operation of the medicine upon the bowels, the patient may take freely of gruel or barley-water.

To obviate a tendency to costiveness, allay thirst, and promote a gentle perspiration, the patient may drink freely of toast-water, flax-seed tea, or barley-water, acidulated with Cream of Tartar. If this mixture be not sufficiently laxative to produce two or three motions of the bowels every twenty four hours, administer the cooling mixture† in doses of a table-spoonful every three hours.

Where the bowels are sufficiently loose and require no laxative medicine ; instead of the foregoing, give the following mixture.

Of Antimonial wine and
Spirits of Nitre equal parts : give one drachm or two tea-spoonfuls every three hours in toast-water.

*See Emetics in the Appendix.
†See cooling mixture in the Appendix.

For the purpose of allaying inordinate heat of the skin of any part, sponge it frequently with cold water.

If heat and thirst continue very great, the patient may take Powder of Nitre ten grains, every three hours, and drink freely of cold water.

From the first attack, warm poultices, made of pounded bread, should be applied to the feet, morning and evening.

If there be a tendency of the disease to any particular organ; as the brain, which will be known by the presence of great pain of the head or delirium;—or to the chest, which difficult breathing, will indicate, a blister should be applied to the neighborhood of the part affected.

Opium is so doubtful a remedy in acute fever, that no preparations of it should be prescribed, unless by a regular practitioner of medicine.

Throughout the whole course of the disease the patient must abstain from solid food and animal broths, supporting nature with gruel and preparations of barley, sago, &c. His bed should be lightly covered with clothes, and his apartment preserved of a moderate and equable temperature.

SCURVY.

SYMPTOMS.

It commences with unusual weariness—dejection of spirits—sluggishness, and offensive breath. The gums become soft, livid and swollen, are apt to bleed from the slightest cause, and separate from the teeth, leaving them loose. About the same time the legs swell, are

glossy, and soon exhibit foul ulcers:—the same appearances follow, on other depending parts of the body. At first the ulcers resemble black blisters, which spread and discharge a dark coloured matter. Unless the general habit be now corrected by proper diet and regimen these ulcers increase, great emaciation ensues, bleedings occur at the nose and mouth, all the evacuations from the body become intolerably fœtid, and death closes the scene. During the progress of the disease, the pulse is generally natural, but towards the fatal termination, it becomes weak and intermitting. The appetite continues very little impaired, and in some cases the patient, even within a few hours of his dissolution, is more eager than ever, in his calls for food. His mind remains sound for the most part, to the last. The fatal termination, though gradual in some instances, is generally sudden, and is frequently accelerated by attempts to move the patient on shore.

CAUSES.

Cold, moist air;—the long continued use of salted provisions, or other food that is hard of digestion and affords little nourishment;—deficiency of vegetables;—want of cleanliness;—indolence; depressing passions of the mind; smoking and chewing great quantities of tobacco; the putrid stench of bilge water.

TREATMENT.

This is to be managed by pursuing a course of diet and regimen directly opposite to that which induced the disease. Where this can be done, medicine is almost unnecessary. Among the most celebrated and infallible

remedies, are succulent fruits, of which oranges, lemons, limes and apples, are the best. Unfortunately, however these articles are with difficulty preserved on long voyages, and consequently least likely to be found when most wanted. Perhaps then no article after these is so valuable in long voyages, both for its efficacy and imperishable quality, as potatoes, which have moreover the advantage of being cheap and easily supplied in almost every port. I rarely use any other remedy in a man of war, and always lay in a stock of them with the hospital stores purposely for the cure of Scurvy.— Whenever a scorbutic patient reports himself unfit for duty, I direct him to abstain from all salted food, and to commence eating raw potatoes scraped and mixed with vinegar, to the quantity of from one to three pounds of the potatoes a day, according as they may agree with his stomach and bowels. The dish is very agreeable, resembling salad or sliced cabbage. With the same materials I dress scorbutic ulcers, and find it a valuable detergent, and as conducive to healthy action as any application I have used.

It is probable that cabbages, turnips, &c. are equally as valuable as potatoes. A preparation of cabbage, called krout, is a highly reputed anti-scorbutic, and can be kept for years. All vegetable acids, as lime juice, tamarinds, cider, pickles, &c. are excellent remedies ;— also all saccharine fruits, as pine apples, raisins, and figs. When neither vegetables nor lemon-juice can be procured, take three or four times a day, Nitre in doses of ten grains, dissolved in vinegar and sweetened. If the vinegar of the ship be exhausted, use in place of it the concrete salt of lemon dissolved in water.

So sudden is the salutary effect of an anti-scorbutic di-

et, that the worst cases of Scurvy are very perceptibly relieved by it, in the first twenty-four hours.

Such is the general treatment to be adopted in Scurvy ; but particular symptoms will require a separate management. Pains of the belly must be allayed by emollient drinks, as barley water, or sago, and by opiates ; difficulty of breathing by the pectoral mixture ;*—diseased gums are to be washed with Elixir Vitriol so far diluted with water as to be agreeable to the taste, or with Decoction of Bark, or solution of Alum ; †—the rigidity of the muscles, particularly the contraction of the hams, and the livid hardness of the calves of the legs, may be removed by warm bathing and emollient poultices ; costiveness may be obviated by a solution of Cream of Tartar.

It is very remarkable that this disease should at the present day be suffered to prevail in merchant ships, often to the destruction of half their crews, when preventives are so well known and so easily supplied.—In crossing the Atlantic in a frigate in 1818, we fell in with a French ship bound from South America to Havre, where this disease had prevailed to such a degree, that one third of her crew were dead, another third at the point of death and the other survivors more or less diseased. Now all this calamity might have been prevented by a supply of potatoes and lemon-juice of the value of eight or ten dollars, or perhaps half that value of concrete salts of lemon.

This concrete salt of lemon should be introduced into every medicine chest in large quantities, since it is imperishable by long keeping, and may therefore be carried to sea for years, and serve as a last resort when

* See Mixtures in the Appendix.

† See Solutions in the Appendix.

every other acid and anti-scorbutic in the ship is exhausted. It has the further advantage of being cheap, and less bulky and incommodious than other acids of equal value.

In addition to what is said under the head of Directions for preserving the health of seamen, it may not be improper to observe here, that in long voyages lime or lemon-juice preserved in the form of shrub, and served out to the crew daily is a sure preventive of Scurvy. I may further add, that where a crew is threatened with this disease, it is of the first importance to preserve the ship clean and dry, and to keep the crew in gentle, and pretty constant exercise.

JAUNDICE.

SYMPTOMS.

Loss of appetite—aversion to exercise—yellowness of the eyes, and subsequently, of the whole skin. The urine is highly coloured and tinges the linen yellow; the stools are white, or of a clay colour. The patient complains of a bitter taste, nausea and sickness at the stomach. Generally there is costiveness, which, however, is occasionally interrupted by diarrhœa. Frequently a sense of uneasiness and darting pain is felt under the short ribs of the right side and at the pit of the stomach.

CAUSES.

The *immediate* cause is an obstruction to the passage of bile, from the liver into the intestines, on account of

which, it is thrown back into the circulation and diffused over the body, imparting to it the yellow colour above mentioned. This obstruction may proceed. 1. From the lodgment of a stone in the gall-duct. This variety of jaundice may be known from the others, by occasional acute pains under the short ribs of the right side. 2. It may proceed from indurated mucus, lodged in the passage of the gall-duct. This variety follows a sedentary habit, debility, a long continued mercurial course for the venereal disease, and is generally unattended by pain. 3. The obstruction may proceed from an enlargement of the liver, as in what is called the *ague-cake*, which often succeeds the intermittent or remittent fever, or from that chronic inflammation of the liver which is occasioned by hard drinking. In this variety of jaundice, the enlargement of the liver can be felt, which distinguishes it from other varieties. There are other kinds of jaundice, but they rarely occur among sea-faring people.

TREATMENT.

Of the first variety. If pain and inflammation exist in considerable degree, bleed, and bathe the part with warm water; in addition to which, employ the remedies recommended in the second variety.

Second variety. Administer an emetic every other morning, and if it fail to move the bowels, give on the intervening days a mild cathartic, as,

Calomel, six grains,

Jalap, ten grains, mixed in syrup or other convenient vehicle, and repeat the dose every three hours, till it operates. Or,

Calomel pills, three or four, with
Castor Oil, a table-spoonful. Or,
Calomel alone, twenty grains.

The warm bath, by its relaxing powers, proves very useful in jaundice, and should be employed frequently.

Exercise of the jolting kind, as running, dancing, jumping a rope, is very serviceable. To those who reside on shore, riding on horseback is an invaluable remedy.

In the third variety. Where the liver is enlarged, mercury should be employed, as recommended under the head of *Chronic affection of the Liver.*

The diet should be light and nourishing.

DROPSY.

SYMPTOMS.

General Dropsy commences with a watery swelling in the lower extremities and first appears towards evening in the feet and ankles, afterwards gradually ascending and occupying the thighs, trunk, and even head. The swelling is not elastic, but pits, when pressed with the fingers, and the pits are slow in filling up. When it has become very general, the belly swells, the breathing is difficult and accompanied by a cough with a watery expectoration. The urine is scanty and high coloured; sometimes, however, it is of a pale whey color and copious. There is costiveness ;—paleness of the skin, and oftentimes insatiable thirst.

CAUSES.

An hereditary predisposition to the disease ;—certain organic diseases, as of the heart and liver, produ-

cing an obstruction to the free circulation of the blood —preceding disease, as jaundice, diarrhœa, dysentery eruptions, &c.--watery diet.

A *favourable* result may be expected, when the cause, of the disease is easily removed,—when the constitution is very little impaired,—the appetite remains entire, and the respiration free. *Unfavourable*, when there is the reverse of these, when the heart or liver is diseased,—when the emaciation is great,—the thirst insatiable—and where there is drowsiness.

TREATMENT.

The principal indications in the cure of Dropsy are,

1. To evacuate the collected fluid.
2. To prevent its reaccumulation.

The fluid is evacuated,

1. By emetics,* which may be taken every second or third day.
2. By cathartics, taken on intervening days.
3. By diuretics, as Digitalis, Squills, Nitre, Spirits of Nitre, in the following manner:

Take Digitalis, one grain,
Nitre, ten grains, in
Syrup of Squills, a tea-spoonful; every four hours. Or,

Take Syrup of Squills, and
Spirits of Nitre, of each a tea-spoonful; mix and repeat the dose every four hours.

4. Mercury; so exhibited, as to effect the gums and produce a spitting. This may be combined with the Digitalis and Squills, in the following manner:

Take Calomel, one grain,

*See Appendix.

Digitalis in powder, one grain, mixed in

Syrup of Squills a tea-spoonful, and repeat the dose every four hours, till the mouth is affected, and the swelling subsides. While taking the mercury, emetics and cathartics may be omitted.

5. Sudorifics; as Dover's powders,† every four hours, accompanied by diluting drinks, as toast-water, &c.

To prevent the reaccumulation of water, the patient should subsist on a light, nourishing, high-seasoned diet; —take Bark and other strengthening bitters,—use exercise, friction and cold bath.

Other remedies might be mentioned, as scarifications, blisters, bandages, &c. but the above are sufficient to keep the disease in check, when it appears on board ship, till medical advice can be obtained from shore.

Dropsy of the chest, belly, &c. are treated of, under diseases of those parts.

OF DYSPEPSIA OR INDIGESTION.

SYMPTOMS.

Want of appetite,—rising of food and wind from the stomach,—acidity of the stomach,—heart-burn,—flushed countenance after a full meal,—sense of distention in the stomach and bowels,—sometimes rumbling and pain, —costiveness, which is now and then interrupted by diarrhœa,—dryness and whiteness of the tongue in the morning,—paleness of the urine. There is general debility, languor and aversion to motion, dejection of spirits, disturbed sleep and frightful dreams.

†See Powders.

CAUSES.

Whatever debilitates the system in general or the stomach in particular, as opium,—spirituous liquors,—hot and strong tea or coffee,—tobacco,—long continued vomiting excited by too powerful emetics, or long protracted sea-sickness,—poisons,—sedentary life,—depressing affections of the mind,—excessive evacuations,—diseased liver—excessive venery.

CURE.

The first and most important step is to avoid whatever may have tended to give rise to the disease and continues to aggravate it; until this is done, medicines will be of very little service.

The remedies then are,

1. Emetics. One of the gentle kind should be the first medicine given, and if afterward nausea return, accompanied by a rising from the stomach of imperfectly digested food, or acid substances, the emetic after four or five days should be repeated.

2. Purgatives, of the stimulating and gentle kind, as powder of rhubarb and magnesia of each 15 grains, which may be taken whenever there is a tendency to costiveness. If the bowels be difficult to be moved, add to the medicine two or three grains of Calomel. Or, in place of this, take the common Aloectic pills.

3. A nutritious, easily digested diet. In these respects, animal food is preferable, but in consequence of its tendency to induce costiveness, an occasional meal of light vegetable food may be serviceable, and a moderate use of sub-acid fruits, as apples, pears, &c. The meals should be taken at stated periods, and at intervals of three or four hours. The drink should be in small

quantity, and such as does not become acid. Watch the effects of the different kinds of food and drink, and select that which best agrees with the stomach.

4. Exercise. If on shore, walking, riding on horseback, or in a carriage, and these in succession, as are most easily borne. Be engaged in some active business or amusement, which will employ the mind. Travelling will therefore be very beneficial.

Lastly. Tonics, particularly vegetable bitters, as Peruvian Bark, Quassia, Cascarilla, &c. taken in the following manner:

Quassia Cascarilla; or

Decoction* of Bark, two ounces every four hours, or a few minutes before eating. After taking it for a few days, its efficacy will be increased by the addition to each dose, of ten drops of Elixir Vitriol. Or,

Take an ounce and a half of either of the decoctions, and add to it, a glass of wine or a table-spoonful of spirit. Or,

Take two or three drachms of Tincture of Bark in water, or in wine and water.

Occasional symptoms may require additional remedies. *Acidity of the stomach*, and *heart-burn* can be removed by chalk or magnesia. *Occasional pains of the stomach and bowels*, which usually depend on windy distention, may be relieved by a few drops of Peppermint. *Diarrhœa*, when it occurs, may be treated by small doses of Rhubarb and Kino, combined thus:

Take Rhubarb, five grains,

Kino, two grains every three hours, till the diarrhœa is arrested.

* See Decoctions.

OF EPILEPSY, OR FITS.

SYMPTOMS.

The patient, if standing, is suddenly thrown to the ground in convulsions. During the fit, there are strong contractions of the limbs, twistings of the body, distortions of the countenance, grinding of the teeth and clenching of the hands. These continue for a few minutes with such violence, that two or three persons are not sufficient to hold the patient; the fit then subsides, but shortly after is renewed. After three or four returns, they cease altogether and leave the patient senseless, generally in a profound sleep. Commonly the patient has no warning of the fit, yet sometimes it is preceded by pain in the head, unquiet sleep, noise in the ears; in some instances, by a sensation of cold air commencing in one of the limbs, and gradually creeping upwards till it reaches the head, when the patient falls in a fit. In those who are much subject to fits, they sometimes occur in sleep.

CAUSES.

Irritation of body or violent excitement of mind. But these causes rarely take effect, unless there exist a strong predisposition to the disease, either hereditary, or from debility, with great mobility either natural or acquired. Perhaps no class of people of equally hardy constitutions are so subject to this disease as sailors.

TREATMENT.

The only thing to be attempted during the fit, is to protect the patient from bruises, which his strong convulsions are apt to occasion.

When restored to his senses, attend to the exciting cause of the fit, and remove or avoid it. In almost all cases, it is advisable after a fit, to move the patient's bowels, with a draught of salt-water, or some other purgative. He should avoid a costive habit, and abstain from ardent spirits, with all other strong stimulants.

When the patient is warned of an attack, it may in some instances be averted by vomiting or purging.

Where the fits recur very often, I have always been able to suspend them by exciting a mercurial action.

In cases where the fit commences with a sensation of cold air, creeping along one of the limbs towards the head, apply a string around the limb, and direct the patient to draw it tight, when the sensation is first felt, by twisting a stick, which is to be worn in the string ready for the purpose. I have commonly used a field tourniquet, and have seen a patient avert fits for months, who, without this apparatus, was attacked by them three or four times a week. The pressure need not be continued more than a minute. The apparatus may be so applied, as to occasion no impediment to exercise or labour. Those who are subject to this disease should never be sent aloft.

OF APOPLEXY.

SYMPTOMS.

Total suspension of the powers of sense and motion, accompanied by snoring—foaming at the mouth, and grinding of the teeth—the eyes are prominent and fixed, and the pupils dilated—the pulse is very little disordered.

Persons, from fifty to sixty years of age, are most liable to it, particularly those who have short necks, with large heads, and who indulge in the luxuries of the table.

The fit is usually induced by some violent excitement of body or mind, long stooping, derangement of the stomach, overloading it with pastry, fumes of poisonous substances, foul airs, &c.

TREATMENT.

When the patient is seized, take from him a pint and a half or two pints of blood. The difficulty of starting blood in a fit of Apoplexy, may make it necessary to open veins in both arms, and both feet, at the same time. The head is to be shaved, and bathed with cold water and vinegar, the feet and legs bathed in warm water, and a drastic purge administered, of Calomel, forty grains; or Calomel thirty, Jalap twenty, mixed. If this course fail to render the patient sensible, a large blister must be applied to the head and the bleeding repeated.

The rare occurrence of this disease among sailors, renders it unnecessary to say more of it here.

OF TETANUS, OR LOCKED-JAW.

SYMPTOMS.

It commences with a sense of stiffness in the back part of the neck, rendering the motions of the head difficult and painful. This is soon succeeded by difficulty of swallowing; pain, often violent, about the breast bone and thence shooting to the back; rigidity of the lower

jaw, which increasing, the teeth become so closely set together, as not to admit of the smallest opening. If the disease proceed further, a greater number of muscles become affected, and the body is forcibly bent either backwards, or forwards. At length the trunk, limbs, and countenance are distorted to a most painful and shocking degree. A remission of these symptoms occasionally takes place every ten or fifteen minutes, but they are renewed with aggravated force by the slightest causes, even the least motion of the patient, or the touch of an attendant. Finally, a general convulsion puts a period to a most miserable state of existence.

The duration of Lock-jaw is various.

CAUSES.

The disease is very common in hot climates, and is most frequent when a scorching sun is succeeded by a heavy rain or dew.

But besides exposure to sudden changes of temperature, it is often caused by a wound of a nerve or tendon, or by a fractured bone.

TREATMENT.

Give opium in large quantities, as four or five grains every hour, or three drachms of Laudanum, every half hour. When the patient can no longer swallow, inject Laudanum a table-spoonful in warm water every hour, and direct it to be retained as long as possible.

With the first dose of Opium, give ten grains of Calomel, and follow it every six hours by a dose of five grains, till the mouth is affected.

Use warm and cold bathing in succession. If the disease proceed from a wound, enlarge it pretty extensive-

ly, and pour into it, hot spirits of turpentine, or burn the wound with an iron, brought to a white heat.

In one instance of locked-jaw, which proceeded from a wounded tendon, I succeeded in the cure by the sudden alternation of the hot and cold baths applied frequently, giving Opium, and burning the wound with hot spirits of turpentine.

SMALL-POX.

SYMPTOMS.

It begins with pain in the head and back, sickness at the stomach, and chills. In this stage, it may be mistaken for rheumatism or pleurisy. About the fourth or fifth day, it breaks out in small pustules upon the face, breast, and neck, and on the ninth, tenth, or eleventh day the pustules are at their full size, when they begin to dry and scale off: this is the milder stage or *distinct* small-pox. In the more aggravated kind, called the *confluent*, the pustules are more thick and red, and running into each other, spread over the whole body. They are not at their full size till the fifteenth or sixteenth day. The eyes are completely closed, the fever runs high, and the danger is very great.

TREATMENT.

When the disease breaks out in a vessel,

1. Keep the patient as cool as possible, with light covering to the body, and if the weather be hot, bathe he skin frequently with cold water.

2. Preserve a loose state of the bowels, by administering a dose of Salts, or Cream of Tartar, or some other mild purgative, every other day.

3. Abstain from animal food, spiritous liquors, and all stimulating or acrid substances, subsisting on rice and molasses, barley, flour, gruel, &c. and sweet or subacid fruits.

This course is to be pursued as long as there is much fever, or until the pustules are filled and begin to turn yellow; the patient may then return to a nutritious diet, and take tonics, such as decoction and tincture of Bark and Elixir Vitriol.

MEASLES.

SYMPTOMS.

Slight fever; cough; hoarseness; difficult breathing; sneezing; sense of weight in the head; sickness at the stomach; dulness of the eyes; drowsiness; itching of the face. On the fourth day, small red points appear, first on the face and subsequently on the lower parts of the body. On the fifth or sixth day, the lively red is changed to a brown, and in a day or two, the eruption entirely disappears.

TREATMENT.

Abstain from animal food and spirituous liquors; adhere strictly to a low, unseasoned diet; keep in a moderately cool atmosphere, and preserve a loose state of the bowels by taking Castor Oil or Cream of Tartar.

OF INFLAMMATION OF THE BRAIN, OR BRAIN FEVER.

SYMPTOMS.

Very severe pain in the head;—extreme sensibility to light and sound;—wild expression of countenance;—staring of the eyes;—peculiarly hard and rapid pulse;—restlessness;—parched tongue;—turgid and flushed face;—a rapid flow of ideas.

CAUSES.

Exposure to excessive heat, or to sudden changes of temperature; *coup de soleil* or stroke of the sun, from subjecting the head uncovered to its vertical rays; violent exercise; the abuse of spirituous liquors; external violence, &c.

It may be distinguished from madness, by the symptoms of fever and the violent head-ach which attend it; from the deliriums of inflammatory and typhus fevers, by reference to its causes, and by its sudden accession after exposure to them.

Active inflammation of the brain usually terminates fatally, and within four days. In a few instances, it ends favorably, in inflammation of some other part or by some evacuation.

TREATMENT.

Depletion is the principal remedy. From one to two pints of blood should be taken at the first bleeding, and this operation repeated at intervals of a few hours, till the delirium is overcome.

Cathartics, of the active kind, are to be employed, as the following:

Calomel, ten grains,

Jalap, twenty grains, mixed in syrup, or any other convenient vehicle, or

Salts two ounces.

The heat of the head must be allayed by cold water applied with towels, after which, the head may be blistered. Blisters should also be applied to the ankles.—The feet may be bathed in warm water, and poulticed with mustard-seed, spread over Indian or rye-meal poultices.

The patient must subsist on toast or barley water, and gruel.

CATARRH OR COLD.

SYMPTOMS.

Inflammation of the internal surface of the nose and throat, with a sense of fulness, and an increased discharge from the nose of an irritating watery fluid.—There is usually a sense of weight and pain in the head, oppression of the chest, watery inflamed eyes, soreness of the throat, and sometimes cough; cold shiverings succeeded by transient flashes of heat.

CAUSES.

Exposure of the body to sudden changes of temperature, wearing damp clothes, &c. Sometimes it is epidemic, and is then called Influenza.

TREATMENT.

An emetic is a very efficacious remedy. If the patient be averse to this, administer a dose of Salts, or some other cooling purgative.

Preserve an uniform temperature of the body, neither very warm nor cold; drink freely of warm flax-seed tea, barley or toast-water.

Bathe the feet in warm water on going to bed, and avoid exposure of the body to cold the day following. Keep the feet continually warm.

To allay coughing and irritation of the throat, drink spermaceti dissolved in warm tea, or take it in substance, or, take liquorice.

When the cough is very troublesome and prevents sleep, take Pectoral mixture,* three drachms, on going to bed, in a large draught of barley-water, or flax-seed tea; or, take Dover's powder† fifteen grains. Or the cooling mixture a table spoonful every three hours, adding to the last dose in the evening (which is to be taken on going to bed,) fifteen drops of Laudanum.

OPHTHALMY, OR INFLAMMATION OF THE EYE.

There are two kinds—1. a disease of the eyeball—2. of the eye-lid.

SYMPTOMS.

The former commences with itching, burning, and a sensation, as if sand or sticks were lodged under the eye-lid. The white of the eye turns red and swells, and there is an increased sensibility of the organ to light and motion. When the inflammation runs very high, a slight fever attends it.

* See Mixtures in the Appendix. † See Powders.

TREATMENT.

When occasioned by the presence of irritating particles, these must be immediately removed.

Unless the ophthalmy be very violent, general bleeding is hardly ever necessary. In all severe cases however, if leeches can be obtained, aply three or four near the eye, every morning.

Take an active purgative, as the following, every third or fourth day, till the inflammation abates :

Calomel, ten grains,
Jalap, twenty grains, mixed ; Or,
Salts, an ounce and a half.

To take off the heat of the eye by evaporation, apply frequently to it a soft linen rag, dipped in water, at first blood warm, but afterwards cold.

After two or three days, if the inflammation continue active, apply in the same manner the following :

White Vitrol, and Sugar of Lead, of each four grains, dissolved in four ounces of pure water.

If the itching and pain be great, add to the mixture
Laudanum, two drachms.

If the inflammation be not reduced within three or four days from the attack, apply blisters behind the ears.

From the first attack, abstain from stimulating food and drinks, and keep the eye lightly covered.

In slight cases of ophthalmy, it may perhaps be sufficient to take some mild purgative and use the above applications for the eye.

In the other species of ophthalmy, there is usually a small ulcer at the roots of the eye-lashes ; this may be touched with a little warmed citron ointment, or with alum-water, by means of a hair pencil.

BLEEDING AT THE NOSE.

TREATMENT.

During the bleeding, sit in a cool air, with the head raised, and wet the neck frequently, with cold water.—If this fail to stop the bleeding, sit on cold wet clothes, with the skin in contact with them, or in cold water.

If the bleeding still continue, apply astringents to the inside of the nostrils, as the following :—

Powder of alum, two tea-spoonfuls, dissolved in half a pint of water. A rag may be dipped in it, and introduced into the nose.

Or, apply in the same manner,

White Vitriol, one drachm, dissolved in Water, half a pint.

Persons subject to this complaint should avoid a costive habit, and move the bowels frequently, by a draught of sea-water or a dose of salts. If this be insufficient to prevent its return, loose blood from the arm Abstain from stimulating food and drinks and avoid every occasional cause, as violent exercise, tight neck-cloth, stooping postures, and external heat.

HEAD-ACH.

The most usual causes are indigestion, foul, or over loaded stomach, long exposure to the sun, rheumatism, intemperance, too great a determination of blood to the head. Generally, however, it is only a symptom of other diseases, as of fever, catarrh, dropsy, &c.

TREATMENT.

Where a head-ach is symptomatic of some other disease, it will readily cease on removal thereof, as in the case of fever.

When a foul stomach or the presence of indigestible substances is apprehended, take a gentle emetic, and if costiveness exist, remove it by some mild laxative.

If too great a determination of blood to the head be suspected, bleed, and subsist on a low diet.

If the head-ach be rheumatic, apply blisters to the extremities, or to the back of the neck, and move the bowels by the common Aloectic pills.

In cases of slight head-ach, it may be sufficient to bathe the feet in warm water, and wet the head with ether or spirit.

TOOTH-ACH.

TREATMENT.

If the tooth be much decayed, extraction is the only sure remedy. When this is impracticable, the pain may sometimes be relieved, by applying to it pills, made of

Opium and Camphire, equal parts; and

Oil or Essence of Peppermint sufficient to moisten the mass.

Or, apply Elixir Paregoric or Laudanum on cotton.

If the pain proceed from a cold, or be a rheumatic affection, scarify the gum with a lancet or sharp pen-knife, and apply a blister behind the ear.

EAR-ACH.

CAUSES.

Whatever induces other inflammations; more frequently, exposure of the ear to a current of air, or to a cold damp wind.

TREATMENT.

Syringe the ear with warm water, and fill it with Laudanum or Sweet Oil, covering the part with flannel. If this fail to relieve, apply a blister behind the ear, take a cathartic, and steam the ear, by holding it to the mouth of a jug filled with hot water. When the pain, instead of abating, increases for three or four days, the formation of matter may be expected and should be encouraged, by the frequent application of warm poultices.

When matter begins to be discharged syringe the ear frequently, with warm water containing a little soap.

DISEASES OF THE THROAT.

INFLAMMATION OF THE THROAT, OR QUINSY.

SYMPTOMS.

The throat internally, is red and swollen. There is generally some fever, a constant flow of viscid spittle, and pain in swallowing. When the inflammation is not subdued within five or six days from the first attack, a tumor containing matter will appear in the throat, and break.

CAUSES.

The usual causes of inflammation; particularly sudden cold; occasioned by omitting some part of the covering usually worn about the neck; by sleeping in a damp bed; or wearing wet clothes.

TREATMENT.

As it is important to prevent the formation of matter in the throat, the treatment should be active, and early in the disease.

If the symptoms be severe, bleed freely and administer a dose of Salts. Bathe the feet in warm sea-water. Wear flannel or a stocking around the neck; or, mash roasted potatoes and apply them in a stocking, as warm as the patient can bear. Gargle the throat every ten minutes, with a mixture of warm vinegar and water sweetened; or, with warm vinegar containing table-salt dissolved.

If this treatment fail to reduce the inflammation within the first forty-eight hours, the bleeding and purging are to be repeated, and a blister applied to the throat.

Abstain from solid food and stimulants.

If matter form, the difficulty of swallowing will be increased, and the patient in some danger of suffocation. In this case, the suppuration must be hastened by inhaling the steam of warm water, from the nose of a tea-pot, and the application of large poultices around the throat.

Those who have had this disease once, are more liable to subsequent attacks.

In slight cases of sore throat, it may be sufficient to wear flannel, or hot roasted potatoes around the throat, and preserve an open state of the bowels.

CROUP.

SYMPTOMS.

This is an inflammation of the trachea or wind-pipe, and is mostly confined to children. There is hoarseness particularly in coughing, the sound of which has been compared to the barking of a young dog, or of air passing through a brazen tube. There is difficult breathing, and dry cough, which in severe cases increase, till the patient is worn out, or till suffocation takes place.

When it occurs on board ship, administer an emetic, employ the general treatment recommended in quinsy, and apply a blister to the throat.

MUMPS.

This commences with slight fever, followed in two or three days, by a swelling under the ear. In severe cases, the testicles are affected, and sometimes the brain.

It usually requires nothing more than the application of flannel to the part primarily affected, a gentle laxative, and a low diet. When the case is very severe, or when the testicles and head are affected, use bleeding, purging, &c.

PUTRID SORE THROAT.

SYMPTOMS.

It commences with cold shiverings--sickness and vomiting--heat and restlessness--great debility—flushed face--hoarseness and sore throat. Upon inspection, the internal surface appears of a fiery red color, which soon becomes darker and is interspersed with specks, of some shade between a light ash and dark brown. There is considerable fever, which increases every evening—a small and irregular pulse, and oftentimes diarrhœa.—About the *second* or *third* day, large scarlet colored patches or stains appear upon the neck and face, and afterwards over the whole body. After continuing about four days, they depart with a scaling of the skin. In bad cases, the ulcers in the throat corrode deeper and deeper, debility increases to complete exhaustion, and the parts mortify. The patient expires usually before the seventh, often as early as the third or fourth day.

This disease is epidemic, often spreading through a whole village. Long exposure to a humid atmosphere and a debilitated habit predispose to an attack.

This kind of sore throat may be distinguished from Quinsy, or common sore throat, by the eruption or specks above mentioned, by the weak fluttering pulse, general debility, and by the scarlet spots that appear on the skin. Each of these diseases however often partakes so much of the character of the other, that it is not always easy to distinguish them. It may be known from Croup, by the absence of a croaking hoarseness, and by the presence of visible inflammation and specks above

mentioned. The putrid sore throat prevails mostly among children, and rarely appears on board ship.

TREATMENT.

In the treatment of putrid sore throat, bleeding and active purging would be likely to increase the debility which is already very great. The stomach and bowels must however be cleansed; for which purpose, take Ipecac: twenty-five grains, adding to it five grains of Calomel, or some other purgative in small quantity.

The principal indications of cure then are,

1. To counteract the putrid tendency that prevails.

2. To wash off frequently the acrid matter from the throat, and, lastly, to obviate debility.

To correct the putrid tendency, Peruvian bark, mineral acids, and Cayenne pepper, are among the most valuable remedies. They may be taken in the following manner:

Take Powder of bark, two table-spoonfuls,
Cayenne pepper, one table-spoonful;

to which add three gills of boiling water, and after boiling it in a covered vessel ten minutes, add one gill of vinegar. Administer three table-spoonfuls every two hours. Or,

Take Decoction of bark, two table-spoonfuls,
Tincture of Bark, two tea-spoonfuls,
Elixir Vitriol, fifteen drops, mixed, every two hours.

To cleanse the throat, use gargles of salt dissolved in vinegar;—or Elixir Vitriol, a tea-spoonful to half a pint of warm water, sweetened, every ten minutes. Inhale the steam of warm vinegar and water, from the nose of a teapot. Breathe the air, made by burning Nitre, thus:

Close the patient's room, and upon a chafing dish of coals, throw powder of Nitre half an ounce; which will fill the room with a thick white cloud, that will last for some time. This process may be frequently repeated, in the course of the day.

If any particular symptom of an alarming nature arise during the progress of the disease, as diarrhœa, bleeding, &c. it must be checked immediately. For diarrhœa administer Opium and brandy, or powder of Kino, thirty grains. Bleeding is also to be treated with astringents both locally and generally, as directed under the heads of different kinds of bleedings.

PLEURISY.

Pleurisy, *pneumonia*, *peripneumonia*, and *lung fever*, are names given to inflammations of the lungs themselves or of the membrane that covers them and lines the cavity of the chest. It is however improbable that either the lungs or this membrane are ever inflamed to a great degree separately, the disease of one, being generally more or less extended to the other. On this account, and because the symptoms and treatment of the two diseases are nearly the same, they are both included here under the head of Pleurisy.

SYMPTOMS.

It commonly commences with the usual symptoms of fever, accompanied or succeeded by a sense of weight, and afterwards pain, in the chest. This begins in one side, ordinarily about the sixth or seventh rib, from which it shoots towards the breast-bone and shoulder-blade

The breathing is short and difficult, and the pain is increased on drawing in the breath. There is constant inclination to cough, but every effort is interrupted by the pain it occasions, in consequence of which, viscid mucus collects in the air-passages, and causes a sort of wheezing called rattles.

The disease begins to subside from the fourth to the seventh day: if not so soon as the latter period, the case may be considered dangerous. The abatement of the inflammation is marked by an amelioration of all the distressing symptoms, and a copious expectoration.

TREATMENT.

The great remedies in Pleurisy are bleeding, blistering and purging. In severe cases its rapid course and fatal tendency require that these should be employed with promptness and energy. Blood is to be drawn from a large orifice in the arm, till the patient is relieved of his pain and difficult breathing, provided the quantity for this be short of two pints. If the first bleeding fail to relieve, or if after relieving, the pain and difficult breathing return, the operation should, after twelve hours be repeated.

Move the bowels as early as convenient, by a mild laxative, as Salts, one ounce.

Immediately after the first bleeding, apply a large blister upon the side, near the seat of the pain.

Bathe the feet in warm sea-water, and apply warm poultices to them.

Take very freely of warm barley-water, or flaxseed tea, made agreeable with sugar.

If the above fail to relieve the pain and other symptoms, within the first thirty six hours, move the bowels

again by the cooling mixture,* taking two table-spoonfuls every hour, till it operates. Another blister may be applied to the chest, and the bleeding repeated even a third time. As soon as the pain is relieved and expectoration has commenced, give Dover's powders ten grains, or Pectoral Mixture,† a table spoonful, every three hours, and continue the warm drinks.

Preserve a constant warmth of the skin by keeping in bed, and a uniform temperature of the apartment. During convalescence the patient may subsist on a generous diet and use wine.

CONSUMPTION.

The great length of time necessary for consumption to develop itself and become confirmed, might lead one to suppose that it can hardly occur on shipboard during a single voyage, and consequently, that medical advice would be unnecessary, in a book like this, which is merely intended to afford advice to sailors while at sea, and out of the reach of physicians. Consumption, however, has time to *commence*, in a single voyage, and when it is considered, that it is in the first stage only, that advice and medicine are sure to prove beneficial, the necessity of making the sailor acquainted with the nature of the disease will be admitted.

But another reason for introducing some account of consumption is, that persons labouring under the advanced stages of it, are not unfrequently sent to sea, with the hope of deriving benefit from sailing, or from change of

* See Mixtures.

† See Mixtures.

climate, and to such, while on shipboard, the following sketch may be acceptable.

SYMPTOMS.

The tubercular consumption, which is by far the most common kind, may be divided into three stages or periods. In the *first* stage, the disease is slowly developed, ordinarily without being noticed. In this period it is very important to recognize it, but the physician is not often consulted so early. The first symptoms are a short dry cough, the breathing's being more easily hurried by bodily motion, the patient's becoming languid, indolent, and dyspeptic, and his gradually losing strength;—at length, from some fresh exciting cause, the cough becomes more considerable, and is particularly troublesome during the night;—breathing is more anxious;—sense of straitness and oppression across the chest is experienced;—an expectoration takes place, at first of frothy mucus, which afterwards becomes copious, viscid and opaque. These symptoms may be gradually progressing for months. The emaciation and weakness go on increasing;—a pain arises in some part of the breast, at first unsettled, but afterwards fixes in one or both sides, is increased by coughing, and sometimes becomes so acute as to prevent the patient's lying upon the affected side.

The disease now passes to the *second* period, in which it is easily recognized. Purulent matter, resembling that made by a common ulcer, is coughed up. To distinguish whether it be such, or only mucus, mix some that is raised in the morning, in salt-water; if mucus or common phlegm, it swims and holds together; if pus, it sinks, and on stirring separates into particles; purulent matter is also opaque, has a greenish colour, and is sweet

to the patient's taste. Hectic fever takes place, known by a flushing of the face, by a hard, quick and frequent pulse, beating more than one hundred in a minute, and by high coloured urine. The hectic has an exacerbation or increase twice in the day ; the first time about noon, which is inconsiderable and soon suffers a remission ; the other in the evening, which gradually increases until after midnight. Each of these fever fits is preceded by chills, and terminates in profuse perspiration. In the morning the patient is better, and thinks himself well. The cough and difficult breathing now go on increasing, and oftentimes there is a hoarseness or shrillness of the voice. After this stage is well established, by the appearance of the above symptoms, the patient may die in six or eight weeks. He is however able to go about, and when the expectoration of pus is first established, the appetite, that was lost in the first stage of the complaint, returns. During the fever fits, a circumscribed redness appears on each cheek, but at other times the face is pale, and countenance dejected.

The *third* period is that of general exhaustion, the countenance is peculiar and easily recognized by all.—The cough becomes more hard and difficult, especially in the morning, when it often produces vomiting ;—emaciation is extreme ; diarrhœa comes on, and generally alternates with melting sweats ; the legs swell ; little ulcers appear in the throat ; still the appetite often remains entire, and the patient flatters himself with hopes of speedy recovery, and is forming plans of interest or amusement, when death puts a period to his existence.

Spitting of blood sometimes induces the disease, or is the first symptom noticed. In other cases it occurs in the course of the disease, and sometimes terminates it.

CAUSES.

Particular constitutions are more liable to consumption as where an hereditary predisposition exists, or particular formation of body, marked by long neck, prominent shoulders and narrow chest. The remote causes are, constitutional irritability of the lungs; sedentary life; a scrofulous habit, indicated by a clear skin, fair hair, delicate rosy complexion, large veins, thick upper lip, weak voice, and great sensibility. The more immediate or exciting causes are preceding disease—as spitting of blood, pneumonia, catarrh, scrofula, venereal disease, fistula—violent and depressing passions of the mind—intemperance—profuse evacuations, as diarrhœa; or a large ulcer.

TREATMENT.

The cure should be accomplished early in the disease and before hectic fever commences, or pus is expectorated. The treatment during this period should be regulated by the cause; if it be catarrh, pneumonia, spitting of blood, &c. attend to the directions given for the cure of those diseases.

The following are among the most approved remedies in the early stage of consumption.

1. Small bleedings, repeated when symptoms of inflammation run high.

2. A nourishing, easily digested, unstimulating diet; as milk, animal jellies, &c. The patient can best de-

termine by his own experience what kind will be most agreeable and beneficial.

3. Mild laxatives, whenever there is the least tendency to costiveness.

4. Blisters on the chest, to counteract the inflammation of the lungs. They should be large, and kept constantly running.

5. Emetics, every second or third day. The least debilitating is Sulphate of Copper or Blue Vitriol, in a dose of eight grains, dissolved in a gill of water; a vomiting is excited, as soon as it is swallowed, on which the patient should drink a pint of warm tea.

6. Expectorants; the best are such as nauseate and produce gentle perspiration, as Squills, Ipecac: Antimony, &c. to the use of which should be subjoined mucilaginous drinks, as flaxseed-tea, barley-water, decoction of mallows, &c.

7. Anodynes, particularly Opium. This may be given in combination with the expectorants, as in Pectoral Mixture and Dover's Powders;* the former in a dose of a table-spoonful, and of the latter fifteen grains, on going to bed.

8. Exercise, especially on horseback. Long journeys are most serviceable.

9. Flannel worn next the skin.

10. A sea voyage. Were I to speak of the effects of a sea voyage from my own observation, I should say, it is very beneficial while the vessel is at sea; partly from the uniform temperature of the air, but more from the motion of the vessel.

Change of residence to a warm climate is often recommended. In two or three years' Mediterranean service

* See Appendix

however, nothing occurred within my observation to favour the opinion, that the climate of that sea would be beneficial; on the contrary, among our sailors, consumptions were more frequent there, than I have ever known them to be in other climates.

In the frigate United States were eighteen deaths in one year, twelve in the Guerriere, and eleven in the Constellation. And what is still more in point, every case I met with in ships or on shore, was far more rapid in its progress, than I have ever known consumption to be in New-England.

Several other remedies have acquired great celebrity in every stage of consumption, as digitalis, the fumes of pitch inhaled, and a new medicine called Hydrocyanic Acid. The first and last of these are in certain cases worthy of a trial, but as it would be difficult, in a book like this, to make intelligible those particular cases, and all the circumstances to be regarded in the use of said remedies, I must recommend to the patient to consult a physician before he makes trial of them.

If spitting of blood from the lungs occur at an early period, there is with it a tendency to inflammation.—This must be prevented by measures of the most active kind. If the constitution do not positively forbid it, general bleeding should be employed, especially if the pulse be quick, although the patient may be feeble, since the weakness induced by spitting blood is not occasioned by the quantity that is lost. Blistering should then be employed; the patient should be confined to a mild diet and quietude, and should avoid speaking, coughing, &c. The bowels are to be moved with cooling laxatives, as Glauber's or Epsom Salts, and the patient kept in a uniform temperature, of from sixty to six-

ty-five degrees, and take half a grain of Opium in the evening. After the above evacuations have been made, astringents and refrigerants will be proper; and when spitting of blood occurs in the latter stages of consumption, these are principally to be relied on. The astringents are Elixir Vitriol and Alum; the former in doses of twenty-five drops, in a gill of water, every three hours; the latter in doses of six grains. As a refrigerant, common salt is a very effectual remedy, and should be given when spitting of blood has commenced, in doses of two or three tea-spoonfuls.

In the latter stages of consumption, nothing more can be done than to palliate distressing symptoms. For the cough, take Pectoral mixture and Opium Pills.

SPITTING OF BLOOD (*from the lungs.*)

SYMPTOMS.

Sense of weight and oppression in the chest;—dry tickling cough;—difficulty of breathing flushed and anxious countenance;—sense of pain and heat referred to the breast-bone;—saltish taste in the mouth;—constant inclination to hawk and cough, by which blood from the lungs is raised. In this respect it differs from the vomiting of blood, the blood in that case being raised from the stomach without cough; it is moreover sometimes clotted and often mixed with alimentary matter.

CAUSES.

It may proceed from excess of blood, from a peculiar weakness of the lungs, hereditary predisposition, or bad formation of the breast. It is often occasioned by excessive drinking, running, wrestling, singing, or loud speaking. Sometimes it is the effect of a long and violent cough, and is then the precursor of consumption.

TREATMENT.

Administer table-salt, two or three tea-spoonfuls; or Alum, fifteen grains. One of these remedies will be sufficient to arrest the bleeding, for a short time.

Draw blood from the arm on the first attack, and repeat the operation, whenever there is any hardness of the pulse, or other symptoms of inflammation, or any return of the disease, provided the quantity of blood already lost be not very great.

After bleeding, open the bowels with a dose of Glauber's or Epsom Salts, or Cream of Tartar.

Refrigerants and astringents are then to be taken, as Elixir Vitriol, thirty drops, in a glass of water every three hours; or Nitre, ten grains, dissolved in a glass of water, every three hours, adding to each dose, ten drops of Laudanum. Also draughts of cold water with lemon-juice.

Carefully avoid heat, speaking, coughing, and every kind of bodily exertion. Use a light vegetable diet.

COUGH.

Commonly, this is only a symptom of some other disease, as of catarrh, consumption, &c. In such cases it is to be regarded in the general treatment of those complaints. In some constitutions, however, there is such irritability of the lungs, that cough is excited on the least exposure to change of weather ; and in such, it often remains after every other symptom of a catarrh is removed. When long protracted and violent, there is always reason to fear the consequences, since it is often the precursor of consumption.

TREATMENT.

If the cough be violent, the patient young and plethoric, bleeding will be proper ; and it will be unsafe in such cases to administer opiates, to quiet the cough, till this is done or the stomach and bowels cleansed. In ordinary cases, purging alone is often sufficient to prepare the system for opiates, and this may be induced by Salts ; or Sulphur, with Cream of Tartar, half an ounce of each, mixed in molasses, and taken in the evening.

Emetics are among the most effectual remedies for a cough, and one alone is often sufficient to remove it, without the aid of other medicines.

In long protracted coughs it will often be necessary to excite a counter irritation by a blister or irritating plaster. Burgundy pitch, spread on a soft leather, of the size of the hand and applied between the shoulders, will serve for this purpose :—Or, take common pitch of the ship, spread in like manner, and sprinkle on it two or three grains of the powder of Tartar Emetic, and ap-

ply it over the breast-bone. An irritating plaster should be renewed once a fortnight.

Opiates, combined with sudorifics, may be taken on going to bed, in the form of Pectoral Mixture, a table-spoonful; or Dover's Powders, fifteen grains, accompanied by warm drinks.

Wear flannel next the skin—avoid exposure to sudden changes of temperature, and abstain from ardent spirits, and all strong stimulants.

DROPSY OF THE CHEST.

SYMPTOMS.

Difficulty of breathing, particularly on any sudden exertion, as in ascending a hill, or stairs, or running; it is also great during the night, while the body is in a horizontal posture; distressing sense of weight and oppression at the chest; palpitation of the heart, sometimes so great as to be seen and heard; irregularity of the pulse, often intermissions; paleness of the face; dropsical swelling of the extremeties; scarcity of urine; sudden starting from sleep; fluctuation of water in the chest.

TREATMENT.

Employ the same medicines, that are advised under the Head of Dropsy.

OF TYMPANY, OR WINDY DISTENTION OF THE BELLY.

The wind may collect within the intestines; or without them, in the cavity of the abdomen. In either case the belly, usually in a few hours, becomes greatly distended, tense and elastic, like a drum-head. Sometimes the swelling is gradual in its progress and preceded by rumbling of the bowels. There is diminished appetite, thirst and emaciation. Unless the constitution be much impaired, the disease is generally curable.

TREATMENT.

The objects are, 1. To evacuate the air; and 2. To prevent its re-accumulation.

The first object is gained by heating medicines, as Ether, Anise-seed, Peppermint, Cayenne Pepper, Ginger, Nutmeg, &c. and by Opium;—thus,

Paregoric, two tea-spoonfuls,

Essence of Peppermint, twenty drops,

Powder of Ginger, half a tea-spoonful, mix in sugar, and take every three hours; Or,

Powder of Rhubarb and

Ginger, of each five grains; Nutmeg, two grains; Opium, half a grain, mixed, to be taken every three hours.

To prevent the re-accumulation of air, after it has been once discharged, use tonics, as Decoction of Bark, and avoid all food apt to produce wind.

ASCITES, OR DROPSY OF THE ABDOMEN.

SYMPTOMS.

A slow, gradual swelling of the abdomen. When severe, there is thirst, scarcity of urine, and some degree of fever.

CAUSES.

The same as general dropsy, but the most usual is a diseased liver, occasioned either by the sudden application of cold, when the body has been heated, by a long protracted fever and ague or remittent fever, or by hard drinking.

It differs from Tympany, in being almost invariably consequent to some constitutional disease; is more slow and gradual in its attack, the belly is not so elastic, and there is a sense of fluctuation, and generally some dropsical appearances in the lower extremities.

TREATMENT.

The general treatment may be the same as is recommended under the head of General Dropsy, to which may be added locally a tight-laced waistcoat, or tight bandages round the abdomen. This will serve to keep the disease in check, till the vessel arrives in port, where, if the swelling be very great, it may be advisable to evacuate the water by an operation, which should be performed only by a skilful practitioner.

The reaccumulation of water is to be prevented by the means recommended under the head of General Dropsy.

(OF THE LIVER.)

ACUTE INFLAMMATION OF THE LIVER.

SYMPTOMS.

Pain in the right side, under the short ribs, which is increased by pressure; sometimes it extends to the chest, then resembling pleurisy, and often there is pain in the right shoulder. Irregular state of the bowels;—inability of lying on the left side;—dry cough.

The inflammation, if not reduced by the seventh or tenth day, usually ends in the formation of matter. In the former case a bilious looseness ensues; if an abscess form, it may break inwardly into the chest or abdomen, or outwardly through the skin.

TREATMENT.

Every exertion should be made to reduce the inflammation, as early as possible. Bleed and purge freely;—apply a large blister over the the liver or part affected with soreness;—and abstain from solid food and stimulants.

If an abscess form and break, the patient's strength must be supported by bark and wine. If the abscess point outwardly, and threaten to break through the skin, the part should be poulticed.

CHRONIC INFLAMMATION OF THE LIVER.

The attack of this is generally so gradual, and the symptoms at its commencement so obscure, as to pass

long unnoticed. There is dejection of mind ; a loss of appetite ; rumbling in the bowels ; sense of weight and distention in the stomach ; obstinate costiveness ; clay coloured stools ; jaundice ; and often times an enlargement of the liver that can be felt.

TREATMENT.

Induce a slight spitting with mercury, applied by friction, and given internally ;—thus, a Calomel pill or a grain of Calomel, every night and morning, and rub Mercurial Ointment, of the bulk of a nutmeg, on the inside of the thighs, every evening.

Apply to the part a plaster of mercury or of pitch, of the size of the hand and thickness of a dollar.

SEA-SICKNESS.

With very few exceptions, this attacks all persons, on their first voyage ; and the degree of it is generally inversely proportioned to the size of the vessel, it being most violent where the vessel is small, and least so in large vessels, on which the waves make but slight impression. Some persons, however, are more liable to sea-sickness than others. Those in the prime of life and of a fair, light complexion, have been remarked to be most susceptible of its attacks, while old persons and those of a dark complexion suffer least. The duration of sea-sickness is very uncertain, being generally not above a day or two ; but in many cases it continues for weeks or even months, and there are some seamen who

always suffer an attack in tempestuous weather even after having followed the sea for many years.

TREATMENT.

Though time is perhaps the only cure, various remedies have been directed to alleviate this complaint. In slight but lingering cases, in which nausea and head-ach continue a long time without vomiting, it will cut short the symptoms to cleanse the stomach and bowels by a draught of sea-water; and a tea-spoonful of ether, in a glass of water, will often relieve slight cases. The little food taken at a time should be eaten cold and highly seasoned and the patient should keep upon the deck, with his face to the windward.

In severe cases, when no longer able to keep upon the deck, try a recumbent posture, resting the head on a book, or other hard substance, and continue as much as possible in a uniform position, with the eyes closed, and the thoughts engaged on some interesting and agreeable subject, till sleep comes on, or till vomiting has ceased. When the system has in this manner become accustomed to the rolling in one posture, and sickness has ceased, try another. In this way the rolling of the ship will cease to excite vomiting in a much shorter time than when the posture is continually changing.

(ON THE STOMACH.)

INFLAMMATION OF THE STOMACH.

SYMPTOMS.

Fever; anxiety; heat and pain in the space between the pit of the stomach and navel, increased when any thing is taken into the stomach; vomiting; great thirst; hickup; coldness of the extremities; small, frequent, hard and contracted pulse; prostration of strength; cold, clammy sweats. One of the most certain signs of this disease is the sense of pain which the patient feels upon taking any kind of food or drink, especially if it be too hot or too cold.

CAUSES.

Cold liquids, drank when the body has been heated by exercise;—the operation of poisons taken into the stomach, as arsenic, or of acrid substances acting chemically there;—something acting mechanically and lacerating the coats of the stomach;—transfer of gout from the toe;—long continued and violent sea-sickness.

TREATMENT.

As twelve hours may carry off the patient, no time is to be lost in applying the remedies, which are:

1. Copious bleeding; to this the smallness of the pulse will be no objection, for it will become fuller by the loss of blood.
2. A large blister, applied over the stomach.
3. The use of the warm bath, even until fainting comes on.

4. Mucilaginous drinks in very small quantities and often, as flax-seed tea, barley-water, and Gum Arabic dissolved in water.

5. Clysters of warm water.

Where poisons have been taken intentionally or by accident, as Opium, Arsenic, Corrosive Sublimate, Verdigris, &c. administer an emetic immediately of the most active kind, as White or Blue Vitriol, fifteen grains, dissolved in a gill of water, adding twenty grains of Ipecac : Drink freely afterwards of diluting liquors, as barley-water, toast-water, flax-seed-tea, and milk.

VOMITING OF BLOOD.

SYMPTOMS.

Vomiting of large quantities of clotted blood, and sometimes mixed with alimentary matter, generally unattended by cough, and preceded by a sense of weight and dull pain, or anxiety, a little below the pit of the stomach.

CAUSES.

Generally, some external violence ; or some mechanical injury to the stomach itself, or some great strain of the body.

TREATMENT.

If accompanied by heat of the skin, or other symptoms of fever, or if the disease can be traced to violence or exertion, bleed and keep the patient cool, avoiding all causes of irritation. Unless the bleeding from the stom-

ach become alarming from its quantity, it will be advisable not to arrest it by astringents, but suffer it to stop of itself. The day following give a mild laxative, as of Cream of Tartar, Castor Oil, or small dose of Salts, to remove the blood from the bowels.

Subsist for two or three days on light food, as barley, rice, fresh broth, &c. When inflammation has subsided, give Decoction of Bark, in a dose of two table-spoonfuls, every three hours, adding to each dose ten drops of Elixir Vitriol.

HEART-BURN, AND SOUR STOMACH.

These are caused by weakness of the stomach and indigestion.

TREATMENT.

Take some alkaline substances, as powder of chalk or magnesia, a tea-spoonful or two, and attend to the directions given under the head of Dyspepsia, or Indigestion. Abstain from stale liquors, acids, windy and greasy aliments, and take no exercise immediately after a full meal.

(OF THE INTESTINES.)

INFLAMMATION OF THE INTESTINES.

SYMPTOMS.

Severe pain in the abdomen, increased upon pressure and shooting in a twisting manner round the navel; hardness of the abdomen; obstinate costiveness. There is

sometimes vomiting or straining at stool, according as the inflammation happens in the superior or inferior portion of the intestine. The pulse is quick, hard and contracted, and the urine high-coloured, and there are other symptoms of fever, with great prostration of strength.

CAUSES.

All those inducing inflammation of the stomach, also strangulated hernia—colic—long continued costiveness.

It is distinguishable from colic by being accompanied with fever, and by increase of pain from pressure.

TREATMENT.

The indications of cure are,

1. To reduce the inflammation by bleeding once or twice from the arm, by a large blister laid over the belly, by the warm bath, and by total abstinence from stimulating articles of diet or medicine.

2. To move the bowels by gentle purges, as Castor Oil, Salts, or Cream of Tartar; and by clysters of salt water.

CHOLERA MORBUS;
OR
VOMITING AND PURGING.

SYMPTOMS.

A frequent discharge of bile by vomiting and purging, accompanied by pain and distension of the stomach,

thirst, great anxiety, cramp in the lower extremities, cold sweats, hickups, and not unfrequently death within the space of twenty-four hours.

CAUSES.

Exposure to excessive heat, or sudden transitions from heat to cold; hence more frequent in autumn from exposure to cold evening air, after very hot days;—large quantities of food of difficult digestion;—the colder fruits, as cucumbers, melons, &c;—active and violent purges;—poisons;—putrid animal food, as lobsters;—exposure to the effluvia of putrid animal and vegetable substances.

When it terminates favourably there is a gradual diminution of the symptoms, especially of vomiting, followed by sleep or a gentle moisture on the skin. The disease, when protracted to the fifth, sixth, or seventh day, seldom proves fatal.

Unfavorable symptoms are strong cramps in the legs or arms;—convulsions;—great prostration of strength;—cold, clammy sweats;—intermitting pulse;—fœtid vomiting;—and great distention of the abdomen.

TREATMENT.

The first thing to be done is to remove offending substances from the stomach and bowels. This however has in most cases been already effected by nature. If vomiting and purging have therefore occurred frequently, endeavor to allay the existing irritability by Opium and diluting drinks. Begin with two tea-spoonfuls of Laudanum, mixed in gruel or tea, and repeat the dose every half hour till the vomiting is arrested. Give at the same time thin gruel, arrow-root, or chicken-broth

frequently, but in very small quantities. Laudanum and spirits of hartshorn, equal parts, mixed, are to be rubbed over the stomach constantly.

When, in spite of this treatment, the vomiting continues unabated for two or three hours, administer Laudanum in clysters, thus :—

Take Laudanum, a table-spoonful,

Water, one pint, mixed; inject one half, and direct the patient to retain it as long as possible; when discharged, administer the remainder. A large blister should now be applied over the stomach, the feet and legs bathed in warm salt water;—hot applications made to the feet; Opium given in pills, in a dose of five grains every hour, and the diluting drinks continued.—The effervescing mixture* should now be given every hour, adding to each dose, twenty drops of Laudanum.

After the vomiting is allayed, give a mild purge, such as is most agreeable to the patient.

COLIC.

SYMPTOMS.

The principal symptom is pain about the navel, generally violent, shooting and twisting, occurring in fits, during which the patient is disposed to bend down and press upon the part. The bowels are commonly costive sometimes there is nausea with vomiting, and bitter taste in the mouth.

* See Appendix.

CAUSES.

Cold applied to the surface of the body, especially to the feet and belly ;—austere or indigestible food ;—redundance of bile ;—obstinate costiveness ;—flatulency ;—certain metallic poisons, as lead and copper. Those, whose bowels are easily disordered, are liable to an attack of colic, from remaining in a room newly painted.

TREATMENT.

The first step is to allay the pain by opiates. Give Opium and Powder of Camphire, of each two grains, mixed every half hour, till the pain is relieved.

Immediateiy after the second dose of Opium, give a purgative of Castor Oil, three table-spoonfuls, and if it fail to operate in three hours, give a fourth table-spoonful.—Or, give such other purgative as is most agreeable. It will aid the operation of the medicine to dash cold water on the abdomen.

In obstinate cases, it will be necessary to give still more active cathartics, as Calomel from twenty to thirty grains, and to administer injections of salt water.

Should vomiting ensue, and the pain still continue, apply a large blister over the abdomen, and immerse the patient in a warm bath.

For a slight wind colic, a little undiluted spirit, or a few drops of Peppermint, will often be sufficient.

DIARRHŒA OR LOOSENESS.

SYMPTOMS.

Frequent and copious evacuations by stool, generally with griping;—oftentimes there is nausea and vomiting; —thirst;—bitterness and dryness of the mouth. If the disease continue, it produces great emaciation.

CAUSES.

The application of cold to the surface of the body, especially, if accompanied with moisture;—acrid, indigestible food;—great quantities of acid or cold fruits;—putrid substances. In the Mediterranean, it is often caused among sailors by drinking freely of new wine.—

The crew of the frigate Java, while lying at Syracuse, 1816, were put upon the use of new wine, in place of spirits, and nearly every man suffered an attack of diarrhœa. In other warm climates, as the West Indies, spruce beer, and other fermented liquors, often occasion it; and in all climates, the sudden change from the long continued use of salt provisions to fresh meat and vegetables.

TREATMENT.

The cure consists,

1. In obviating the cause.
2. In suspending the inordinate action of the bowels.
3. In restoring their strength and healthy action.

Irritating causes are often lurking in the intestinal canal, and must be removed;

1. By an emetic, as of Ipecac: twenty five grains.
2. By a cathartic, as Rhubarb, Magnesia, or Castor

Oil, in a common dose, or by a draught of sea-water.

3. By diluting drinks, as gruel, flax-seed tea, or barley-water.

After the bowels have been cleansed by an emetic and cathartic, or by a cathartic alone, their inordinate action is to be suspended;

1. By Opium, conjoined with some medicine that will produce sweating; thus,

Opium, from one to two grains,

Ipecac: three grains, mixed in syrup, or molasses, and taken every three hours; or,

Dover's Powder, fifteen grains.

In slight cases of diarrhœa, it will be sufficient, after cleansing the bowels, to take an Opium pill in the evening, or twenty drops of Laudanum.

2. By astringents, as Kino, twenty grains; or Lime-water, from four to six table-spoonfuls; or Rhubarb, five grains, every three hours.

When the disease proceeds from some error in diet, it will often terminate in a short time of itself, or perhaps the most that may be required in such cases will be a gentle laxative and gruel.

To restore the strength,

In severe cases where debility of the parts exists, their strength may be restored; 1. By a Decoction of Bark, and other vegetable bitters, as Columbo, Cascarilla, Ginseng, Port Wine, &c. 2. By moderate exercise. 3. Light nutrive diet. Weak Brandy and water, or Port Wine, should be substituted for malt liquors, as a common drink.

The water of particular places often causes diarrhœa in ships' crews. The frigate Guerriere took a supply of water from the river Neva in Russia, and when it

was used by the crew, about every sailor in the ship was effected with purging. In this instance and some other similar ones, I found that a pint of quick lime poured into each water cask corrected its purgative quality. Soaking burnt bread, or quenching burning coals in it, produced the same effect.

I am informed by Capt. William Kelly, a very respectable and experienced master, that the water of Cronstadt is not purgative at the last of the ebb; and he remarks the same of the water in Canton.

DYSENTERIA.

SYMPTOMS.

Severe gripings, often preceded by loss of appetite; sickness at the stomach; costiveness, and chills; frequent inclination to go to stool; heat and irritation in the fundament; appearance of stools various, being slimy, sometimes bloody, in this respect differing from those in diarrhœa, which are like common stools, only of a thinner consistence. Sometimes hardened lumps are discharged in the slime, and then the patient is momentarily relieved of his gripings. In some cases a film of hardened mucus is discharged, resembling a coat of the intestines. There is violent straining at stool, and the patient feels a bearing down, as if the bowels were falling out, and sometimes a part of the intestines is actually protruded. Great debility very soon ensues with a quick and weak pulse. Sometimes it terminates fatally, and it is most severe when epidemic.

CAUSES.

It may be occasioned by whatever obstructs perspiration, as a damp bed, wet clothes, &c. also by unripe fruits ; bad air ; moisture succeeding intense heat ; unwholesome or putrid food ; the effluvia of vegetable or animal substances, in a highly putrid state. Persons living in crowded apartments, as in ships, are more liable to attacks.

TREATMENT.

Cleanse the stomach and bowels, by an emetic and cathartic combined, as the following.

Ipecac : thirty grains, Calomel, ten grains, mixed in molasses or syrup. If the pain be violent, give two grains of Opium, mixed with the above. Or, instead of the above medicine, give the Cooling Mixture,* three table-spoonfuls every half hour, till it operates upon the stomach and bowels ; adding to the first dose, thirty drops of Laudanum. Or where there is great aversion to an emetic, give Castor Oil, two table-spoonfuls, with thirty drops of Laudanum.

Follow the use of the above medicine, with frequent and copious draughts of diluting drinks, as flour-gruel, barley-water, flax-seed tea, &c.

After the stomach and bowels are cleansed, take powders of Ipecac : three grains, Opium, one grain, and Calomel one, every three hours, for two or three days or till the disease abates and continue the above drinks.

In severe cases, where great pain and inflammation exist, after the stomach and bowels are cleared, a blister may be applied over the abdomen, and fifteen or twenty drops of Laudanum given every hour in the patient's

* See Mixtures in the Appendix.

drink, till relief is obtained. In less severe cases, instead of the blister, it may be sufficient to bathe the bowels with hot peppered vinegar, or hot water.

Bleeding is a doubtful remedy in dysentery, and unless the case be severe and the constitution vigorous, should not be employed.

When there is great pain in the lower part of the abdomen and fundament, and the evacuations frequent, administer clysters of flax-seed tea, or barley-water, one pint, and Laudanum a table-spoonful. Half of this is to be injected at a time, blood warm, and retained by the patient as long as possible.

From the first attack the patient should abstain from solid food, and take freely of gruel, barley-water, arrow-root, flax-seed tea, or solution of Gum Arabic. The pulp of a roasted apple, or other ripe fruit may be taken.

At a more advanced period of the disease, when the frequency of the evacuations seems rather to proceed from a weakened and relaxed state of the bowels, than from any active inflammation, the Decoction of Bark may be given, every three hours, beginning with a dose of a table-spoonful and increasing gradually. It may be mixed in gruel or barley-water.

When the pain and inflammation are abated and the stools are more natural, commence with animal broths, as of mutton, chicken, &c. at first thin and unseasoned, but gradually increasing their richness as the disease declines.

Since the former edition was printed, I have accidentally met with a prescription in the hands of an irregular practitioner which, so far as I have known, has never yet found its way into any printed medical book—I have made repeated trials of it, as have my professional breth-

ren, and no medicine in our hands has ever proved so successful. It is this. Mix with a table-spoonful of water as much sulphate of Zinc or white Vitriol as the water will dissolve—Take one part of this and five parts of Laudanum mixed--give to an adult fifteen drops every four hours, increasing the dose one drop daily--a dose of Oil should precede the use of it--and should be repeated every other day--without omitting the drops.

When this disease appears on board ship, it is of the first importance to prevent its being communicated to all hands on board ; to do this, the most assiduous attention should be paid to cleanliness. The evacuations of the sick must be immediately thrown overboard, and the buckets washed. Those who are well should avoid the night air as much as possible, shun putrid smells, and avoid all communication with the sick, and the privy to which the sick go.

PILES

Are painful swellings at the lower extremity of the intestine or fundament, either internal or external.--The internal are most painful, especially while at stool. When external, they vary much in size, being sometimes as large as a nutmeg. Frequently they break and discharge blood, which relieves the pain: the swelling however, does not then entirely disappear, and soon increases again to its former size.

CAUSES.

This complaint may proceed from habitual costiveness,

plethora, hard riding on horseback, strong aloetic purges, or sitting on damp ground.

TREATMENT.

As costiveness is the most frequent cause of piles, this must be obviated by mild laxatives, and none appears to be more efficacious than the use of the Flowers of Sulphur combined with an equal quantity of Cream of Tartar, mixed in molasses, in a dose of a table-spoonful every evening. Or take a gill of sea-water every evening. Another excellent internal remedy is Balsam of Copaiva twelve drops, given twice in twenty-four hours dropt on sugar or in a glass of water. Aloetic purgatives should be avoided.

As an application to the tumors, various ointments and washes are recommended, among which are the following.

Sulphur and hog's lard, equal parts, well mixed.
Nutgalls and hog's lard, equal parts,
Mercurial Ointment, or fresh butter;

Also, Tar-water, Alum-water, Decoction of Oak or Peruvian Bark,* Lead-water. A favourite application with many sailors is wet oakum.

If the piles continue after the above treatment, and are very painful, apply leeches to the part, or if they are not to be had, make a small puncture in the tumors with a lancet, and after discharging their contents, apply warm poultices to the part.

When the bleeding piles return periodically, once in three or four weeks, the discharge may be considered salutary, and should not therefore be stopped, unless it becomes so excessive as to weaken the patient, in which

* See Decoctions in the Appendix.

case the Decoction of Bark may be taken in doses of three table-spoonfuls every two hours, adding to each twenty drops of Elixir Vitriol. Alum or Lead water,† added to a Decoction of Oak or Peruvian Bark, is to be applied to the part, and injected in small quantity into the intestine, by means of a penis-syringe.

In some instances, a falling down of the intestine will be a troublesome attendant on the piles, in which case the intestine must be immediately replaced after every evacuation, by pressing gently upon the part with the fingers, until it is reduced; and its return must be prevented by astringent applications, as Alum dissolved in vinegar, Decoction of Oak Bark, &c.

All the known causes, particularly costiveness, both during the disease and afterwards, must be studiously avoided.

FISTULA.

When the tumours mentioned in the foregoing disease have been suffered to inflame to a considerable degree, and by intemperance or ill treatment to ulcerate, a fistula is formed. In almost all cases of this disease, whether induced by piles, or other causes, the knife of a surgeon will be requisite. While at sea however, and out of the reach of medical aid, the patient, immediately on the least apprehension of a fistula, should keep his bowels open with mild laxatives of Cream of Tartar and Sulphur, or small doses of Castor Oil taken every day; should avoid every thing of a stimulating nature in food

† See Solutions in the Appendix

or drink, and take great care to irritate the part as little as possible, applying at the same time lead-water externally. When in spite of this the inflammation proceeds on to ulceration, and pus is discharged from the fundament in such large quantities as to debilitate the patient, he should take Bark and Wine, and support his strength with rich diet, till he can reach medical aid.

HERNIA OR RUPTURE.

The part in which hernia most commonly appears is the groin. Generally the tumour takes a direction towards the scrotum, but sometimes it pushes into the front of the thigh; the former is called *inguinal*, the latter *femoral* hernia. The contents of the tumour are a part of the intestine, or a portion of the omentum or caul or both together.

CAUSES.

The most frequent causes in adults are blows, violent exertions of strength, as lifting or carrying heavy weights, straining at stool, jumping, running, &c. When a rupture is produced by bodily exertion, the tumour is formed suddenly, and is generally attended with a sensation of something giving way at the part, and with considerable pain.

TREATMENT.

Reduce the tumour immediately by the hand. For this purpose the patient should be placed on his back, and the foot of the bed be elevated about twenty inches higher than the head, the thighs should be bent toward

the body, and that on the same side with the rupture, inclined inwards. The pressure, which is made on the tumor by the hand of the operator for its reduction should always be directed upwards and outwards for inguinal hernia, and first backwards and then upwards in femoral hernia. If the tumor be not sooner removed, the pressure may be continued half an hour, but no violence is to be used, as it will tend greatly to aggravate the inflammation, and the pressure, when it becomes painful, should for the same reason be discontinued.—Should these efforts fail of success, the patient must be bled, and then another trial be made, and on failure of this also, use the warm bath, and repeat the effort while the patient lies in the water. The next remedies to be employed are the coldest applications to the tumour, as ether or pounded ice, and where these cannot be obtained, a mixture of equal parts of Nitre and Sal Ammoniac, in the proportion of half a pound of the mixture to a pint of water, should be tried by a constant application of it to the tumour. Finally, try an injection of tobacco made by boiling one drachm of tobacco in a pint of water for ten minutes. When all these means fail, if a surgeon can be had competent to perform the operation for strangulated hernia, he should be called, and always within the first twenty-four hours.

With the view of guarding against the dreadful consequences of a strangulated hernia, a ruptured person should immediately procure a well adapted eclastic-spring truss, and wear it night and day, without intermission.

DISEASES OF THE URINARY ORGANS AND GENITALS.

(OF THE URINARY ORGANS.)

INFLAMMATION OF THE KIDNEYS.

SYMPTOMS.

Fever, pain in the small of the back and thence shooting downward ; drawing up of the testicles ; numbness of the thigh ; vomiting ; commonly at first a deep red colour of the urine, which becomes pale and colourless as the disease increases, and is discharged very often with pain and difficulty ; costiveness and some degree of colic ; pulse frequent, hard and small.

CAUSES.

Acrid substances acting on the kidneys ; external injury ; long continued and violent exercise on horseback ; violent exertions, strains, &c. but the most frequent cause is calculi or gravel, lodged in the kidney, or in the duct that leads from it to the bladder.

TREATMENT.

I. Bleed from the arm, and repeat the operation according to the urgency of the symptoms. 2. Administer cathartics of the oily kind, as Castor or Sweet Oil, and give glisters of barley-water, or flax-seed tea. When the pain is very great, administer a tea-spoonful of

Laudanum in the clyster. 3. Give copious draughts of diluting drinks, as flax-seed tea, decoction of mallows, &c. 4. Let the warm bath be repeated according to the violence of the pain. The back should be bathed with flannels dipped in hot water.

INFLAMMATION OF THE BLADDER.

SYMPTOMS.

Fever, acute pain, tension and tumour in the region of the bladder, frequent and painful discharges of urine in small quantities and inflammation in the fundament; sometimes there is complete obstruction to the passage of the urine; severe cases are attended by vomiting.

CAUSES.

Mechanical injury; gravel; the inflammation of a severe clap extended along the uretha to the bladder; in some persons sudden cold will cause it.

TREATMENT.

In severe cases adopt the same treatment that is recommeded in Inflammation of the Kidneys. In slight cases proceeding from cold or a clap, it may be sufficient to open the bowels. Inject the urethra and bladder with flax-seed tea, or barley-water, milk warm. Five or six penis-syringefuls are to be frequently thrown in at a time in order that some may pass into the bladder, where it is to be retained as long as possible, and the same kind of fluid is to be drank in frequent and copious draughts.

BLEEDING FROM THE BLADDER,
OR
BLOODY URINE.

—

SYMPTOMS.

When not the effect of violence, it is preceded by a sense of weight and pain in the loins. It is distinguished from the high coloured urine attendant on many diseases, by the deposite of a coagulum on the bottom of the vessel, and by its staining linen of a red colour.

CAUSES.

It is most frequently caused by gravel in the kidneys, but sometimes arises from external violence or great exertion.

TREATMENT.

If the disease be the consequence of injury, bleed and give a dose of Glauber's or Epsom Salts, or of Cream of Tartar; also, frequent and copious draughts of flax-seed tea, or barley-water, Elixir Vitriol, twenty-five drops every two hours, and an Opium pill every four hours till bleeding is arrested. If the discharge of blood be very great, give alum, six grains every two hours, dissolved in a gill of water.

If no violence has been sustained to cause the discharge of blood, a vein need not be opened, but the other treatment must be adopted.

DIABETES,

OR

EXCESSIVE DISCHARGE OF URINE.

SYMPTOMS.

In diabetes, the urine generally exceeds in quantity all the liquid food which the patient takes. It is thin and pale, of a sweetish taste and an agreeable smell. The patient has a continued thirst with some degree of fever and a remarkably dry skin. The strength fails, the appetite declines, and the flesh wastes to an extreme degree.

CAUSES.

Constitutional weakness;—The decline of life;—preceding diseases;—the abuse of spirituous liquors;—cold applied to the body;—excess in venery;—free use of new acid wines, and malt liquors.

TREATMENT.

Abstain from every kind of vegetable aliment, solid or liquid, and subsist entirely on animal food. Apply blisters to the small of the back. Take of Elixir Vitriol fifteen drops of every three hours, and an Opium pill every evening. Sea-bathing is highly recommended. The drink should be in small quantity, and of the acid kind. Flannel must be worn next the skin, gentle exercise taken, and the bowels kept regularly open by the Aloectic pills.

INCONTINENCY OF URINE.

SYMPTOMS.

In this disorder the urine passes off involuntarily by drops, but does not exceed the usual quantity, as in diabetes, nor is the disease attended with pain. It is rather troublesome than dangerous.

CAUSES.

Sometimes it proceeds from blows and bruises, or is the effect of fever, or of strong stimulants on the bladder. In old people it may often be owing to a palsy of the neck of the bladder.

TREATMENT.

The most proper remedies are general tonics, as bark, Elixir Vitriol, Brandy, and Cold-bath. Perhaps the most effectual remedy ever used is a blister applied to the lower extremity of the backbone. It sometimes cures cases of long standing in twenty-four hours. Until these or some other means succeed, the patient should wear a sponge or bladder, to prevent excoriation of the parts.

OF STRANGURY, OR SUPPRESSION OF URINE.

It is called *suppression*, when there is an entire stoppage of urine ; and *strangury*, when there is a frequent inclination to avoid it, and it is discharged in drops, with pain and difficulty.

CAUSES.

This complaint may proceed from a variety of causes; as inflammation of the kidneys or bladder; gravel, or small stones obstructing the urinary passages; a spasm, or contraction of the neck of the bladder; acrid injections; cantharides, either taken internally or absorbed from a blistering plaster. The particular symptoms attending it commonly designate the seat of the disease.

TREATMEMT.

In all cases of suppression of the urine, it will be advisable to bleed from the arm, in quantity proportioned to the strength of the patient and the urgency of the symptoms. This should be followed by gentle purgatives of Salts, Oil, or Cream of Tartar, by warm injections of barley-water, or flax-seed tea, by the warm bath, the patient sitting up to the middle in water, and by flannels dipped in hot water, and applied to the abdomen. Administer repeated doses of Opium combined with Spirits of Nitre; thus,

Take Spirits of Nitre half an ounce,

Laudanum, one drachm, mixed in warm drink, and repeat the dose every half hour, till it relieves. The application of ice to the feet and legs is highly recommended.

If a suppression of urine do not yield to the above treatment, introduce a cathartic or bougie, as directed under the head of Operations, and draw off the water.

The diet during the continuance of the complaint should be of a light kind, and taken in small quantities.

GONORRHÆA OR CLAP.

This disease is communicated from one individual to another by sexual intercourse, and is generally considered a local affection. It sometimes commences in two or three days after the infection has been received, and at others, not before the lapse of several weeks; but it commonly makes its appearance in between six and ten days. The first symptom is an itching at the orifice of the uretha, or urinary passage, and shortly after, there is a discharge from the part, of a thin, transparent matter, which soon becomes white, and afterwards changes to a yellow or green colour. A slight degree of redness and inflammation begins to appear about the lips of the urethra, and a heat and smarting pain in most cases are felt in every attempt to make water. There is commonly a sense of fulness about the end of the penis, and frequently a soreness along the course of the urethra, accompanied with more or less pain in erection.

In severe cases the erections become more frequent and lasting than in health, particularly when the patient is warm in bed, and the penis is curved downward with considerable pain, which is called *chordee*, and this is sometimes attended with a slight bleeding at the time of passing the urine.

When inflammation runs high, the heat and scalding of the urine, as well as the chordee, are extremely troublesome; there is a constant inclination to discharge urine, which is often attended with much difficulty, and sometimes is rendered only by drops. There is also sense of pain, heat, and fulness about the testicles and fundament,

and the running is very copious, of a greenish and sometimes a bloody colour.

But in ordinary cases, where proper attention is paid to the disease, few or none of the last mentioned symptoms occur; the disease merely consisting in a slight heat and scalding in making water, and a running, all which gradually subside, in ten or fifteen days.

In consequence of violent inflammation, the prepuce or foreskin sometimes becomes so swelled, that it cannot be drawn back; which symptom is called a *phymosis;* or that being drawn behind the glans or head of the penis, it cannot be brought forward; which is known by the name of *paraphymosis.* The treatment of these will be given hereafter.

A swelling of one or both testicles often arises in gonorrhæa in consequence of cold, severe exercise, or astringent injections. For the treatment of this, see Swelled Testicles.

TREATMENT.

On the first appearance of the clap, abstain from every kind of high seasoned food, as well as stimulating liquors, and subsist on a mild, easy diet, as of milk, vegetables, broths, puddings, rice, &c. and commence taking freely of barley-water, flax-seed tea, or a solution of Gum Arabic. Avoid all severe exercise, particularly walking, or riding on horseback, as well as venereal intercourse, and even lascivious ideas.

During the inflammatory stage use injections of a mild and soothing kind, as flax-seed tea, new-milk, or barley water, blood warm, repeating them as often as every two or three hours. In this stage also it is of importance to move the bowels every two or three days,

with a mild purge, as Castor Oil, Cream of Tartar, or Salts.

If chordee be troublesome, take a grain of Calomel and Opium, on going to bed, and apply frequently to the extremity and along the under side of the penis, rags wet with a solution of Sugar of Lead made with two drachms of the lead to a pint of water.

When the inflammation runs very high, is attended with great pain and a constant inclination to make water, throw the above injections into the bladder by using four or five syringefuls at a time; this will serve to dilute the urine and sheathe the inflamed surface of the urethra. With another syringe or with the same one cleansed, inject flax-seed tea and Laudanum into the rectum, in the quantity of one gill of the former to a tea-spoonful of the latter, and continue the diluting drinks above mentioned.

With this treatment, relief will be obtained immediately, and the inflammation in most cases subdued, in two or three days. After which, instead of the above, it will be advisable to use for the urethra one of the following injections.

Sugar of Lead, and White Vitriol, of each ten grains, water one pint; Or

Elixir Vitriol twelve drops, water one pint; Or

White Vitriol, ten grains to a pint of water.

These injections should be used cold, every three or four hours. If employed before inflammation be subdued, they are apt to cause a swelling of the testicles.

There are many practitioners, even at the present day, who maintain that gonorrhæa or clap, and the venereal disease or pox, are one and the same disease, arising from the same infectious matter; and recommend the

use of mercury alike in both. On this subject eight years' very extensive practice in these complaints, on board ships of war, has served to convince me, that the two diseases are essentialty different, and that a mercurial action, which is indispensably necessary in the cure of pox, is of no sort of utility in gonorrhæa

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GLEET.

When a clap is neglected, or ill treated, or the patient irregular in his habits, it may continue for many months, and on subsiding leave a weakness and mucous discharge from the urethra, called a gleet; it is unattended by pain or scalding, in making water, and is the consequence ot relaxation.

TREATMENT.

It may be treated by stimulating diuretics, as Balsam of Copaiva, and Spirits of Nitre, in a dose of twenty drops of the former, to a tea-spoonful of the latter, in a wine-glass of water, three times a day; by injections of blue or white vitriol and alum dissolved in water, made of such strength only, as to irritate the part in a slight degree. They are to be used four times a day, and continued many days after the running has ceased. Cold water or ice should be applied near to the seat of the affection, night and morning,

STRICTURE.

Another evil to be apprehended from the long continuance of clap especially, if it has been attended with inflammatory symptoms, or has recurred frequently, is the taking place of stricture in the urethra, causing a partial and sometimes total closure of the passage.—This complaint is particularly apt to follow those cases of clap, which are apparently cured, but which break out from time to time, in consequence of some irregularity in the patient's habits, as drinking freely of stimulating liquors, taking too much exercise, venereal gratification, &c.

TREATMENT.

The daily use of a bougie. Previous to its introduction, it should be slightly curved, and covered with oil, to prevent irritation. It ought to be worn at first for about half an hour, gradually increasing the time, from day to day. The size of the bougie is also to be increased, as the resistance to its passage becomes diminished

In those cases where a bougie, even of the smallest size, cannot be passed, as likewise in those of such long standing as to preclude the hope of a recovery from its use, resource is to be had to the application of caustic, which is to be trusted only in the hands of a surgeon.

(OF THE GENITALS.)

SYPHILIS, OR VENEREAL DISEASE.

CHANCRE.

This disease is induced by the operation of a specefic poison, generally imbibed from an affected person during sexual intercourse, and circulated through the whole system. In almost every case it first appears in the form of an ulcer or chancre, about the glans or head of the penis, frequently near the frenum or string. Generally a small itching pimple, containing a watery matter is first discovered, which soon bursts, and leaves a circumscribed painful sore, but sometimes the first appearance is an abrasion of the skin. The ulcer assumes a foul and rough appearance, with hardened edges, discharges a foul greenish matter, and differs from other ulcers, in its total indisposition to heal. The period of the appearance of chancre, after receiving the infection varies from five or six days, to as many weeks.

TREATMENT.

This may be divided into general and local. In the former, which is far the most important, the use of Mercury is indispensably necessary. A sailor may consider this a bold assertion, when cures are offered him in every city, by medicines alleged to contain none of this article. In trusting to these however, he may rest assured, that either the medicine contains Mercury, so disguised with other articles as not to be discernible; or that the relief obtained from it will be only temporary, and that the disease will return, with symptoms far

more injurious to the constitution and difficult to remove, and after all will require the use of Mercury, and even for a much longer time, than is necessary when properly used early in the complaint.

Mercury is to be so administered as to excite a disposition to salivation, or spitting. It may be used either externally, by rubbing the Mercurial Ointment upon the inside of the thigh, which is decidedly the best and most secure way ; or internally, by the use of Calomel three grains at night, and two in the morning, made into pills. In obstinate cases it may be well to use both pills and unction at the same time. The unction is to be applied in quantity equal to the bulk of a nutmeg, rubbed on the inside of the thighs, for ten or fifteen minutes every morning and evening, before a moderate fire.

As some constitutions require but a small quantity of Mercury to excite a stronger mercurial action than is necessary, it will be advisable to begin with the unction alone, and if it produce no effect on the mouth within three or four days, to have recourse to the pills, as above directed. When it is found very difficult to produce the desired effect, the warm bath is serviceable.

The only apparent effect wanted from the Mercury, is a copperish taste and clamminess in the mouth and fetor of the breath, with perhaps a little uneasiness of the gums. When these appear, its quantity should be diminished, and so regulated as merely to continue the symptoms with as much uniformity as possible, till the chancres are healed, and for at least four or five days longer. If the pills produce purging, take with each dose half a grain of Opium.

During a mercurial course, abstain from high-seasoned food and spirituous liquors, and subsist on a rich, easi-

ly digested diet, as fresh meat, broths, preparations of sago, barley, rice, and fruits. It is of importance to avoid exposure to sudden changes of weather, and moisture, particularly wet clothes.

Where a mercurial course has been continued for a great length of time, it sometimes happens that the system becomes debilitated, and the chancres ill-conditioned, resisting every means used to heal them. In such cases it will be advisable to drop the Mercury, and take of the Powder of Bark, in gruel, three or four tea-spoonfuls a day, or Decoction of Bark* three table-spoonfuls every three hours, for several days, till the mercurial action is stopped, and the general health improved, when it will be necessary to return to the Mercury again, as before directed.

If a copious salivation be produced, or soreness of the gums, use a gargle of a week solution of alum; and take a table-spoonful of Flowers of Sulphur every evening.

With the general treatment above directed are to be commenced local applications. The chancre should be touched with some escharotic, as Blue Vitriol, or Caustic or filled with red Precipitate as often as once in two days for the first week, and dressed with soft lint and some mild ointment, or Olive Oil, twice a day. With this treatment it will assume a healthy appearance, when it may be dressed with mercurial unction, and touched as above directed, once or twice a week, or oftener, if necessary, till healed.

Avoid irritating the part by exercise, by sexual intercourse, and even by lascivious thoughts.

* See Decoctions.

PHYMOSIS.

Not unfrequently it happens from neglect of large chancres on the head of the penis, that the prepuce or the foreskin becomes inflamed, and so contracted round the head of the penis that it cannot be drawn back, so as to expose the chancres to view, and admit of their being dressed. In such cases the general treatment recommended for chancres is to be continued as above directed, and warm water, containing a little soap, to be injected several times a day, between the skin and head of the penis, for the purpose of cleaning the part, and allaying inflammation. Warm poultices, made of flax-seed and pounded bread, should be applied to the part. Occasional attempts may be made to draw the skin back, and the penis be suspended against the body. If the inflammation be great, lose a pint of blood, and take a dose of salts. When these means fail to reduce the inflammation, and large ulcers exist under the skin, which cannot be brought to view, the stricture may be divided with a sharp instrument or scissors, its whole length, and the part bathed frequently in warm water, and poulticed three or four times a day, for two days; after which, dress the wound with lint and simple salve, and the chancres as formerly directed.

When the stricture or contraction is caused by the inflammation and discharge of a virulent gonorrhæa, it is to be treated in the same manner as above directed.

PARAPHYMOSIS.

This is a contraction of the prepuce or foreskin, back of the head of the penis, so that it cannot be brought forward. It is induced by the same causes as the preceding disease.

The same means are to be employed to reduce the inflammation as in phymosis, adding the frequent application with rags, of Sugar of Lead, dissolved in water, one drachm of the former, to four ounces of the latter. This and other cold substances are to be applied to the head of the penis, and occasional attempts are to be made to draw the skin over the part.

If notwithstanding this treatment, the swelling increase, there is danger of mortification; the skin must therefore be divided by making an incision upon each side with a lancet, and the wound be treated as directed after the operation for phymosis.

BUBO.

A bubo is generally the consequence of chancre, though sometimes it is the first symptom of the venereal. It is a hard, painful tumour, seated generally in the groin. If not subdued, the inflammation ends in the formation of matter.

TREATMENT.

As the ulcer formed by a bubo, that is suffered to break, is troublesome and difficult to heal, it is of the first importance to subdue the inflammation early, be-

fore matter has formed. This must be effected, 1. By purgatives, as Salts, or a draft of sea-water, taken every two or three days and subsisting on a light diet, as broths, gruel, sago, barley, rice, puddings, &c. 2. By rubbing the inside of the thigh and leg withMercurial Ointment, in quantity equal to the size of a nutmeg, three times a day, continuing it with occasional omissions, as hereafter directed, till the bubo is nearly dispersed. 3. By cold applications to the bubo, as Glauber's Salts, laid on in a small bag, and frequently moistened with cold water, and vinegar, or by a solution of Sal Ammoniac, in vinegar and water, used very cold, and applied with rags every fifteen minutes. When these means fail to arrest the progress of the inflammation and matter has formed, a soft poultice may be applied, till the abscess is about to break, when a small puncture is to be made with a lancet, in the most depending part, and Basilicon Ointment applied on lint. If after some days the swelling continue, apply over it a thick covering of Mercurial Plaster, spread on soft leather, leaving an orifice in the centre over the sore for the discharge of matter, and the introduction of lint.

A mercurial action is generally as necessary in bubo, as in chancre, but as buboes are a long time in subsiding, not unfrequently some months, a constant mercurial action, kept up all this time might create an unnecessary debility of the system ; besides this, it sometimes happens, that from the long continued action of Mercury upon the system, the sore turns to what is termed a mercureal ulcer, and is then aggravated, rather than benefitted,

by the medicine. In buboes of long standing, therefore, after having excited a slight mercurial action by friction, as above directed, and continued it for some days, omit the unction for a week or ten days, and then return to it, for two or three days only at a time. The degree to which mercurial action should be excited, need be only till a copperish taste and some fetor of breath appear. The same precautions are necessary, in regard to exposure to cold and moisture, that are mentioned in the treatment of chancres.

SWELLED TESTICLE.

It may be induced by any of the common causes of inflammation, but is more frequently brought on by the use of strong urethral injections, or incautious introduction of bougies. It often follows a sudden suppression of the gonorrhœal discharge from cold ;—sitting on wet grass often occasions it.

TREATMENT.

The patient should confine himself to a spare diet, and remain in a recumbent posture, with the part suspended or triced up, by means of a bag-truss or bandage. The bowels should be moved by a dose of Salts, and if inflammatory symptoms run high, general bleeding will be necessary. One of the best local applications is Glauber's Salts, laid on the part in a small bag, and frequently moistened with cold water. A strong solution of Sugar of Lead may be applied cold, every ten minutes, by means of rags, immersed in the liquids.

When the disease proceeds from the sudden suppression of a clap, a return of the running is to be favoured, by injections of warm flax-seed tea.

Should the swelling continue increasing and matter appear to be forming, the part is to be bathed and poulticed.

DROPSY OF THE SCROTUM

Is an accumulation of water, first perceived at the bottom of the scrotum, which gradually increases, and gives the part a pyramidal shape;—a distinct fluctuation is generally to be distinguished. There is no pain nor discoloration, and after viewing the parts near to a strong light a transparency is observable.

TREATMENT.

At the commencement of the disease, and when a small quantity of fluid only is collected, it may sometimes be dispersed by cold and stimulating applications, as Sal Ammoniac, dissolved in vinegar and spirit; or table-salt dissolved in the same fluids, applied cold very frequently with soaked rags. In general, however, it will eventually become necessary to evacuate the fluid by an operation.

DISEASES OF THE LIMBS AND LARGE JOINTS.

RHEUMATISM.

There are two kinds :—*acute*, which is inflammatory, and of short duration ; and *chronic*, which is of long duration, and accompanied by debility.

SYMPTOMS OF ACUTE RHEUMATISM.

They commence with slight fever ; very soon followed by an inflammation, sharp pain, and swelling in the neighbourhood of one or more of the large joints, and this pain increases when the patient becomes warm in bed. It is variable, shifts from joint to joint, and leaves the part it occupied swollen, red, and tender to the touch. The joints most subject to this disease, are the hip, loins, back and shoulder. The pulse is full and hard, the tongue has a slight whiteness, the urine is high coloured, the blood, when drawn from a vein, exhibits a light coloured crust on its surface ; costiveness prevails ; and sometimes there is profuse sweating without relief.

CAUSES.

Obstructed perspiration, occasioned by wearing wet clothes, lying in damp linen or damp rooms, or by being exposed to cold air, while heated by exercise. Sailors are particularly liable to this complaint, on account of their frequent calls upon deck in rainy weather, and

sleeping in wet clothes. Often it attacks sailors on their approach from a warm to a cold climate.

TREATMENT.

This is to be commenced by bloodletting and purging; the quantity of blood to be taken from a sailor may be between one and two pints, according to the strength of his constitution and the violence of the attack, and if the symptoms continue unabated, the operation may be repeated on the following day. As a cathartic, give a dose of Salts or of Castor Oil, or Flowers of Sulphur and Cream of Tartar, half an ounce of each mixed with molasses. When the bowels have been moved, take Dover's Powders, fifteen grains every four hours, and drink freely of warm herb-tea and toast-water, or barley-water and gruel. Another remedy of great value in acute rheumatism, is Calomel and Opium, two grains of the former to half a grain of the latter, mixed and taken three or four times a day.

When fever has subsided and the pain is confined to one part, blisters will prove useful. Warm fomentations tend rather to aggravate the pain of acute rheumatism. The patient should subsist on a low diet, abstain from stimulating drinks, and preserve an open state of the bowels by occasionally repeating the purgatives before recommended.

When the inflammatory symptoms have subsided, the patient may return to a generous diet, and the use of wine and strengthening medicines.

In approaching a cold climate, the master of a vessel should attend to the clothing of his crew, and see that its warmth increases in proportion to the coldness of the weather; he should also prevent the men's sleeping on

damp beds, or in wet apparel. If woolen shirts are best for sailors in all climates, they are more particularly so, in approaching from a warm to a cold one.

CHRONIC RHEUMATISM.

It may be either a consequence and termination of the acute rheumatism, or it may be independent of it. In the first case the parts which were affected with inflammation are left weak, stiff, in some instances swelled, and the pain, before moveable, is now usually confined to particular parts: sometimes however, it still shifts from joint to joint, but is unattended by any inflammation or fever. When not the consequence of acute rheumatism, it is most commonly met with in people, at the decline of life. The pains are felt in the large joints, which are increased upon motion, and relieved by artificial warmth; the part affected is pale and cold, even when the other parts of the body are warm.

TREATMENT.

This must differ from that which is recommended in acute rheumatism. General bleeding as well as much purging will be inadmissible. The part affected may be rubbed several times a day with volatile liniment, or with spirits of Camphire, and the part rolled in flannel. In long continued and obstinate rheumatic affections, leeches applied to the part will be serviceable, as also blisters kept constantly running. A valuable application to the part is a plaster of common pitch, spread as thick as a dollar on soft leather, and sprinkled over with

Tartar Emetic, five grains to a surface as large as the hand.

These local applications must be accompanied with such internal medicines as are best adapted to stimulate and warm the system and alleviate pain. Gum Guaiacum is one of the most powerful general stimulants and may be taken in doses of fifteen grains of the powder mixed with sugar, molasses, or gruel, every three hours. Or take of the tincture of Guaiacum from two to four teaspoonfuls, in wine or gruel. Mustard and horse radish may be used freely.

The diet should be rich and stimulating; flannel worn next the skin: and exposure to cold night-air, wearing damp clothes, and wetting the feet should be carefully avoided.

To relieve pain and promote sleep, take Dover's Powders, fifteen grains on going to bed. Or a powder of Calomel, Ipecac: and Opium, of each one grain.

SPRAINS

Are violent stretchings or twistings of joints, followed by painful swellings. They are often attended with worse consequences than broken bones, on account of their being more neglected. When a bone is broken, the limb is kept easy, because it is useless; but when a joint is sprained, it is still used, by which it may finally be rendered incurable.

The remedy most to be depended on is rest. Cold water may be pumped on the part for a minute at a time every morning, and the part rubbed with volatile liniment, beef-brine, &c.

DISLOCATIONS.

OF THE LOWER JAW.

The lower jaw may be disjointed by yawning, or blows. It is readily known by the patient's inability to shut his mouth—a want of correspondence of the patient's teeth—hanging down of the chin, which is sometimes turned to one side—inability to speak distinctly, or to swallow without considerable difficulty.

The bone may be replaced by sitting the patient upon a low stool, so that an assistant may hold the head firmly against his breast. The operator is then to thrust his two thumbs, previously wrapped in linen, far back into the patient's mouth, and applying the fingers to the jaw externally, is to press it strongly downwards and backwards, by which the dislocated heads of the jaw may be easily forced into their proper cavities.

DISLOCATION OF THE NECK.

In this case the head generally falls forward on the breast—there is an instant deprivation of sense and motion, and if a reduction be not speedily effected, death must ensue.

To reduce this, the patient should be laid upon his back, and an assistant hold his shoulders firmly. The operator placing himself behind, must draw the head forcibly with both hands, gently twisting it at the same time, if the head be turned to one side, till he perceives the bone replaced, which may be known by the noise the bones generally make when [illegible] to their place, and by the patient's beginning to breathe and gradually recovering his senses.

DISLOCATION OF THE SHOULDER.

The humerus or uper bone of the arm may be dislocated in various directions ; it happens, however, most frequently downwards, and very seldom directly upwards. From the peculiar structure of the joint, as well as from its exposure to external injuries, this bone is the most subject to dislocation of any in the body. A dislocation may be known by a depression or cavity on the top of the shoulder, and an inability to move the arm. When it is downward or forward the arm is lengthened and a swelling is perceived under the arm-pit, when it is backward, there appears a protuberance behind the shoulder and the arm is thrown forward toward the breast.

TREATMEMT.

A bandage or strong belt is to be passed under the arm-pit of the injured side, and carried over to the opposite shoulder. A second belt or strong handkerchief is to be tied round the dislocated arm, just above the elbow. By the latter of these, a gradual extension must be made by one or two persons, in a direction obliquely downwards and outwards ; the body being at the same time

kept immoveably fixed, by assistants drawing the former belt in an opposite direction. After this extension has been kept up for a short time, during which it should be gradually increased in force, the operator is to lift the bone into its cavity.

DISLOCATION OF THE ELBOW.

The bones of the fore-arm may be dislocated in any direction When this is the case, a protuberance or hard swelling may be observed on the side of the arm to which the bone is pushed. It may be known by the patient's inability to bend the arm, and by comparing its shape with the other elbow.

Extension is to be made by assistants pulling gradually in opposite directions, while the operator returns the bones into their proper place. Afterwards the arm must be bent and suspended for some time with a sling about the neck.

Luxations of the wrist and fingers are to be reduced in the same manner as those of the elbow ; viz. by making an extension in opposite directions, and thrusting the head of the bone into its place.

DISLOCATION OF THE THIGH.

When the thigh-bone is dislocated forward and downward, the knee and foot are turned out, and the leg is longer than the other ; when it is displaced backward, it is usually pushed upwards at the same time, by which the limb is shortened, and the foot is turned inwards.

When the thigh-bone is displaced forward and downwards, the patient, in order to have it reduced, must be

laid upon his back and made fast by bandages or held by assistants, while by others extension is to be made by means of slings fixed about the bottom of the thigh, a little above the knee. While the extension is making, the operator must push the head of the bone outward, till it enters the socket. If the dislocation be outward, the patient must be laid upon his face, and during the extention, the head of the bone must be pushed inward.

DISLOCATIONS OF THE PATELLA, OR PALM-BONE OF THE KNEE.

The patella may be thrown out of its place either sideways or upwards; in the latter case, the ligament with which it is connected is broken, and the bone is drawn up several inches among the muscles of the thigh. The nature of the case can be distinctly ascertained, both by the sight and feeling.

TREATMENT.

In the dislocation sideways, the limb must be firmly extended; when pressure being made upon the protruding edge, the bone immediately regains its former situation.

When the dislocation is upwards, it is to be treated precisely as a transverse fracture of the bone; which see.

DISLOCATION OF THE KNEE-JOINT.

The principal bone below the knee may be partially dislocated, either inwards, outwards, or backwards. In either case it is obvious to the sight.

Extension is to be made upwards, by the thigh, and downwards, by the leg, while the bones are replaced by pressure with the hand.

DISLOCATION OF THE ANCLE.

A dislocation of this joint may take place, either inwards, outwards, or forwards.

The two former cases may be ascertained by the inclination of the foot, and by the unnatural proturberance on one side, and deficiency on the other. When the end of the bone of the leg is forced forwards on the foot, the foot will be observed to be considerably shortened; and there is a great and unusual projection of the heel.

The bone is to be replaced by extension, made in the same manner as in dislocation of the knee.

DISLOCATION OF THE THUMBS, FINGERS, AND TOES.

These are to be replaced by making extension, at the same time gently bending the joint, and applying pressure with the thumb upon the end of the bone, that is out of place.

FRACTURES, OR BROKEN BONES.

GENERAL REMARKS.

In the fracture of a large bone, the patient should be put upon a light, unstimulating diet, and if young and plethoric, he may be bled. He should be kept dry and clean, that the parts which bear hard upon the bed may not be galled. While at sea, where the ship is rolling, it will be indispensably necessary for him to swing in a cot. It has been customary with many to keep the limb continually upon the stretch, but this posture is uneasy to the patient and unfavorable to a cure. It will be preferable to keep the limb a little bent, either by laying the patient upon the side, or by making the bed so as to favor this posture. The dressings of the fracture should be re-applied every three or four days, or oftener if they become loose, and the lint should each time be wet with some cooling wash, as a solution of sugar of lead, or vinegar and water.

OF FRACTURES.

FRACTURE OF THE BONES OF THE NOSE.

When the bones of the nose are broken in, they may be raised to their place by means of a quill, or other instrument introduced by the nostril, and in general they will retain their situation, without any further assistance.

FRACTURE OF THE LOWER JAW.

The nature of the injury is obvious to the sight. The parts being accurately replaced, and kept firm by an assistant, a thick pad of lint should be placed over the seat of the fracture, and a bandage applied, by means of which the jaw may be firmly held upwards and backwards;—for this purpose the most effectual, is a bag or purse, to receive the chin, with four tapes, or ends, attached to it; the two inferior of which are tied over the top of the head, and the two superior carried back of the head.

During the cure, the patient should be kept quiet, and not suffered to exercise his jaws in chewing his food.

FRACTURES OF THE CLAVICLE OR COLLAR-BONE.

The existence of its fracture may be known by tracing the collar-bone along with the fingers, when one of the fractured ends will be found to project over the other, and a crackling noise of the bones will be perceptible.

TREATMENT.

The arms and shoulders of the patient, are to be firmly drawn backwards by an assistant, when the fractured ends immediately come in opposition. The part is now to be covered with a thick adhesive plaster or one of common pitch, and a bandage is to be applied to retain the bones in their place. The bandage should be long, and commencing with it on the part injured, is to be

carried under the arm-pit, across the back, and over the other shoulder, then under the arm-pit of that side, and back over the injured shoulder; thus describing on the back the figure 8. The turns should be repeated two or three times, and be drawn with considerable tightness, and the arm should afterwards be supported with a sling from the neck.

FRACTURE OF THE RIBS.

The characteristic mark of a fracture of the ribs is the crackling or grating of the bones, which may be distinctly felt and heard, upon the patient's coughing, or during a deep inspiration, and by a sharp pain of the part, at the same moment.

TREATMENT.

In this, the principal attention is to be directed to the general symptoms. Bleeding in almost all cases is necessary, and such other means should be adopted as are calculated to allay inflamation, as gentle purging, and abstinence from the use of stimulants. An adhesive plaster may be applied over the fracture, and the body tightly encircled with a broad bandage.

FRACTURE OF THE ARM, BETWEEN THE SHOULDER AND ELBOW.

This fracture is simple and easily recognized. In order to bring the fractured extremities into their

place, a slight extension should be made, with the elbow bent at a right angle. The arm is then to be encircled with a piece of soft flannel, and two splints applied, one on the inside, and the other on the outside of the arm. They may be made of pasteboard or thin slips of wood, an inch and a half broad, and to extend the whole length of the bone, to be bound on with a bandage. The forearm should be suspended by a handkerchief from the neck, in such a manner that the wrist may be more supported than the elbow, so that the weight of the arm counteracting the contraction of the muscles, may serve to keep the ends of the bone in their proper place.

FRACTURE OF THE ELBOW.

The fracture of this is readily known. The piece of bone will be found drawn upward. It is to be replaced and confined by a bandage rolled round the limb, as directed in fracture of the patella, and the arm should be kept nearly straight, by means of a splint bound upon the inner side, and extending nearly to the hand and shoulder.

FRACTURE OF THE BONES OF THE FOREARM.

The existence of a fracture of these bones may be known, by tracing the course of the bones with the fingers, from the elbow to the wrist, comparing the limb with the other, and by the crackling or grating of the ends of the bones against each other.

The same treatment is required as in fracture of the arm between the shoulder and elbow. The splints should be laid one on the inside, and the other on the outside of the arm; so that both bones may be at once effectually compressed; that on the inside should reach to the palm of the hand, by means of which the wrist will be kept steady, and the bones prevented from rolling on each other. They may be confined by a bandage rolled round the limb.

FRACTURE OF THE BONES OF THE HAND AND FINGERS.

The fracture of the bones of the hand are readily replaced, and may be easily preserved in their natural situation, by accurately adapting a pad or cushion to the palm of the hand, and applying a bandage over all, beginning at the wrist and extending it to the fingers.

When the fingers are broken, they are to be neatly set with pieces of pasteboard, moistened; over which a small roller is to be applied.

FRACTURE OF THE THIGH-BONE.

The existence of this fracture may be known by the crackling or grating of the broken ends, made in moving the limb, and by a projecting point that may be felt on the inside of the thigh.

TREATMENT.

The patient should, if possible, be moved to a cot, since a common fixed birth will hurt the limb during the motion of the ship, and a hammock is rendered objectionable by its curved shape. The patient thus conveniently situated, a gentle extension is to be made by an assistant, while the operator replaces the bones in exact apposition, and applies over the limb a soft rag wet with a strong solution of sugar of lead; and over this, the many-tailed bandage, made in the following manner:—take common rollers or bandages of cotton, two inches wide, and of sufficient length to pass round the limb, and lap over, two or three inches; spread as many of these by the side of each other, as will extend from near the groin to the knee. Another bandage of the same kind is then to be laid across, and stitched to them. The whole are now to be placed under the thigh in such a manner, that the cross bandage shall stretch along under the bone, and each of the tails is to be brought separately over the limb, beginning at the one next the knee, and crossing it by the one opposite. When all the tails are thus brought over, and made fast with pins, three splints are to be applied, one on each side, and a third on the top, that on the outside being of sufficient length to reach from the hip to the knee. These being tied firmly with tapes, the limb may now be placed, either in an upright position in a fracture-box, with the knee bent to a considerable angle, which is preferable; or the thigh may be laid smoothly upon a pillow, on one side, a little out from and higher than the body. The limb must remain in this position for several weeks.

Fractures of the bones of the leg below the knee, are to be treated in nearly the same manner as the above.

FRACTURE OF THE PATELLA OR PALM-BONE OF THE KNEE.

The fracture is generally transverse and rarely longitudinal. In the former case the upper portion is drawn up several inches among the muscles of the thigh.

TREATMENT.

In the longitudinal fracture, continued extension of the limb and the application of a bandage to the knee will be sufficient to effect a speedy union.

In cases of transverse fracture, owing to the great separation of the divided portions, it is extremely difficult, and nearly impracticable to effect a union by bone. The fractured portions being made to approach each other as nearly as possible, the middle of a bandage of considerable length is to be applied over the upper part of the patella, and being carried round the thigh just above the joint, it is to be crossed under the ham, and carried round below the knee so as to draw the fractured portions together, and having thus described the figure 8 around the joint, it is to be firmly secured and daily increased in tightness.

As it will be necessary to keep the limb constantly extended; a splint, lined with toe or wool, may be applied under the ham, and made fast to the limb with tapes.

A fracture of that projection of bone that makes the elbow, may be treated in nearly the same manner.

ERYSIPELAS.

SYMPTOMS.

It begins with symptoms of fever,—confusion of the head,—sometimes delirium,—sickness at the stomach. About the second or third day, the skin of a particular part of the body, generally the face, becomes inflamed. The redness commences about the eyes and nose, or one of the ears, is attended with itching and burning, and extends from the forehead to the mouth. If the disease continue, the whole of the head becomes inflamed and often one or both eyes are closed. As the redness extends, it frequently leaves or is abated in the part it at first occupied. After a longer or shorter time, the redness terminates in small watery pimples, or in a scaling of the skin. The fever, however, does not always at this period suffer a remission, but on the contrary, is frequently aggravated and sometimes the patient expires about the ninth or eleventh day.

TREATMENT.

Reduce the inflammatory state of the system by cooling, or mercurial purges, as Calomel, from six to ten grains with as many grains of Jalap, or by the Cooling Mixture,* a table-spoonful, every three hours. Take diluting drinks, as lemonade or water, containing Cream

*See Appendix.

of Tartar, barley-water, &c. avoid stimulating food or drinks. Evaporate spirits on the part, by frequently applying it with a soft rag.

As soon as the bowels have been moved, if the disease continue to increase, it is recommended to give powder of bark two or three tea-spoonfuls every hour, in a draught of water, till the inflammation and extent of the disease manifestly lessen. If the stomach reject the bark in this quantity, give it in smaller doses and more frequently. The room should be kept cool and dark, and the patient still.

ITCH.

One of the best medicines for this complaint is Sulphur, which should be used both externally and internally. The parts most affected may be rubbed every night with ointment, made of Flowers of Sulphur two ounces, and hog's lard or butter rubbed together. As much Flowers of Sulphur as is requisite to keep the bowels open, may be taken every night. It will be necessary to observe cleanliness, and after the disease is removed to fumigate the clothes with Sulphur, or to immerse them in water.

WOUNDS.

As an enumeration of the many classes into which wounds are divided by surgical writers would confuse those for whom this book is intended, they are here

included in three divisions, viz. *Incised wounds*, or simple cuts, made with a sharp instrument :—*Contused wounds*, or bruises, including gunshot and lacerated wounds :—*Punctured wounds*, or those produced by a sharp pointed instrument, as a nail or dirk.

INCISED WOUNDS, OR CUTS.

The first object of attention in cuts is to stop the bleeding. In wounds of the limbs where the bleeding is alarming, a tourniquet or bandage is to be applied above the part in the following manner.—A strip of canvass or strong cloth, an inch and a half wide and two yards long, is to be passed twice round the limb, the best place being about the middle of the arm or thigh, and tied in a hard knot; introduce between the turns of the bandage a stick three or four inches long and turn it like a screw, till the twisting of the bandage arrests the flow of blood.

The wound is then to be dressed by bringing its edges accurately together, and confining them with slips of adhesive plaster three or four inches long, laid across the cut. A narrow slip of lint or rag spread with simple ointment is to be laid over the wound on the adhesive plaster; lint or tow then applied to absorb the discharge, and, lastly, a bandage rolled on to confine the dressings. An assistant is then to make pressure on the wound, while the tourniquet is gently slackened. The tourniquet is, however, to be continued loosely round the limb, ready for use, in the event of a return of bleeding. The dressings may be renewed in three or four days, excepting the adhesive plaster, which should

be continued till adhesion of the wound has taken place, or for six or seven days.

It will be advisable to move the bowels with a mild cathartic, as Cream of Tartar, and subsist on a light, unstimulating diet.

If an artery is wounded where no tourniquet can be applied, the bleeding must be stopped by filling the wound with bits of sponge or dry lint, and applying pressure; the lint or sponge not to be removed till it separates and can easily be taken out.

In slight cuts, a tourniquet will not be required. In other respects the above treatment should be adopted.

CONTUSIONS or BRUISES, and LACERATIONS, as well as GUNSHOT WOUNDS, are more painful than incised ones, are swelled, ragged, and not attended with much bleeding.

The principal objects in the treatment, are to moderate inflammation, and to accelerate the heeling process. The first is to be effected by warm poultices made of Indian meal and flaxseed applied every three or four hours, and by bathing the part in warm water. When inflammation has abated, the healing of the wound may be promoted by dressing it with lint, spread with basilicon.

If the form of the wound will admit of its edges being drawn towards each other, their approximation should be supported by adhesive plasters and bandages.

If the wound be attended with great swelling and pain, the patient must be bled and purged, in proportion

to the violence of these symptoms, and stimulants of every kind avoided.

PUNCTURED WOUNDS are frequently produced by nails or sail-needles, and STABS are sometimes made by knives or dirks. The consequences may be lock-jaw or extensive abcesses.

The most effectual way of preventing these evils is to enlarge the opening with a lancet or sharp knife, and thus convert the puncture into a simple cut, which is to be dressed accordingly. When this is not done, the part should be kept still, and dressed frequently with warm poultices. If the wound be deep and unattended with much bleeding, there will be danger of violent inflammation, that may require bleeding and purging to subdue it.

BURNS AND SCALDS.

The part should be immersed in cold water or other cold fluid immediately, and continue there till some raw cotton is brought, and ready for application to the burn. This article will allay the inflammation, and if seasonably used, will even prevent the formation of blisters. It may be renewed every twelve hours, care being taken to preserve the skin from injury. If the pain be excessive, give a grain of Opium every half hour, till it is aleviated. Should the burn be very severe and exten-

sive, it may be necessary to administer gentle laxatives and abstain from stimulants.

Should the burn be deep, apply soft poultices made of Indian meal or pounded bread and flax-seed, and after the inflammation has abated, the healing of the ulcer may be promoted, by dressings of simple ointment or Turner's Cerate, spread on soft lint, over which a bandage may be applied moderately tight. When fungus or proud flesh appears, it may be touched with blue stone. The blisters occasioned by burns should not be opened immediately, as the access of air will cause deep ulcers. After a day or two, they may be punctured with a lancet, and the skin suffered to remain on.

CHILBLAINS OR FROST-BITES.

When the extreme parts of the body are exposed to severe cold, they are first affected with numbness, and afterwards with swelling and inflammation, and sometimes mortification.

Immediately on perceiving the numbness, the patient should immerse the part in cold water, or rub it in snow, and on no account approach the fire, till its feeling is restored. He should also abstain from stimulants and warm drinks.

When these precautions have been neglected, and a high degree of inflammation has ensued, the part should be dressed, at first with cold and afterwards with warm poultices, till the inflammation is subdued, when the ulcers may be dressed with some mild ointment.

ULCERS.

These may be occasioned by wounds, bruises, burns, frost, &c. Where there is a tendency to scurvy, even the scratch of a pin may produce an ulcer of great malignancy. Old sailors, whose constitutions are much impaired by intemperance, are often afflicted with obstinate ulcers on the skin. The longer such sores continue, the greater will be the length of time necessary to heal them.

Recent and healing ulcers should be washed daily, and dressed with mild ointments applied on lint; all sources of irritation should be avoided; the part kept still and in a horizontal posture. If the ulcer be of long standing and slow in healing, the edges of it may be drawn towards each other, by means of straps of adhesive plaster. If the ulcer be on the leg, a bandage should be applied over the adhesive straps from the foot to the knee, with as much firmness as the patient can bear. The edges of the ulcer should be occasionally touched with blue stone. If a high degree of inflammation and swelling be induced in an ulcer by cold or other causes, it should be bathed with warm water, and poulticed frequently.

BITES OF THE VIPER, SNAKES, ADDERS, &c.

The symptoms that usually follow are a swelling of the part, faintness, giddiness, vomiting, difficulty of breathing, cold sweats, convulsions, and sometimes death.

The most effectual way of obviating these symptoms, is the immediate cutting out of the part or burning it

with fire. Where this is not done salt may be applied to the part and the wound sucked for a long time, the mouth being defended by oil. A tight ligature should at the same time be kept on the limb, above and near the wound. It is recommended by some to apply hot spirits of turpentine to the part.

GUINEA WORM.

In Guinea and in some parts of the East and West Indies, foreigners as well as inhabitants are often troubled with the Guinea Worm, which the celebrated Dr. Lind thus describes; "This is a white, round, slender worm, often some yards long, lodged in the interstices of the muscles, commonly in the legs, feet or hands; when it attempts to escape through the skin, it occasions a swelling, resembling a bile, attended with great pain, until its little black head appears in a small watery bladder, on the head of the bile. When this bladder breaks, the head of the worm is to be secured by tying it to a small roll of linen, spread with plaster; and part of the worm is once or twice a day to be drawn forth, with care not to break it, and wrapped round this roll, until it be brought away entire; then the ulcer heals soon;—but if part of the worm breaks off, the portion remaining in the flesh can be extracted only by painful and tedious suppurations in different places."

OF PERSONS APPARENTLY DROWNED.

When the body is taken out of the water, it is to be stripped as soon as possible, wiped perfectly dry, and then laid between two blankets. The head is to be covered with warm flannels, hot substances applied to the feet, belly, and breast, and the body constantly rubbed with the hands.

The lungs are to be inflated as soon as possible with a a pair of bellows, by inserting the pipe in one nostril, while the other nostril and mouth are kept closed, and blowing forcibly. When the breast is swelled by it, the bellows should stop, and an assistant should press the belly upwards to force the air out. This process should be repeated, twenty or thirty times in a minute, so as to imitate natural breathing as nearly as possible. If a bellows cannot be procured, some person should blow into one of the nostrils through a pipe or quill, whilst the other nostril and mouth are closed as before. During this time a large quantity of ashes, or water should be heated, and soon as it is milk warm, the body placed in it; the blowing and rubbing continued as before, and, when the ashes or water are cooled, more is to be added, so that the whole may be kept blood-warm. When signs of returning life are apparent, the frictions must be continued, but more gently. These methods are to to be continued three or four hours. When the patient can swallow, he is to take some warm spirits.

OPERATIONS.

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BLOOD-LETTING FROM THE ARM.

The operator and patient being placed in proper relative situations, which it will be needless to describe, a ligature or narrow bandage is to be passed round the arm, just above the elbow, so as to compress the vein about two inches above the part from which the blood is to be drawn; and having been suffered to remain some minutes in order for the vein to become distended; the thumb of the left hand should be pressed upon the vein made choice of, about two inches below the point where the orifice is to be made. The operator is now to take the lancet, previously bent nearly to a right angle, between the finger and thumb of the right hand, leaving at least half of the blade uncovered. He is then to rest his hand on the three remaining fingers, while he pushes the point of the instrument cautiously through the integuments into the vein; when, having thus pierced its coats, he is to carry it forwards in a direction rather obliquely, until an orifice of sufficient size is made.

When a sufficient quantity of blood has been drawn, the ligature is to be untied, and the lips of the wound being carefully brought together, a small piece of folded linen is to be applied upon the orifice, and secured in that situation by a roller, passed alternately above and below the elbow, so that when applied it may describe the figure 8 by crossing at the bend of the arm.

Faintness, which sometimes occurs during bleeding, may be removed, by a draft of cold water, or by taking a horizontal position.

Every direction given for blood-letting in the arm, is applicable to the foot, the bandage to be placed an inch or two above the ankle.

OF THE APPLICATION OF LEECHES.

The manner of applying these is too well known to require a description. Success is rendered more certain, by previously drying them, or allowing them to creep over a dry cloth; the part also to attract them, may be moistened with cream, sugar, or blood,

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OPENING A TUMOUR OR ABSCESS.

The opening should be made in the most prominent part, and if it be on a limb, the incision is to be made lengthwise, and not across the limb. The part should be covered with plaster to exclude air.

INTRODUCTION OF THE BOUGIE.

The patient may either stand or lie; a middle-sized bougie is to be well covered with Olive Oil, and the *penis* or yard taken in the left hand; the point of the instrument should then be very cautiously introduced into the urinary passage; when it meets with obstruction, it must be gently moved backwards and forwards several times. If unsuccessful, the bougie is to be withdrawn, and after an hour or two a smaller one tried. In some cases a middle-sized bougie will pass, when a

smaller one cannot, and therefore that size should be always tried first. If introduced for a *stricture*, it should be repeated morning and evening, and remain from a quarter of an hour to an hour.

INTRODUCTION OF A CATHETER.

In introducing the catheter the patient may lie with his head and knees raised. The catheter must be well covered with Olive Oil, and the penis held in the left hand, while the point of the instrument is cautiously introduced into the urinary passage, gently moving it backwards and forwards, till it enters the bladder, which may be ascertained by its having overcome all resistance; then the wire inclosed in the catheter being drawn out, the urine will flow off, when the instrument may be withdrawn.

CLYSTERS, HOW TO BE ADMINISTERED.

These may be administered with a pipe or tube, inserted into the neck of a bladder;—an instrument, with which every medicine chest should be supplied. The fluid to be injected being introduced into the bladder, through an opening made in the side, which is to be tied up with a piece of twine, the pipe is to be well oiled, when the patient himself may introduce it into the fundament. He should then hold his breath, while the bladder is gradually pressed from the top to the tube, till all the liquid is injected.

DIRECTIONS

For preserving the Health of Seamen and Passengers in merchant vessels in sickly climates.

PRELIMINARY REMARKS.

The foregoing pages contain some brief instructions for the treatment of diseases, when they have actually appeared on ship-board. A long sea-service has, however, convinced me, that on board merchant vesssels *prevention* is more important than *cure*. In vessels exclusively devoted to the purposes of commerce, the necessities of the sick can hardly be looked for. In long voyages especially, in which it is important that the ship be as perfectly filled with cargo as possible, little room can be spared for the accommodation even of healthy seamen. When disease occurs during such voyages, it is peculiarly distressing. Conveniences are unprovided —attendants cannot be spared from the crew—and the patient is liable to error in the selection of his remedies. But if there be any marine service in which the occurrence of disease may be in the surest manner prevented, it is in the merchant service of this country. In the first place, voyages in general are performed in a length of time which can be tolerably well calculated on ; the means necessary for the prevention of diseases can therefore be accurately estimated, and most of them are of such a nature, that, if not neccessary for one voyage, they will be in readiness for another.

In the next place the nautical skill of our seamen is such, that a few men only are found necessary to take every care of large vessels. This very circumstance is of great consequence in the prevention of disease; for as a general rule, prevention is easy in proportion to the fewness of the individuals among whom it is to be attempted. The exception will be in those voyages in which from unusual circumstances the duty of men is very constant and severe. The unusual circumstances alluded to, are storms in latitudes and seasons which are ordinarily temperate—the employment of old vessels for long and fatiguing voyages, in which the labor of pumping &c. is almost incessant—and voyages so calculated that the American coast shall be made in the winter or early spring season, when the exposure of the men is necessarily very great and endured under circumstances extremely favorable to the production of disease, viz. the return from a long voyage with perhaps a short allowance of provisons, and almost certainly with a very scanty supply of clothing. Except the concurrence of many, or all these circumstances, which indeed is very rare, prevention, as was observed, will be most certain among small crews.

Furthermore, men are more regularly employed.—Indolence, therefore, which is among the predisposing causes of nautical disease, is not a habit of the crew.—The men can be kept cleaner, for their habits can be more easily observed. Their births are more easily cleaned and their apartments ventilated. Finally, the means of prevention which are to be found in diet, can with greater certainty, because with less expense, be provided. Those articles which are not usually employed except during disease, may be more readily and wil-

lingly laid in, and the attention of officers more certainly directed to the use of preventive and curative methods. In all this the seamen has principally been regarded.—But the owner is not altogether without interest in the discussion. It is of importance to him, if his crew be small, that their health be preserved. The loss of a man, with the sickness of three or four, may frustrate the best concerted voyage. These considerations alone are sufficient to establish the truth of the importance of preventing disease on board merchant vessels.

It may be further added, that the means of prevention are readily understood and easily applied. It is of no consequence that the commander is not a medical man; for if he, his owners, and his crew perform their various obligations to each other, disease at sea must be of rare occurrence. What these obligations are, may in some measure be gathered from the following pages. In offering them I have to acknowledge myself indebted for many useful suggestions to the writings of Drs. Lind, Turnbul, and Sir Gilbert Blane.

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Directions, &c.

The only very fatal diseases incident to seamen are Fevers, Fluxes, and Scurvy, in hot climates; and pulmonary affections and Scurvy, in cold climates. If I were to add any other complaint, says Dr. Blane, to those just mentioned, as most prevalent and peculiar to a sea-life, it would be those foul and incurable ulcers, which are so apt to arise at sea, particularly in a hot climate.—The slightest scratch, or the smallest pimple, more es-

pecially on the lower extremities, is apt to spread, and to become an incurable ulcer, so as to end in the loss of a limb. The nature of the diet and the malignant influence of the climate, both conspire in producing them.

The distinguishing characteristics, causes, and treatment of these diseases, are given in the former part of this work; the object more immediately before us is to *prevent* them. The records of nautical medicine furnish abundant evidence, that if proper precautions are taken in *manning*, *victualling* and *governing* a ship, the diseases which may in some measure be considered as peculiar to a sea-life, would be unknown. The subject is therefore addressed alike to Captains, Owners, and Crews.

It has been remarked that the prevention of diseases has relation only to external causes that affect health; and some of these will now be considered under the three heads of

1. Air.—2. Aliment.—3. Clothing.

AIR.

1. *On the air of tropical climates, as a cause of disease among seamen.*

In treating on Air as a cause of nautical diseases, it will be considered under two general heads, viz. as constituting *climate*, and as the peculiar atmosphere of the internal parts of ships. Over the first we have no control. The hot and oppressive atmosphere of the healthiest West-India stations, and the deleterious effluvia from morasses and marshes of the unhealthy ones, are

equally uncontrollable. Whether these, however, shall act as causes of disease on ship-board, depends very much on crews, but still more on their commanders.—The state of the air at sea is likewise beyond control. It may be damp, wet, and cold, and the demand for almost perpetual exertions on the part of the seamen be too imperious, to be evaded, under the wish to preserve the health of the crew. But even under these circumstances disease is not a necessary occurrence. Means may be, and are occasionally adopted, which result in a remarkable exemption from disease, where to escape seemed impossible.

As far as climate is concerned, or may become a cause of disease, nothing is more obvious, in inquiring into the means of prevention, than the importance of removing men as far as possible from its influence. The methods by which this may be effected are not quite as evident as the importance of the rule. Some of these methods will now be stated. Experience has abundantly established the fact, that, except the Scurvy, all the diseases incident to vessels are more apt to arise in a harbor than at sea, and particularly the destructive fevers, peculiar to hot climates. While riding at anchor, in a harbour situated in such climates, the habits of seamen are necessarily in some measure altered. The regularity of sea-duty is broken in upon, a sudden and great change is made in the diet, a temperature very different from the coolness of sea-air is endured. The harbor may have in its neighborhood, or on its very shores, extensive marshes, from which the heat of the sun is constantly raising deleterious effluvia. The sun is at times pouring an intense heat on the men while at work, and their

duty often calls them on shore, for the purposes of wooding and watering. In such climates, more particularly in the West-Indies, spirituous liquors and unwholesome fruits are generally easily obtained, and at times the men, from eluding the vigilance of their officers, sleep in a state of intoxication on the ground on shore. There is also in such climates sudden changes from excessive heat to cold or cooler air, and generally at night a cold damp air is experienced. There is something so refreshing in this change, that the chances of diseases are frequently willingly run, rather than submit to a caution which seems to require too great a sacrifice of personal comfort. The evils, however, which would seem to be the necessary consequences of circumstances just enumerated may be avoided, and the diseases, of which they seem almost necessary causes, may be prevented. "I have known," says Sir Gilbert Blane, "a hundred yards in a road make a difference in the health of a ship at anchor, by her being under the lee of marshes in one situation, and not in the other. Where people at land are so situated as to be exposed to the *air* of *woods* and *marshes*, but only to the sea-air, they are equally healthy as at sea. There was a remarkable instance of this on a small island, called Pigeon Island, where forty men were employed in making a battery, and they were there from June to December, which includes the most unhealthy time of the year, without a man dying, and with very little sickness among them, though they worked hard, lived on salt provisions, and had their habitations entirely destroyed by the hurricane. During this time near one half of the garrison of St. Lucia died, though in circumstances similar in every respect, except the air

of the place, which blew from woods and marshes."—Facts, similar to these, are to be found scattered through all the books which have been written for the preservation of the health of seamen. The practical advantages to be derived from them are plain and obvious to the most common understanding. Diseases of a fatal nature, occurring in a climate and harbor, such as has now been alluded to, are to be checked where it is possible by altering the anchorage; and it appears that in some instances a very small alteration will be found quite sufficient. If circumstances prevent this, other means of prevention must be resorted to.

It is a well known fact, that in the climates alluded to the winds, after the first hours of the morning, blow from the sea towards the land, and that the land-breeze or the breeze off shore takes place in the evening, and continues during the night. During the day, therefore, the sailor is in little danger of disease from the effluvia from shore. He is chiefly to be on his guard against the night-air. He will best do this by carefully to avoid sleeping on deck; and by attention to his clothing.—Other means of great importance, are those medicinal articles which are known to give and preserve the tone of the system, and which experience has satisfied us will protect men against fevers. Such are the Peruvain bark, the capsicum, and other spices commmon to the climates under consideration. In those seasons, therefore, which are known to be unhealthy, these means should be early resorted to, and the consequences will in general be the safety of those who must be in some degree exposed to the influences of the causes of disease.

Having now stated the methods by which the health of seamen may be preserved in situations which expose them to the influence of noxious effluvia from morasses and marshes, I shall in the next place speak of the sensible qualities of the air of hot climates in their connexions with disease.

"If I were required," says Blane, "to fix on a circumstance, the most pernicious of all others to Europeans, particularly those newly arrived in the West-Indies, I would say, that it is exercise in the sun." Heat is not only by itself a very powerful cause of febrile diseases, but the exhaustion, which it induces in laboring men, exposes them strongly to the temptation of the excessive use of spirituous liquors, which, next to heat itself, is one of the most hurtful practices that can be indulged.—Another excess, to which seamen are exposed in hot climates, is in the use of the various fruits which are common to such climates. It is hardly possible to deter men from these practices; their consequences frequently are fevers and fluxes of a very severe nature, and occasionly of a fatal issue. To prevent these evils, it will be said, is utterly impossible, for they are occasionally found to occur; and what sea-captain, of the most ordinary understanding, is unacquainted with their causes? If a question, however, could be fatal to an attempt to diminish the chances of sickness in a class of men who, from their very situation, are beyond the reach of cure when such diseases happen, every attempt to preserve health, under the most favorable circumstances, might be as easily crushed. The fact, however, is, that in this case as in many others, knowledge is not necessarily power. The sea-captain, who observes his men sicken-

ing under hard labor in an excessive heat—who remarks that their exhaustion is not repaired by large quantities of spirits, or their thirst diminished by an excessive use of acid, and most probably unripe fruits—and who on inquiry finds them burning with fever, or exhausted by fluxes, has arrived at ultimate facts, which *may* be of use to him in future; the probability is, however, that he will not advert to them, till the same effects lead him again to search for their causes. The object of these remarks will be answered, if, from a plain statement of the *causes* of disease, responsible men feel it their duty to adopt the means of prevention it may contain, as far as it is in their power.

One of the principal means of diminishing the chances of disease which may arise from the action of excessive heat, is to employ, as far as it is practicable, the natives of hot climates in the hard labor that may be required for the ship on shore. More especially, let these men be employed to procure wood and water, should these be necessary on ship-board. In seasons peculiarly unhealthy, let natives be also employed in getting the cargo on board. In this way, opportunities for procuring spirituous liquors will be much diminished, men will more rarely be found exposed while drunk, to the burning heat of the sun on shore. Fevers, which are among the most dangerous and fatal diseases of hot climates, will be less frequent. There is a peculiar improvidence, and want of all caution, to be observed in the character of sailors. The chances of disease and death are most willingly incurred, for they are never adverted to. It requires more than precepts on the part of officers to keep the men out of the way of evil. The secret of

preserving health under the exposures now under consideration is to put the men as far as possible out of the influences of the causes of disease. If anchoring ground is occasionally to be changed because the present one exposes a crew to the destructive air and morbid effluvia of a low putrid marsh, the officers of a ship in hot climates are, as far as practicable, to remove men from all other causes of disease.

But as wooding and watering in sickly climates are sometimes the unavoidable duties of crews, it may be expected that those who undertake them should be furnished with some advice for their preservation.

"I would advise," says Dr. Lind, "all who are employed in cutting down woods, or in other laborious and dangerous services in hot climates during the heat of the day, to have their heads covered with a bladder dipt in vinegar, and to wash their mouths often with vinegar, never to swallow their spittle, but rather to chew a little Rhubarb, or some other bitter, and spit it out frequently; to stop their nostrlls with a small piece of linen, or toe, dipt in camphorated vinegar; and to infuse some bark, garlic, and rhubarb in brandy, of which a dram is to be taken either by itself or diluted with water, morning and evening.

"In the evening, before sunset, they should leave off work, and not return to their labour in the morning till the sun has dispersed the unwholesome dews and vapours. For their safety during the night, they should retire to a close hut, as the dews may penetrate a tent; here in the absence of the sun, a constant fire should be kept; or if that be found impracticable, the apartment in which they lie should be well fumigated with gunpow-

der, as fire and smoke will afford them the most excellent defence against the noxious qualities of the night-air. The smoking of tobacco in their huts, and chewing of garlic, and not sleeping on the ground are circumstances which will also contribute to their preservation.

"If, from a neglect of these precautions, the nocturnal chill fog has made an impression on the body, a vomit should be immediately administered near a fire, and a plentiful sweat excited after it, which will often prevent fatal consequences. If any symptoms of a low fever still continue, as a head-ach, sickness of the stomach, chills, &c. a blister ought immediately to be applied, as these complaints, though so slight as not to confine the patient to his bed, are deceitful, and often terminate in a fatal malignant fever. If this fever can be brought to intermit, let the bark be immediately taken, to the quantity of a quarter of an ounce, or more, in red wine, every two hours, and the patient quickly removed into a better air."

When a vessel arrives at a port in the latitudes now under consideration, whether the voyage have been long or short, the men should be instructed not to indulge freely in the various fruits peculiar to such climates.—The exception to this rule will be found in those cases in which scurvy exists in the vessel. They are more especially to avoid the free use of spirituous liquors. They should avoid all unnecessary exposure to the night-air, particularly sleeping uncovered on deck, after the fatigues of the day. They should never sleep on shore, and as far as their duty permits, be as little exposed as possible, during unhealthy seasons, to the excessive heat

of a tropical sun. These methods of prevention are extremely simple. They can be very easily adopted, and their objects to the merchant service, I again repeat are extremely important. Suppose for a moment, that a large proportion of a small crew is swept off by distress of a hot climate ; new men must be shipped, a most difficult, and expensive alternative ; the vessel must be delayed in port; all the incidental expenses necessarily increased, and very frequently the principal objects of commercial enterprize defeated.

Notwithstanding, however, the use of such means of prevention, as circumstances admit of, should the febrile diseases of hot climates occur, how are they to be known ; and how are they to be treated? It would be useless to enter on a detail of the symptoms of such diseases ; they are most generally recognised at a very early stage of them, by the captain, or the crew themselves, and their violence, rapidity, and frequently fatal termination very soon discover their true character. If the disease occur in port, recourse should at once be had to a physician of the place. When a physician cannot be obtained, lose no time in applying the remedies laid down in the former part of this work. If notwithstanding the treatment, one or more cases should prove fatal, means should be at once adopted to prevent the propagation of the disease among the crew, by infection. This may be attempted in the following mannner.

Means to prevent the spreading of contagious or infectious diseases in a ship.

1. Let the sick be separated from the healthy; and thus attempt to prevent its progress, by cutting off all intercourse with each other.

2. Articles of clothing, bedding, &c. have been considered as dangerous vehicles of infections, as the persons of men. "It should be made a strict and invariable rule, that in case of death from fever and flux, that every article of the description mentioned, be thrown overboard with the bodies of those dead of these diseases."

3. Should the sick recover, as they might not be able to spare these articles of clothing, &c. they should be smoked, and then scrubbed and washed, before the men join their messes, and return to duty. In ships of war and transports, this direction should be most carefully observed, "because their hammocks will frequently be brought in contact with those of the other men, by being stowed with them in the netting."

4. As infection sometimes adheres to the timbers of a ship for a long time, such cause of disease should be thoroughly eradicated as soon as the disease itself disappears. This can only be effectually accomplished by fumigation. For this purpose, pots of charcoal and sulphur may burn between decks, after having carefully shut the hatches. Dr. Blane remarks, that an action with an enemy has been known to purge a ship from infection. Fires should be more frequent between decks during the prevalence of infection. The decks, beams &c. should be washed and sprinkled with hot vinegar.—The fume of pitch, tar, and other resinous substances, has a more powerful effect than any other smoke; and

besides what is thrown upon the fires, it would be useful to throw pitch upon a red hot iron, or to immerse a loggerhead in a vessel where there is pitch or tar.

4. White-washing the decks and beams with quicklime, has been found extremely useful in eradicating infection.

5. Let the air of the well and the hold be carefully attended to, and such means used as will best tend to purify it. This may be done, by letting down into the well and hold a grate or pot of fire daily, and allowing it to remain there for an hour.

6. The ship should above all things be kept well aired, and as dry as possible. Dr. Blane recommends that scuttles be cut in the sides of frigates destined for the West-India station, in order that a free circulation of air may be maintained through the decks, whenever necessary. Some captains, who have been convinced by experience, that a moist or wet state of a ship is the most frequent cause of disease, are in the practice not only of abstaining from pumping in water in order to sweeten their ships, but *bail* out the water from the well, when the pumps will not exhaust it all, and never let their vessels make above five inches. Where, however, from previous neglect, or unavoidable leakage, a ship becomes very putrid below, it may be advisable to pump in water, in order to remove these causes of disease from the crew.

Signs of an unhealthy country.

In giving directions for the preservation of seamen in hot and sickly climates, it will be proper to enumerate

the most certain signs or proofs of an unhealthy country —extracted from the writings of Dr. Lind.

"The first proof of an unhealthy country is a sudden and great alteration in the air at sun-set from intolerable heat to a chilling cold. This is perceived as soon as the sun is set, and for the most part is accompanied with a very heavy dew. It shows an unhealthy, swampy soil, the nature of which is such, that no sooner the sun-beams are withdrawn, than the vapor emitted from it renders the air raw, damp and chilling, in the most sultry climates; so that even under the equator, in some unhealthy places the night air is cold to an European constitution.

"The second is, thick noisome fogs, arising chiefly after sun-set from the vallies, and particularly from the mud, slime and other impurities. In hot countries the scent of these fogs may be compared to that of a new cleaned ditch. Diseases, therefore, arising from this cause, generally take place in the night, or before sun-rising.

"The third is, numerous swarms of flies, gnats, and other insects, which attend stagnated air, and unhealthy places covered with wood.

"The fourth is when all butcher's meat soon corrupts and in a few hours becomes full of maggots; when metals are quickly corroded on being exposed to the open air; and when a corpse becomes intolerably offensive in less than six hours. These are proofs of a close, hot, and unwholesome spot. In such places, during excessive heats and great calms, it is not altogether uncommon for foreigners, especially such as are of a gross habit of body, to be seized at once with the most alarming and fatal symptoms of what is called yellow

fever, without any previous complaint of sickness, or other symptoms of the disease. There has first been perceived an uneasy itching sensation, commonly in the legs, and upon pulling down the stockings, streams of thin dissolved blood followed; a ghastly yellow color quickly diffused itself over the whole body; and the patient has been carried off in less than forty-eight hours.

"The fifth is, a sort of sandy soil, commonly a small, loose, white sand, such as that at Pensacola, Whydah, and the island of Bonavista, which is found by experience to be injurious to health.

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2. *On the air of temperate climates, more particularly sea-air, as a cause of disease among seamen.*

In the preceding pages, some of the diseases of hot climates were mentioned, and the means of prevention pointed out. The following chapter will be principally devoted to the consideration of the influence of cool air over the health of seamen at sea. Much may be done on the part of the officers as well as men, to diminish the unfavourable effects of cold air, whether moist or dry, on the health. Much should be done; for the diseases which may be induced by a cold, damp atmosphere may incapacitate men from duty when their services are most wanted. This cause of disease will be found to act most powerfully, when assisted by the debilitating effects of unusual fatigue, and of the unwholesome diet a crew is at times obliged to use, in the course, or near the close, of a long voyage. Men who have in a great measure recovered from some of the severer dis-

eases incident to a sea-life, by the help of mild, warm, and dry weather, even though the diet has remained the same, have sunken with astonishing rapidity, and died, merely from entering a higher latitude in a cold season. The necessary exposure, incident to ordinary ship-duty, in the cold and damp air into which they have newly and perhaps suddenly arrived, has as suddenly been followed by an astonishing fatality. It is therefore of the last importance that men situated as those alluded to, should, as far as possible, be removed from the influences of cold and moisture.

The diseases, by which most suffering may be endured under these circumstances, are, complaints of the chest, rheumatism and the scurvy. The first, from the imperfect means of relief afforded on ship-board, and the perpetual new exposures of a sea-life, will, in many cases, become a chronic complaint, and from the diseased condition of the lungs induced by it, be followed by consumption. Hence we actually find that a large proportion of the deaths, which happen in our marine hospitals, are, from pulmonary consumption. Chronic rheumatism, if not so fatal, is hardly a less distressing complaint than the one just mentioned. Men are disabled by it, they are rendered unfit for duty ever after, and this too, generally, in the prime of life. The consequence is, that they either become the permanent residents of a hospital, or lead an useless vagrant life in the streets. The scurvy, which occurs in all climates though more frequently in the cold and temperate, will be considered hereafter, when speaking on the subject of Diet. To prevent these diseases will be a much easier task than to cure them. When a man falls sick at sea, nothing is more common, than either to consider

his complaints imaginary, or to take up the impression that the disease, from some fancied resemblance, is exactly similar to one casually observed by the patient, at some previous time, in some one or more of his shipmates. The next step is most vigorously to adopt the treatment which in such case was found to be salutary. "A man who had been extremely ill of the fever of Calcutta, suffered a relapse at sea; Calomel had been prescribed by a physician in the first attack with advantage, and the same remedy was now freely used by the man himself at sea. He recollected also that he had seen a severe case of fever treated successfully by dashing pailsful of sea-water over the patient, and at four in the morning, went on deck and submitted for some time to the same treatment. His superior officer remonstrated, and forbid the men to continue or repeat the opperation. The Calomel and cold affusions, however, were repeated at the same time the next morning. Delirium and violent fever followed, and although the patient survived the first consequences of the treatment, he ultimately sunk exhausted under the disease.

In temperate climates, coughs and colds, pain in the side, difficulty of breathing, with heat of the skin, and thirst, are common complaints of sailors, and seem to be caused as follows. The appartments in which sailors sleep are extremely liable to become heated at night, in consequence of the number of men sleeping in them at the same time, and from their necessary closeness at such periods. In order to avoid the evils which would follow from allowing a free current of air through the birth-deck at night, the avenues to the air are closed, and the sailors take their watch on deck in a full perspiration, or at least in a state which renders them pe-

culiarly susceptible of inflammatory diseases. Hence the inflammatory affections of the lungs under consideration. The most obvious causes are here principally alluded to; the symptoms and treatment are given in the former part of this work. How are we to prevent these evils? To diminish the number and lessen the violence of lung diseases, in as much as they proceed from the causes now mentioned, it would seem principally necessary to diminish the exposure of men to cold, especially after being in a situation with regard to warmth of all others the most favourable for the production of these affections. To keep the birth-deck cool at night without exposing the men while asleep to a free current of air, the air-pipes lately invented by a Mr. Sutton are admirably contrived. They consist of tubes leading from the birth-deck and hold into the open air. Wind-sails need not be mentioned, as they have been in use time out of mind. "The extreme of cold ought equally to be avoided during sleep. Many pulmonic affections are caught by men falling asleep in the open air, on their watch." If men must be turned out at night, to take their watch, and in case of sudden squalls, storms, &c. they may be still farther exposed, they are to be guarded from the evil consequences which may ensue by proper clothing, particularly by flannel worn next the skin. This will be an essential precaution against such inflammations, in cold climates and seasons. Another however, equally important, is to change the clothing when wet; for which purpose every sailor should be provided with at least two or three changes of clothes, and should avail himself of every fair day to dry them. Other means for lessening exposure to damp air, whether warm or cold, have

been particularly mentioned in the former part of these directions.

With regard to rheumatism, the same causes operate in producing it, as catarrhal affections. More frequently, however, it is induced by wearing wet clothes and sleeping in the cold. Persons who are thus exposed, while under the influence of Mercury, are more likely to suffer, and are with great difficulty relieved. As a preventive of rheumatic attacks, thick flannel, constantly worn next the skin, is highly important. Being a bad conductor of heat, it prevents the body from experiencing such sudden changes of temperature, as it does when cotton or linen are worn.

DIET.

Diet is properly divided into solid food and drink. Of the former, the chief articles given out for a ship's company are salted meat, biscuit, and pease. The first, though unavoidably used in this state, may be considered, more than any other article employed, as the cause of disease; and as it cannot be corrected either by the biscuit or pease, it requires either to be abridged in the quantity used, or else to be conjoined with such vegetables as are of a correcting nature. But as a sailor's life in a merchant vessel is a hard one, and those subjected to it require a large proportion of animal food, the quantity usually allowed cannot well be diminished. The only alternative then is to qualify the salt provisions by such vegetables as correct their bad qualities, particularly that of producing scurvy. These vegetables are all the

succulent or juicy fruits, and such should be laid in as are capable of preservation during sea-voyages. Among the best are lemons and oranges. Since the juice of the former of these articles has come into general use in the British navy, scurvy has quite disappeared. "The power it possesses over this disease," says Sir Gilbert Blane, "is peculiar and exclusive, when compared to all other alleged remedies. Its efficacy may also be stated as singular when compared to that of any other remedy in any other disease. It is a certain preventive as well as cure; no other remedy yet known can ward off this dreadful scourge of mariners for an indefinite length of time, under the use of salt provisions."

In the former part of this work I spoke particularly of this acid in a concrete state, as being valuable both for its antiscorbutic qualities and imperishable nature. In the latter respect it is worthy of a place in every medicine-chest. The article is, however, expensive, and on this account may be objected to. In this case I would strongly recommend supplying ships on long voyages with the lemon-juice, as is done in the British service; since as much can be laid in for a trifling sum as will be adequate to every medicinal purpose, and without its taking up much room. The quantity which in the British navy has been found sufficient to ward off the scurvy during a six-months' cruise, is one ounce to a man per day. At this rate a gallon would serve for ninety-six days, which is but little short of the average length of East-India passages.

In concluding the subject of animal food it may be well to describe a new method for preserving fresh meat, which was proposed by a Mr. Appet, and has been found by ample experience to be perfectly successful.

The method is as follows:—"The fresh meat is put into a pot, the bones being first removed, to be boiled in the ordinary way. When it is about three-fourths boiled, it is to be taken out and put into jars, which are filled up with broth made from other portions of the same meat. The jars are then corked, luted, and put into bags; they are newly placed in a boiler of cold water, heat is applied till the water boils, and the boiling temperature is kept up for an hour; the fire is then extinguished, the water then drawn off from the boiler, and the bottles or jars taken out, which completes the process." For the sick and convalescent a sufficient quantity of provisions thus prepared might be supplied with little expense, and hereafter it may be managed on a larger scale, so as to render fresh provisions occasionally available to the whole of a ship's company.

The next article of sailors' diet to be considered is bread. It is given at sea in the form of hard biscuit. By long keeping these lose much of their nourishing principle, and in warm climates they are liable to become acrid and produce complaints of the bowels. To avoid the danger of sickness from this source, it would be better that only a certain quantity of biscuit should be carried to sea, and an equal or greater proportion of flour, of which bread could be made. Flour, by being well pressed and rammed, will keep as long as biscuit, and can be stowed in one fifth part of the space. Thus the freight of it would be less than that of biscuit; and it could be baked as occasion might require. This plan of baking at sea has been constantly practised in the French navy; and has likewise been adopted in the British service at different times, under peculiar circumstances, when the superior advantages of it have

been very apparent. What is chiefly wanted, to render it complete, is a substitute for yeast; and such a substitute may be formed in the following manner: "Let a quantity of yeast be spread thin upon boards, and exposed to a moderate degree of heat, so that the humidity may be evaporated, and that it may be left in a dry granulated state. It must then be put into phials well corked and sealed. Let there be next a strong solution of honey or molasses and wort, into which throw a small proportion of the above powder, and in the ninetieth degree of Fahrenheit a brisk fermentation will be soon excited, perfectly qualified for every purpose for which wort is employed. Bread made in this manner will possess every advantage of that baked on shore; and the trouble attending the preparation of it will be very trifling, compared with the benefit which both the healthy and the sick will derive from it."

Upon the articles of pease or beans we have little to say. They are evidently very nutritious, and agree well with the stomach of a seaman, whose digestion is strong.

Indian meal, rice, barley, raisins, and molasses are articles much used at sea, and make up an agreeable variety. To these, potatoes are a most valuable addition as they are known to keep a great while in warm climates, and, as we have observed while speaking on scurvy, are in their raw state an excellent antiscorbutic.

"One article we must not omit to mention here as being a good one, in so far as it renders that part of the diet which consists of grain and vegetables more palatable, and thereby induces the seamen to eat more; this is butter. The principal objection to it is its tendency to rancidity, and to corrupt in a warm climate; but even this inconvenience may be counteracted by

proper precaution. By the following method it may be preserved sweet, and in a solid state, during a three year's tropical station, provided it was originally in this condition. Instead of firkins, let it be put in waxed canvass bags, containing each about fifty pounds weight. Let these bags be thrown into casks constantly kept filled with salt water, which should be renewed once or twice a week, according to circumstances, by drawing off the old from a cock fixed near the lower end, while the new water is admitted from a bunghole made in the upper end. By this plan, the butter will be preserved always sweet."

The above remarks on the salutary effects of acid fruits and juices in sea-diet, may lead one to attach an undue importance to them at all times, and to use them freely, even in sickly ports. In such situations it must be recollected that scurvy is not to be apprehended, and that large quantities of fruit especially if cold or unripe are oftentimes productive of cholera morbus, fluxes, and fevers. This circumstance was particularly mentioned, when speaking on "the air of tropical climates as a cause of disease."

From the consideration of seamen's food, we proceed to that of drink, and first of water.

"Water is the best, and certainly the only natural drink of man. It has been considered by many as one of the prevailing causes of scurvy, when of a bad quality. As the health and comfort, therefore, of the men at sea depend so much on its purity, particular attention should be paid to this beverage. Sea-water is preferable to any other for sea-use, seeing that it is less apt to be impregnated with decayed vegetable and animal substances, than running and stagnant waters. This preference is

more especially to be attended to in warm climates, where every thing, it may be said, teems with life, and where the materials of putrefaction are so abundant. Where river-water must be taken, which often happens in warm climates, although it may be drawn as near as possible to its source, yet certain precautions should be employed before it is used. These consist in throwing a handful of lime into each cask, or dissolving two ounces of alum to a hundred gallons, or passing through it a red-hot iron several times, or even throwing into it a little burnt biscuit." Water, however pure it may be collected, is always apt to corrupt when kept in wooden vessels, and this is one of its greatest inconveniences at sea. Different methods have therefore been fallen upon, either to prevent this corruption, or to counteract it when it has taken place. The former consist in various modes of preparing the vessels that hold the water; and it must be observed, that there is a great difference in this respect, between a new cask made of moist wood, and one that has been hardened and seasoned by age and use.

One method of preparing the vessel is by firing the cask, when putting the staves together, until a charry coat is extended over its whole surface. This will preserve the water pure and sweet for any length of time, and will have the same effect as another improvement, that of filtering it through charcoal, which has been found to correct the most putrid state of the fluid, and to render it wholesome and pure, although somewhat insipid. The most common expedient, however, for the purification of water, has been by quicklime.

This is equally effectual, whether slacked or unslacked; but should always be carried slacked to sea, to ob-

viate the danger arising from heat, which is apt to ensue on its being touched by water in its unslacked state.

To counteract the bad taste of water in a state of putrefaction, vinegar and other vegetable acids are usually employed.

Various methods have been used for purifying water by filtration. The dripping stone is often used for this purpose, but for a large crew the quantity it affords is insufficient. Pouring it through gravel or a layer of gravel and charcoal, will afford a more abundant supply, and be equally serviceable.

A very simple filtering machine is mentioned by Dr. Blane. "Let the narrow mouth of a large funnel be filled with a bit of sponge, over which let there be a layer of clean gravel, or of sand, covered with flannel, and over the whole another layer of sand. Muddy or offensive water, being poured into this, runs or drops out clear; and care must be taken to change the sand, sponge, &c. frequently, as they will become loaded with the impurities of the water."

These remarks on the purification of water, we shall follow with directions for distilling sea-water, for the benefit of those who have used or lost all their fresh water at sea, and may not have taken the precaution of carrying out a still-head.

"When sea-water is boiled in a close covered pot or vessel, it may be observed, that the steam arising from it is converted into fresh water on the inside of the cover of the pot. From a pot of thirteen inches diameter, by frequently removing the cover, and pouring off the water collected upon it, a gill of fresh water may be procured in an hour. The cover of the pot should be, at least,

five or six inches above the surface of the sea-water, to prevent its boiling up to it.

"Let us suppose a ship at sea to be in distress for want of water, having eight men on board, and that the pot for boiling their provisions can contain five gallons and a half, being twelve inches in diameter; by the following simple contrivance, with only a tea-kettle, a musket, and a cask, one gallon of fresh water may be procured every three hours, which is a pint for each man.

"File off the handle of the tea-kettle, and fix the head of the kettle when inverted, into a hole made for that purpose in the cover of the pot; this will prove a complete still-head. Take the barrel of the musket out of the stock, and after unscrewing the breeching pin, pass the barrel through the cask by two holes made on each side, with a proper descent for the distilled water to run off; then stop up the holes in the cask, and fill the cask with cold sea-water; which will be a refrigeratory or cooler to condense the steam. In order to carry on the distillation, they should be joined, by inserting the spout of the tea-kettle into the upper end of the musket barrel, all the joints and places from whence the steam could escape should be luted or stopped up, a paste composed of equal parts of chalk and meal, moistened with salt-water, will do this effectually, and may be easily obtained: the tea-kettle and cover of the pot should also be kept down by a weight, to prevent the steam from forcing them up.

"If the cask should be too near the fire, the musket barrel, in which the steam is condensed, may be prolonged by the addition of the barrel of another musket, or by wooden pipe. If the barrel of another musket be used whose bore is not large enough to receive the extremity of the

former, one end of it should be heated in the fire, and dilated with a marline-spike. If a wooden pipe be used it should not be bored with a hot iron, as it is found by experience, that the burnt wood will impart a permanent disagreeable taste to the distilled water.

"If we may suppose a ship at sea to have no tea-kettle on board, then let the wooden hand pump, with which the water or beer is pumped out of the casks, be cut through obliquely, and, joined, so as to form an acute angle. One end of this tube should be fixed into the hole made in the cover of the pot, the other should be fastened to the musket-barrel. By this, nearly the same quantity of water may be procured as by means of tea-kettle.

"It may justly be supposed, that the coppers used for boiling the provisions will in every ship contain more than the proportion of two quarts of water for every person on board; if these were furnished with proper still-heads they would be sufficient to yield in distillation, the proportion of three pints of fresh and wholesome water for each man. In a British ship called the Dorsetshire, by means of a tea-kettle and musket-barrel twenty-two quarts of sea-water yielded nineteen quarts of fresh-water in four hours, at an expense of ten pounds of wood.

"The distilled sea-water is purer than spring, river and even rain-water. The taste which it receives from the distilling vessel is, in some measure lessened, by throwing away the first running from the still; and is wholly removed by keeping the water for some time, or exposing it to the air, when it will be found an excellent well flavored water, which will keep perfectly sweet for many years, if put into clean vessels.

"In cases of extremity, such is the constitution of our body, that thirst may be alleviated, and the morbid consequences arising from a want of water obviated, by wetting the skin or surface of the body with sea-water, which becomes thus inhaled, and answers in some degree the common purpose of drink.

"The pernicious effects of ardent spirit in very hot weather, and when heated by exercise, have already been adverted to. In such situations, molasses and water, tea and sugar, small-beer, lemonade, soda-water, water slightly acidulated with vinegar or cider, are most conducive to health. A glass of bitters morning and evening, may be serviceable to those who have been long accustomed to the use of ardent spirit."

OF CLOTHING.

The chief object of attention in a seaman's clothing is to guard against moisture. This moisture, according to the climate he is in, must be accompanied either by heat or cold. A covering, therefore, which will protect the body in both situations is the great object to be aimed at; and no substance is so well calculated for this purpose as woolen. By its use, the suppression of the discharge from the skin, the great source of all inflammatory diseases, is prevented, and the skin itself being kept as it were moistened by its own secretion, the natural heat is thus retained and the access of the external air prevented.

Although in the warmer climates this covering is less necessary for the sake of warmth, yet it is well known, that exposure of the body is apt to produce a general

uneasy irritation upon it, and even to lay the foundation of many dangerous affections. Besides this, the excessive discharge of the skin, which then takes place, is absorbed by this covering, and thus the after consequences of cold are avoided. Even the night damps, in such situations, are greatly counteracted ; and the dry belly-ach, and many other complaints, seldomer occur in the West India service, than they did before woollen was preferred to cotton or linen. From the advantage of such clothing, it is of great importance that every seaman should have a proper supply of it, and that the captain should lay in a small supply for his crew, suited for the station to which the ship is destined. This subject merits particular attention from the captain, for in general, sailors are too indolent and improvident to suit their dress to circumstances, unless they are forced to it ;— "nor is any thing more common, than to see some of them with linen trowsers in the severity of winter, and a pair of greasy woolen ones in the hottest of summer."

In hot climates, the dress should be white, even to the hat and shoes. In cold climates a kind of cloth called Fearnought is very suitable. After a rain, both clothing and bedding should always be dried, and wherever the weather will admit of it, bedding should be aired every day.

On the subject of cleanliness of person and clothing, nothing need be here said, since every commander of a merchant vessel must be fully sensible of its importance.

CONCLUSION.

The foregoing directions for the prevention of disease among seamen may be briefly comprised in the following particulars.

In hot climates.

1. In choosing anchorage to the windward of the land.
2. In keeping the ship dry, clean, and ventilated.
3. In preventing the crew from sleeping on shore or on deck.
4. In their avoiding violent exercise under a scorching sun.
5. In employing natives to wood and water the ship. Where these duties must necessarily be performed by the crew, to use the precautions recommended under such circumstances. See page 146.
6. In avoiding intoxication and abstaining from the free use of cold fruits, and especially those that are unripe.
7. In adapting the dress to the temperature of the weather; wearing flannel, however, next the skin at all times.
8. When disease of a maglignant character has already appeared on ship-board, in arresting its progress among the crew by the "means" formerly recommended "to prevent the spreading of contagious diseases in a ship." See page 149.

In cold climates.

1. In wearing flannel next the skin.

2. In preserving the lodging rooms, whether birth-deck, cabin, or forecastle, of an equable and rather cold temperature. In this way the sudden transition from heat to cold so often experienced when called out to take watch on deck, and which is one of the most productive causes of disease in cold climates, will be avoided.

3. In dissipating the moisture of the lodging apartments every day with fires, and in scraping and *holy-stoning* the deck instead of washing.

4. In changing the clothing when wet, and in keeping the bedding dry and well aired.

5. In avoiding intoxication.

While at sea in all climates.

1. In using freely of vegetables and other antiscorbutics, particularly vinegar and lemon-juice. An ounce of the latter per day to a man, or a pint for twelve days, will, as I have formerly observed, prevent the scurvy during the longest sea-voyages, even when confined to a diet of salt meat.

2. In using pure and wholesome water.

3. In observing cleanliness in person and clothing.

The seasons of sickness, and the diseases incidental to strangers in different seaports in the world.

To owners and masters of vessels, who are fitting out ships for foreign voyages, it may be of some importance to know particularly when and where diseases are most prevalent, and to travellers who contemplate visiting foreign ports and wish to arrive in them in a healthy season, this subject must be particularly interesting. The account here furnished is very imperfect, and is principally taken from the writings of Lind and Turnbull.

Seasons of sickness, and the diseases in the seaports of the United States, and the British ports eastward.

NEW-ENGLAND AND EASTWARD.

In the summer and autumn, there are a few cases of inflammatory fever, occasionally a case of low typhus and some bowel complaints. Bilious remittent fever occurs very rarely, and still more so intermittent fever. In the heat of summer, the yellow fever appears once in twenty or thirty years, in one or two of the principal seaports.

The winter season is most sickly, and the prevailing diseases are, inflammations of the chest, as pleurisies, catarrhs, sore-throat, &c. Rheumatism and frost-bites

are very common disorders. The greater number of deaths are occasioned by pleurisies and consumptions.

MIDDLE AND SOUTHERN STATES.

Travelling along the sea-board from New Jersey to Virginia, where the heats are greater, and the soil more moist, especially in the neighbourhood of woods or stagnant water, we find agues, fevers, and fluxes of very frequent occurrence among strangers. The agues are apt to terminate in liver complaints and dropsies. The winter season is, however, less productive of inflammatory complaints here than in New England.

In *Carolina* and *Georgia*, we find the summer and autumnal diseases last mentioned, much more obstinate, acute, and violent. In the months of July and August, they sometimes partake of the nature of West-India fevers. The winter season is healthy.

In *East* and *West Florida*, the summer diseases approach still nearer to those of the West Indies. In some seasons the excessive heat with the concurrence of other circumstances, produces the yellow fever. In other seasons, however, there is quite an entire exemption from this and all other violent fevers from Carolina to New Orleans. Pensacola seems to be rendered unhealthy by its sandy and barren soil. In Mobile, intermittent fevers are very prevalent in the months of July, August, and September. The winter seasons are generally healthy in the Floridas.

Most unwholesome seasons, and the diseases in the West-Indies.

COMPARATIVE DEGREE OF HEALTH IN THE DIFFERENT ISLANDS.

"The most healthy of all the English possessions in this part of the world, is the Island of Bermudas; next to which is the Island of Barbadoes, if we except that spot of ground upon which Bridge-town, its capital, is situated. The air in many parts of St. Christopher's is also pure. That of Antigua is bad, and that of Jamaica is reckoned still more unhealthy; though much less so than it formerly was. The color of the European inhabitants in the island of Montserrat, is a proof of the salubrity of its air: the same may be said of Nevis. In general, the rainy season in those islands happens in August, September, October, and November. In the settlements on Grenada, the Grenadines, and particularly at Tobago, the health of the inhabitants has been little attended to. In the Island of St. Vincent, the town of Kingston is rendered very unhealthy by an adjoining morass.

With respect to the settlements of other European nations, we shall briefly observe, that the French settlement of Cayenne has proved very sickly. The climate of St. Domingo is also unhealthy; that of Martinico less so.—At Guadaloupe, Martinique, and most of the other French West-India islands, there are low swampy grounds, commonly called Basse Terre, which are particularly unhealthy.

The Dutch settlements at Surinam, St. Eustatia, and Curracoa, are all very unhealthy.

In different parts of the Spanish West-India dominions, the air varies greatly in point of purity, according to the situation of the places. The port of Havana in Cuba is sickly, while the highlands are not. The city of Mexico is very healthy, while La Vera Cruz, its seaport is remarkable for its bad air. It is observed, that in the West-Indies the periodical rains, and the sickness which attends them, are much more violent in the hot, marshy woody, and uncultivated places, upon the continent, than upon the adjacent islands; the inland provinces are however, found to be in general more healthy than the sea-coast. Were we to take a survey of the whole coast of the Spanish continent in the Bay of Mexico, we should find few seaport towns or rivers, during the rainy season, tolerably healthy.

"Shoals of large and ravenous sharks crowding into the harbors, a dark thick cloud to the southward, with thunder and lightning, slowly approaching, foretel the coming on of the sickly season, and are the awful preludes of those impetuous torrents which in a few days burst from the clouds, and cover with water the whole face of the country."

"Some of the harbors in the Bay of Mexico, and those generally the most secure, prove fatal to Europeans, besides the usual causes of sickness, from want of a due ventilation. Thus in Port Maho, near the island of Rattvan, ships lie in a basin of water so environed with high mountains, that the wind can have no access to them; in this respect, they suffer more than even at English Harbor, in Antigua. The stagnated air thence becomes so unwholesome, that men, after being there a few days are suddenly seized with violent vomitings, head-

ach's, deliriums, &c. and in two or three days more, the dissolved mass of blood issues from every pore.

"The Bay of Honduras and the Musquito shore although very unhealthy, are far better than Carpenters river and Rio Morte, or the river of Death, in the Gulph of Mexico. This was so named by the Spaniards from the death of all that nation who at different times have attempted to make a settlement upon it; the English, however, have since, by settling on a different spot of ground, been more fortunate, and call it the New River.

The most frequent and fatal diseases in the West Indies are,

1. Fevers, viz. the bilious remittent fever and the yellow fever. The former is here so violent and rapid that it often proves fatal between the third and seventh day. It chiefly prevails during the months of June, July, and August, beginning to abate in September. The latter, or yellow fever, is the most fatal disease of the West Indies. Its attack is so sudden and violent, that oftentimes the patient is thrown down, almost insensible without any previous complaint. Vomiting and headach attend him till within a few hours of his death, when he experiences a slight abatement of his distress, but soon after relapses and dies, not unfrequently in between twenty four and thirty six hours from the commencement.

2. Dysenteria, which comes next to fever in the West Indies, in point of frequency.

3. Dry belly-ach or colic, which occurs often.

4. Tetanus or lock-jaw.

5. Fish poison, which is of frequent occurrence.

"It is a general observation that women enjoy much better health in the West-Indies, than men, and are not

so subject to the yellow fever as they are, owing probably to their more temperate way of living."

Diseases in the seaports of Great-Britain.

Diseases along this coast vary very little from those in the northern ports of the United States, excepting that intermittent fevers are frequent, which are attributed to fogs and east winds. "An east wind here is usually accompanied by a cold, damp, and unwholesome vapour, which is observed to effect both animal and vegetable health, and in many places to give rise and obstinacy to intermitting fevers, as also to produce frequent relapses." In the southern part of England, particularly in the British Channel pleurisies are less violent than in North America. The complaints most frequent and troublesome are typhus or common fever, intermittents, rheumatism, catarrhs, and consumption.

Sickly season and diseases of the Mediterranean.

The most fatal disorders to strangers on board ships, are consumptions. This applies more particularly to the crews of men of war, or vessels stationed for a long time in this sea. In some of the islands, particularly Minorca and Majorca, pleurisies are very prevalent in winter. Catarrhal affections and rheumatisms are frequent in every port in the Mediterranean.

In the summer season, the neighborhood of marshes is sickly, especially the Pontine marshes near the Tiber

in Italy, where intermittents and bilious remittents are very fatal.

The African shore of the Mediterranean, excepting when the plague prevails is very healthy from the straits to Tripoli. From Tripoli to Alexandria, Jaffa and Smyrna, some of the ports suffer more or less every year with the plague. "It is said to be most prevalent soon after the inundation of the Nile, or rather its recession. Next to the plague in frequency comes sore-eyes. It is called Egyptian ophthalmy. If less fatal than plague, it is more distressing, and is as frequent among crews in vessels at anchor, as among people on shore Besides these epidemics that are peculiar to this country strangers are apt to be seized in the summer season with bilious disorders, fluxes and fevers.

Seasons of sickness, and the diseases incident to strangers in the ports of the Western coast of Africa, particularly of Guinea.

"The English settlements on the rivers Senegal and Gambia are remarkably unhealthy; excepting these, the northern, or what are called the windward parts of this coast, are quite healthy, especially in places or factories near the sea. Thus the island of Goree, the town of Sierra Leone, the forts of Dixcove, Succondee, Cape Coast, and all the English, Dutch and Danish forts on the Gold Coast, are, comparatively speaking, healthier than the country to the leeward of them.

"The air on Whydaw is bad, but much worse, nay in a manner pestilential to Europeans, in the Gulf of Benin, even as far as Cape Lopez. As to the Portuguese

settlements to the southward of that Cape, we observe, that St. Paul de Loanda, the capital of their dominions in that part of the world, is said to be tolerably healthy, considering the climate; whereas the kingdom, and especially the city of Benguela, are remarkable for a pestiferous air. The most healthy place of the Portuguese settlement in that division of the globe is the town of St. Salvador. The exemption of this from disease is owing to its being on a hill, and the neighboring country being cleared of the natural woods and thickets."

The diseases most frequent and fatal to strangers on the coast of Guinea are fevers and fluxes. Fevers are here equally fatal as in the West Indies, and it has been alleged that the yellow fever was originally imported to those islands from this quarter. The most frequent fever is the bilious remittent, which assumes a very malignant character. "Intermittents are also common to the African coast, and are very liable to be succeeded by that peculiar affection of the liver, called the *ague cake*." Dysentery in certain situations is also of common occurrence. Complaints of less magnitude, but very troublesome, are the dry belly-ach, prickly heat, Guinea-worm, and stroke of the sun. The fatal diseases prevail mostly during the rains, and for some time after they have ceased. At Senegal, the rains begin early in July, and continue till the end of October. At Gambia they are about a fortnight or three weeks sooner.

Of the Canaries, Cape de Verd Islands, the Island of St. Thomas, Princess, Fernando Po, St. Helena, Cape of Good Hope, Madagascar, Mascarenhas, Mauritius, Eastern shores of Africa.

The Canaries are remarkable for their healthiness.—The Cape de Verds are rather unhealthy. St. Antonio and St. Nicholas are the only two islands in that cluster, where strangers are exempted from a general sickness during the rains. These generally begin in July, and continue till November. Sickness is particularly violent in the island of St Thomas, Princess island, and Fernando Po.

In St. Helena foreigners enjoy good health.

At the Cape of Good Hope, the Dutch settlements are fruitful, pleasant and healthy. Passing these, we come to the large island of Madagascar, where during the rains, which continue from November till March, this island is very unhealthy, particularly the Bay of St. Augustine and Fort Dauphin, the two places where European ships commonly anchor.

The same may be said of Mascarenhas, Mauritius, and the barren island of Diego Reys.

As to the eastern shores of Africa, we shall only remark, that Mozambique is reckoned unhealthy; the country of Quiola much more so; but the great city and country of Melinda are said to be tolerably free from disease.

East Indies.

In all parts of the East Indies, situated near large swamps, and the banks of muddy rivers and stagnant waters, mortal diseases are very prevalent.

"The English have four presidentships or governments, viz. Madrass, Bengal, Bombay, and Bencoolen, Formerly, Madrass, was the most healthy of these, but latterly it is least so with the exception of Bencoolen which has always been the most sickly. Bengal is very sickly during the rainy season, which commences in June and continues till October; the remainder of the year is healthy. Calcutta, belonging to this presidentship, built literally on a swamp, on the east side of the Hoogly, and surrounded to this moment by immense lakes at a few miles distance has, by the draining of that part of the city inhabited by Europeans, become as healthy as any country of the same latitude on earth. There are several other places in this vicinity that seem to have been made healthy by being cleared, as Fultah, Barrackpore, Serampore, Chandernagore Chinsurah. But other places continue sickly."

Bombay is more healthy than Bengal, and in general the whole coast of Malabar is tolerably exempt from disease. The same may be said of Surat and Tellicherry on the same coast. The rains begin in May or June, and last four months.

Manilla, in the Island of Laconia, is remarkable for its healthiness. Tranquebar, a Danish settlement, is likewise healthy. Pondicherry, the capital of the French in India, is far from being unhealthy. The same may be said of Goa, the residence of the Portuguese viceroy in India. Batavia, the capital of the Dutch dominions, is

annually subject to a fatal and consuming sickness.—The rains begin in June and sickness in July.

The diseases which rage during the wet season, and for some time after it, in the unhealthy parts of India, are malignant and bilious fevers. Foreigners, especially such as live intemperately, are also subject to fluxes and to an inflammation of the liver. This last is almost peculiar to India, and principally to the Coromandel coast. The diseases of the liver are generally preceded by fever, difficult breathing and violent pain in the right side. The fevers of Bengal are attended with violent bilious symptoms.

APPENDIX.

TABLE of weights and measures employed in medicine.

A pound,	lbj	Contains	12 ounces,	℥ xij
An ounce,	℥ j		8 drachms,	ʒ viij
A drachm,	ʒ j		3 scruples,	℈ iij
A scruple,	℈ j		20 grains,	gr. xx

The gallon,	Contains	eight pints,	
The pint,		sixteen ounces,	
The fluid ounce,		eight drachms,	
The fluid drachm,		sixty drops.	

When medicines are directed in the quantities of a table-spoonful and a tea-spoonful, it is to be understood that the spoons are of middling size, the former equalling about half a fluid ounce, and the latter a fluid drachm.

Sixty drops of water, one hundred drops of spirits and tinctures, and one hundred and twenty of alcohol, are equal to a drachm by measure.

The doses, prescribed in this book, are intended for male adults. Boys from 14 to 18 are to take only three fourths the quantity ; from 10 to 13 or 14, one half only.

MEDICINE CHESTS.

There is no part of the supplies of a merchant vessel in which such want of system exists, as in the Medicine-Chest. The law of the United States, requiring a chest to every vessel over a certain size, is so indefinite, that between the parsimony of owners and the imposition of apothecaries, the intention of the law is quite as much evaded, as it would be, if the ocean were pointed at by the commander, when called upon to exhibit his medicine chest, merely because a sailor occasionally uses

salt-water as a medicine. It is true that there is a medicine-chest on board each vessel over a certain size, and that there are medicines in it, and this answers all the requirements of the law. But let a physician, who is acquainted with the medical wants of seamen, examine the chest, and he will report that bulky articles of trifling cost occupy most of the room, to the exclusion of other articles, absolutely necessary in case of sickness. The reason offered for this, when the apothecary is not afraid of offending his customers by giving it, is, that owners, from being in the habit of obtaining chests for certain sums, are unwilling to give more at the suggestion of an apothecary; and that it is necessary for the chest to exhibit large quantities of medicine in order to give satisfaction. It would, however, be inconsistent with the fair and humane character of American merchants, to withhold their consent to any improvement suggested by a disinterested person, acquainted with nautical diseases.

But the impositions most to be complained of are practised by foreign apothecaries, who not only put up wrong proportions and unnecessary kinds, but cheat in the price and quality of the articles.

To correct such abuses and make medicine-chests more uniform throughout the merchant service, the following list of articles is made out, with the proportions and quantity necessary for each, according to the size of the vessel,—and also the ordinary prices in the seaports of the United States.

It is, however, to be recollected, that the price here given is intended for replenishing. Where a whole chest is put up, there should be a deduction from this price of from 5 to 10 per cent.

CONTENTS OF A MEDICINE CHEST.

MEDICINES. Proportions according to the number of men in a ship and the ordinary prices of the medicines in the seaports of the U. S.

English Names.	Latin Names Abridged.	from 16 to 30 men. lbs. oz. dr.	price. $ cts.	from 8 to 16 men. lbs. oz. dr.	price. $ cts.	less than 8 men. lbs. oz. dr.	price. $ cts.
Alum	Alum :	4	6	1	3	1	3
Antimonial Wine	Vin : Antim :	6	30	4	19		
Basilicon Ointment	Ungt : Resin :	8	37	4	19	4	19
Blister Plaster. (The same plaster may be used repeatedly.)	Emplas : Canthar . or Melo · Vesicat:	6	75	4	50	2	34
Blue Vitriol	Sulph : Cupri :	4	3	4	3	2	2
Burgundy Pitch	Pix · Burgund :	2	8				
Calomel,(a fourth of it to be mixed with Jalap in doses of 10 grs. each.)	Sub : mur · hyd :	2	50	1	25	1-2	12
Calomel Pills, of 1 gr. each.	Pil: sub: mur: hyd:	4	48	2	24	1-2	6
Camomile Flowers	Flor : Chamo :	4	19	2	12		
Castor Oil	Ol : Ricin :	12	75	6	38	6	38
Camphor Gum	Gum · Camph :	4	50	2	34		
Carbonate of Potass, or Salts of Tartar.	Carb : Potass :	2	12	1	6	1	6
Concrete Salt of Lemon Cream of Tartar	Sup : Tart : Potas:	2	100	1 8	75	8	25
Dover's Powders,half of it in doses of 15 grs. each.	Pul: Ipecac: Comp:	2	100	1	75	1	50

English Names.	Latin Names abridged.	from 16 to 30 men. lbs.	oz.	dr.	price. $ cts.	from 8 to 16 men. lbs.	oz.	dr.	price. $ cts.	less than 8 men. lbs.	oz.	dr.	price. $ cts.
Elixir Vitriol	Acid: Sulph. dilut;		2		16		1		8		1		8
Emetic Tartar, [half of it in emetics of 4 grs. each.]	Tart · Antim;			2	75			1	38			1	38
Ether	Spts: Aether: nit;		4		50		2		25				
Flaxseed or Linseed in powder	Sem: Lini: usitat;	2	8		40	1	8		25	1			16
Flowers of Sulphur	Flor: Sulph;	1			20		8		12		6		9
Glauber's Salts	Sulph. Sodae:	4			40	2			20	1			12
Jalap Powder, in doses of ten grs. mixed with Calomel.	Pulv: Convolv: Jalap;			4	72			2	36			1	18
Ipecac: Powder, [half in emetics of 30 grs]	Ipecac;		1		75			4	38			4	38
Gum Kino in powder	Kino:			2	6								
Laudanum	Tr · Opii:		4		75		4		75		2		50
Mercurial Ointment	Ungt: Merc: Fort ·	1			150		8		75		6		56
Mustard Seed powdered	Sem: Sinap:	1	8		75		8		38		4		18
Nitre in powder	Pulv · Nitr:		6		25		4		16				
Olive Oil	Ol: Oliv:		6		19		6		19		4		12
Opium pills of one gr. each	Pil: Opii:			2	75			1	37				
Peruvian Bark in powder	Cort: Cinchon: or Cort: Peruv:	2			200	1			100		8		75
Paregoric	Tr: Opii: Camph:		6		50		4		25				
Peppermint Essence of	Menth: Pip:		2		25		1		12				
Rhubarb, powder of	Rhei: Pulv:		2		50		2		50				

English Names.	Latin Names abridged.	from 16 to 30 men. lbs.	oz.	dr.	price. $ cts.	from 8 to 16 men. lbs.	oz.	dr.	price $ cts.	less than 8 men. lbs.	oz.	dr.	price. $ cts.
Sal Ammoniac	Mur : Ammon :		4		18		4		18		2		12
Simple Ointment	Ungt. Simp : pot	1			75		8	6	38				18
Spirits of Hartshorn	Spts · Cornu : Cervi: or Aq. Ammon :		4		19		4		19		2		12 16
Spirits of Nitre dulcified	Spts : Æth : nit :		4		25		4		25		2		16
Sugar of Lead, (an eighth is to be put into powders with White Vitriol, 10 grs. of each for injections.)	Acet : Plumb : box		4		25		2		16		1		10
Syrup of Squills	Syrup : Scill :		6		30		4		19				
Tartaric Acid			2		50								
Tincture of Bark	Tr : Cort · Cinch :		6		56		4		37		4		37
Tincture of Myrrh	Tr : Myrrh :		4		25		2		12				
Tincture of Guaiacum	Tr : Guaiac :		6		56		4		37				
White Vitriol, (one half to be put in powders of ten grs. each with Sugar of Lead.)	Sulph : Zinc :		1	4	4			4	2			2	2

NOTE. For the above list of prices, I am indebted to Mr. Samuel Kidder, an experienced apothecary of Charlestown, Mass. and I believe them to be not far from the average prices met with in the different sea-ports of the United States.

INSTRUMENTS, UTENSILS, DRESSINGS, &c.

Articles.	From 16 to 30 men.	price. cts.	From 8 to 16 men.	price. cts.	Less than 8 men.	price. cts.
Lancets	2	50	2	50	1	25
Penis Syringes	3	60	2	50	2	50
Bougies, small size	4	50	3	37	2	25
Clyster pipe & bag	1	25	1	25		
Cotton rollers 3 inches wide, twelve feet long	8	60	4	30	3	12½
Patent lint	2 oz.	50	1 oz.	25		
Tow	2 lb.	25	½ lb.	13	½ lb.	13
Diachylon or sticking plaster spread on cotton	½ yd. sq.	100	¼ yd. sq.	50	¼ yd. sq.	50
Linen rag						
Soft leather for plasters	1 ft. sq.	8	¼ yd. sq.	7	6 in. sq.	6
1 Ounce phials for medicine-chest	4	16	4	16	1	4
2 Ounce phials do.	5	20	4	16	3	12
4 do. do.	8	48	6	24	3	18
6 do. do.	7	42	4	24	2	12
12 do. green do.	1	8				
Spare phials corked of different sizes	4	16	3	12	2	12
Medicine-chest		200		175		150
1 lb. pots for ointments	2	12				
8 oz. pots for do.	2	12	1	6	1	6
6 oz. do.	1	6	1	6		
4 oz. do.	1	6	1	6		
Price of the chest,		28,83		18,47½		13,00

Hospital Stores.

Rice, sago, pearl barley, lemon-juice (one gallon per man, in voyages of 100 days,) fowls, tea and sugar, wine and vinegar.

PREPARATIONS OF MEDICINES AND DRINKS.

DECOCTIONS, TEAS, GRUEL, &C.

Decoction of Bark.

Take of Peruvian Bark in powder, one ounce, water, one pint and a half.

Put the bark into a tin-pot, and pour the water on it heated. Cover the vessel and boil for ten minutes.

This decoction is given in all cases where bark in considerable quantities is requisite, and where the powder disagrees with the stomach. The dose is from two to four table-spoonfuls.

Decoction of Oak Bark, and of Nutgalls, may be made in the same manner.

Decoction of Barley or Barley-water.

Take of pearl barley three table-spoonfuls. First wash the barley from the mealy matter that adheres to it, with some cold water ; then boil it a little with about half a pint of water, to extract the coloring matter.—Throw this away, and put the barley thus purified into five pints of boiling water; which is to be boiled down to four pints and strained. This decoction is to be used freely, as a diluting drink in fevers and inflammatory complaints.

Decoction of Flax-seed, or Flax-seed tea.

Take of Flax-seed or Lin-seed whole or powdered, two table spoonfuls.

Water, three pints.

Boil one hour and strain. This is an excellent drink, in cases of clap or other inflammation in the urinary passages, and also for coughs and other inflammations. It may be rendered agreeable by sugar and lemon-juice.

Decoction of arrow-root, or water-gruel made from arrow-root, oat-meal, flour, or indian-meal.

Take two or three large table-spoonfuls of either of the above articles. Water half a gallon.

While the water is heating, rub flour or meal, &c. in half a pint of cold water, adding a little at a time, then mix it with the hot-water, stirring it at the same time, and boil ten minutes.

Toast-Water.

This is made by steeping slices of soft fresh bread in water, first toasting the bread till browned thoroughly, and then putting it into the water while hot. When soft bread cannot be had, the hard kind must answer.

SOLUTIONS.

Solution of Cream of Tartar.

To an ounce of Cream of Tartar, pour one pint of hot water, to which add a little loaf sugar. This is an agreeable beverage in fevers and inflammations, and is a mild purgative. It may be rendered still more agreeable, by the addition of a little orange peel.

Lime-Water.

Take of quick-lime, half a pint, water, three pints, mix and cover the vessel for three hours, occasionally shaking it; then pour off the liquor and keep it in a vessel closely stopped. Its dose is from one 8th to one 4th of a pint.

Solution of Alum, or Alum-Water.

Dissolve one drachm of alum in half a pint of water.

Solution of Sugar of Lead, or Lead-Water.

Dissolve one drachm of Sugar of Lead in half a pint of water. These are useful external applications.

Tar-Water.

Take of Tar, one pint,
Water, one gallon.

Boil them together fifteen minutes, frequently stirring them. Afterwards pour off the water for use. This is a valuable application for the piles.

MIXTURES.

Cooling Mixture.

Take of Glauber's Salts, one ounce and a half,
Nitre, twenty grains,
Tartar emetic, three grains,
mix in one pint of water.

This is a cooling laxative or mild purgative, and may be given in doses of from one to three table-spoonfuls every hour or two.

Pectoral or Cough Mixture.

Take of Paregoric, two parts,
Syrup of Squills and wine of antimony, of each, one part, mixed. This is an excellent mixture for a cough, and may be taken in doses of two tea-spoonfuls on going to bed, accompanied by a large draught of flax-seed tea.

Effervescing Mixture.

Dissolve Salts of Tartar, half a tea-spoonful in two table spoonfuls of pure water. Then add lemon-juice, half a table-spoonful, and take it while it effervesces. This is valuable in some fevers.

Dover's Powders.

This powder will be found already prepared at the apothecaries' shops, where it should be put up in doses of fifteen grains each. It may be mixed and taken in warm tea. It is useful in some cases of fever, rheumatisms and other inflammations. When taken, large draughts of warm tea or other diluting drinks should accompany it.

Emetics, *directions for taking.*

Mix the Ipecac: or the Tartar Emetic powder in six table-spoonfuls of warm water and take three of them. A table-spoonful of the remainder is to be taken every ten minutes, till vomiting is induced. After vomiting has commenced, warm water is to be drank freely after each operation. Should the vomiting continue too long, its operation may be turned downward by a draught of warm salt-water. Should cramp of the stomach ensue, flannels dipped in hot water are to be applied over it, and twenty or thirty drops of Laudanum given.

CATHARTICS OR PURGES, *directions for taking.*

Salts may be taken in dose of two table-spoonfuls, dissolved in half a pint of warm water.

Castor Oil, in dose of two table-spoonfuls.

Calomel and Jalap may be mixed in syrup or molasses in a table-spoon.

Blistering Plaster.

Spread the plaster nearly as thin as a wafer on soft leather four or five inches square, and apply to the side, neck or other part previously rubbing it with spirit or vinegar. After remaining on twelve hours or till the blister is drawn, the water is to be let out, and a plaster of basilicon or of simple ointment applied.

The blister plaster should be preserved for use a second or third time.

CATAPLASMS OR POULTICES,

Mustard Poultice.

Take pounded bread with a small proportion of pounded flax-seed, boil ten or fifteen minutes, and spread it on rags nearly an inch thick, to cover the soles of the feet, then sprinkle on the powder of mustard-seed, and apply as warm as the patient can bear.

Emollient poultice for sores and inflammations.

Take of indian meal or pounded bread and powder of flax-seed, equal parts, boil them together 15 or 20 min-

utes and spread the mixture more than half an inch thick on rags, and apply them warm. They should be renewed every three or four hours.

Liniment for Rheumatism.

Spts. of Hartshorn,
Spirits of Wine,
Spts. of Turpentine, and
Olive Oil, equal parts. This should be rubbed on the joints affected, morning and evening.

Liniment for the Itch.

Sulphuric acid, 3 drachms,
Oil of Turpentine, 4 ounces,
Oil Olivar, 10 ounces, mix and apply to the eruption every evening.

To preserve eggs at sea.

Say about 100 dozen.

One bushel of stone lime, when slacked,
One pound Cream Tartar,
One quart of fine salt. Mix these with water until the mass comes to the consistency of thick cream, have your cask tight, cover the bottom of it with this material, and then place the eggs on the end, after having laid one tier, cover them with the mixture and place another tier. This will preserve eggs good a year.

Fumigations.

The forecastle and other lodging apartments of a merchant vessel should be fumigated as often as practicable, and especially in hot climates. One of the most simple is the

Vinegar Fumigation.

Immerse a hot iron in vinegar, at the same time closing the hatches.

Another.

Sulphuric Acid, or Oil of Vitriol,
Sal Nitre, or Saltpetre, of each, one ounce.

This quantity is sufficient for an apartment twenty feet square.

The sulphuric acid is placed in a glass or china vessel, and the nitre gradually added: in order to have an abundant extrication of nitrous fumes, it is necessary to raise the temperature of the acid by means of a lamp, or by placing it on hot sand.

This air may be respired with perfect safety, and even with advantage in fevers; it should therefore, always be preferred where the sick remain in the room.

Anti-pestilential Fumigation.

Common salt, a pint,
Sulphuric acid or oil of vitriol and water, of each, a gill. This quantity is sufficient for a room twenty feet square.

The ingredients are to be mixed in a glass or porcelain vessel.

This is undoubtedly the best fumigation to destroy the contagious miasmata of uninhabited apartments; but

should be extricated in very small quantities in those cases where the sick are obliged to remain in the room.

Another.

Flowers of Sulphur,
Nitre, or Saltpetre powdered,
of each one ounce,
Gum Myrrh, half an ounce. Mix, and to be gradually sprinkled on coals. The vapour is injurious to respiration, and should be used cautiously.

INDEX.

ERRATA.

Page 35, 4th line from bottom for *effect* read *affect.*
" 100, 2d line from bottom for *resource* read *recourse.*
" 160, 4th line from bottom for *Sea* water read *Spring* water.