

THE
DISEASES
INCIDENT TO
ARMIES
WITH THE
METHOD of CURE.

Translated from the ORIGINAL OF
BARON VAN SWIETEN,
Physician to their IMPERIAL MAJESTIES.

To which are Added ;
The NATURE and TREATMENT,
of
GUN-SHOT WOUNDS.

BY JOHN RANBY, Esquire; SURGEON GENERAL
TO THE BRITISH ARMY.

Likewise,
SOME BRIEF DIRECTIONS, TO BE
OBSERVED BY SEA SURGEONS
IN ENGAGEMENTS.

Also,
PREVENTATIVES of the SCURVY at SEA.
BY WILLIAM NORTHCOTE, SURGEON,
MANY YEARS IN THE SEA-SERVICE.
Published, for the Use of Military, and Naval Surgeon
IN AMERICA.

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THE AMERICAN EDITOR,
TO THE PUBLIC.

A GENTLEMAN of the Faculty
in the City of PHILADELPHIA, who
was one of the Surgeons, in the
Military Service last War; and who is
desirous of affording every help in his
power, towards a successful termination of
the present AMERICAN Measures, for the
Defence of LIBERTY. Being of opinion,
that the Publication of the following
excellent Tracts will be attended with
the most salutary influences, in the pre-
servation of the lives of many of those
valuable Citizens of AMERICA, who, as
Soldiers and Sailors, are now contending
for the mighty Prize of FREEDOM: And
would at the same Time, communicate
worth and dignity to the Military and Naval
Practitioners in the Art of Healing, was
generously pleased to bestow, and recom-
mend it to the notice of the Editor, who
humblly apprehendeth, that the interest of
the Public, will be truly served in their
purchasing, as well as his private interest
in selling, and by such favors which recip-
rocally gratify, the obligations are, at the
same time, settled and continued.

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LECTURES

ON THE

MATERIA MEDICA,

AS DELIVERED

By WILLIAM CULLEN, M. D.

Professor of MEDICINE in the University
OF EDINBURGH.

Now Published by Permission of the AUTHOR,

And with many CORRECTIONS from the Collation of
different MANUSCRIPTS by the EDITORS.

N B. The whole of the European Editor's
EMENDANDA, which they inserted at the end, is
carefully inserted at each proper place, throughout the
body of the Work, in this American Edition.

MEMORANDUM.

This excellent Work, contains the very cream of Physic,
and is absolutely necessary for all American Physicians,
who wish to arrive at the top of their Profession.

T H E P R E F A C E
T O T H E
D I S E A S E S
I N C I D E N T T O
A R M I E S.

THE great and frequent inconveniences attending a military life, are of such a nature, as to make the greatest havock even among the most robust constitutions. It is not, therefore surprising, that an Army is seldom or ever without a great number of sick.

NEVERTHELESS, it has been observed, that the distempers mostly prevalent among the Troops are not in number very considerable.

WE have, for this reason, thought it sufficient to speak of those, whose attacks the soldier is most subject to, to describe them in such a manner, as they may be distinguished from one another by certain signs; and at the same time to give an account of such symptoms as characterise the decrease or increase of each disorder; and lastly, to specify the medicines proper for the cure of the sick, and the diet they are to observe.

6 P R E F A C E.

IT will be perceived, that, in our little Essay on this subject, it was equally necessary to be short, and to endeavour to avoid being obscure.

THIS Work, however, no wise regards the Physicians, who, masters of their art, and in daily practice, stand in no need of the assistance of these first elements.

BUT it often happens, in an army, that the number of sick is so great, and they are dispersed in so many different places, that it is impossible the physicians should go every where, and give their attendance to each individual. In such cases, necessity obliges the sick to be entrusted to persons who cannot be expected to have the same knowledge with those of the profession.

FOR the use of such practitioners, not sufficiently instructed, this small Tract is designed, that, by the signs exactly described, they may understand the nature of the distemper, the conduct they are to observe, and the remedies proper to be administered.

AT the end are inserted the RECIPES or prescriptions referred to in the course of the Work. They are rendered as simple as possible, and preference given to those medicines that are easiest to be procured, and easiest to be prepared.

IT may not be amiss to premise some observations, by means of which, sickness may in some degree be prevented, and the health of the soldier preserved. We are sensible, that, in time of war, it is not always possible to observe exactly all what we are going to say ; but it cannot but be of use to know what is most advantageous, that it may be put in practice, at least when circumstances permit.

First. THE soldier fresh listed, and torn at once from his family, no sooner loses sight of his village, but he becomes melancholy ; and tho' a robust husbandman, finds himself scarce able to bear the fatigues and inconveniences of a military life. It were to be wished, that he could be used, little by little, to this new kind of life ; but in the mean time nothing is better, than to procure him all kinds of amusement and diversion.

Second. GARDEN stuff and fresh greens are a wholesome nourishment for the soldier ; ripe fruits are equally good, and never hurt but by their abuse ; but unripe and acrid fruits are very hurtful. The use of garden stuff and fruit prevents the scurvy, and even cures those already attacked with it.

Third. THE choice of water is essential.

tial. If there is none to be found absolutely pure, the preference is to be given to that least loaded with heterogeneous parts. There is an easy way to distinguish water that is pure, from that which is less so, by means of *oleum tartari per deliquium*. If you let fall a few drops of this in a glass of water, if not pure, it becomes instantly thick, and milky, whilst the same operation produces only a small cloud in that which is more pure.

RIVER water should not be drawn near the banks; that which is in the middle of the stream is always best.

SOMETIMES, indeed, Troops are reduced to the sad necessity of drinking bad water; in which case it may be much corrected, by mixing a certain quantity of vinegar. Six ounces, mixed with three quarts of water, will render the drink even more agreeable.

THE water may also be rendered less hurtful by steeping in it some pieces of the root of the *calamus aromaticus*. This root is found every where, especially in marshy places, where commonly the water is worst.

Fourth. THE soldier ought to be well clothed and covered; his shoes of a thick and strong leather. and the thread they are sewed with well covered with wax:

If

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if all the seams could be well waxed the water would be prevented from penetrating.

Fifth. CAMPS ought to be pitched on a dry spot, as much as possible. That which appears such is sometimes quite the reverse, because the waters are but at a little distance below the surface. It is, however, very easy to know that, by digging the ground, or even merely by examining the wells of the neighbouring villages

If the water is high in the wells, the soil is damp; if the water is low, the soil is dry.

IT would likewise be proper to avoid the neighbourhood of thick forests; they prevent the wind from penetrating, and render the air of the circumjacent parts damp and close.

BUT if there is a necessity of encamping in a damp ground, the soldiers must have their straw changed oftner than usual. The officers will be much benefited by spreading a waxed cloth under their bed.

IN times of rain, the tighter the tents are extended, the less it penetrates: small trenches dug round the tents contribute to the dryness of the spot where the soldier lies, because they receive the water that falls from above.

Sixth. WHEN an army remains long in

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in the same camp, the unwholesome effluvia from so many bodies always occasion sickness, unless there happen to be violent and frequent winds. These exhalations are mostly to be feared in a hot and moist air. The changes of camps on this account, contribute much to the health of the soldier, more especially when the bloody flux prevails. Hence arises one reason the more for avoiding the neighbourhood of thick forests, which prevent the free passage of the winds.

Seventh. **N**OTHING is more prejudicial to the soldier, when heated with work, than to strip, expose himself to the cool air, and greedily drink cold water, and especially well-water, which commonly is very much so. River water is less hurtful, as the rays of the Sun, to which it is constantly exposed, prevent its being so cold.

Eighth. **C**ARE must be taken, during the great heats, that the soldier on duty should remain exposed to the heat of the Sun as little as possible, and that he avoid sleeping there. The cuirassiers, especially, when once their cuirass is thoroughly heated, are those who suffer most by the sun.

Ninth. **N**EATNESS cannot be too much insisted on. Let soldiers frequently wash their hands, their face, and their feet; and,

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and, if the season permits, let them bathe as much as possible in running water.

Tenth. GREAT care ought to be taken not to lodge many men together in a small space; and if it cannot be avoided, let the air be at least renewed as often as it can, whether those who lodge together are in health or sickness; for from hence arise the most dangerous, and even the contagious distempers.

Eleventh. THE bread ought to be well baked, and made of good and pure flour; for it is certain, that very dangerous distempers are occasioned by musty or spoiled bread.

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OF THE
DISEASES
OF THE
ARMY.

IF the troops encamp in the spring, especially early in the season, there will infallibly be many sick. The Diseases, that principally prevail at that time, are, very troublesome Coughs, sore Throats, Pleurisies, Peripneumonies, and Rheumatisms.

THESE Distempers, tho' not contagious, do not admit of much motion in the Patients, wherefore it should be endeavoured to have the Hospitals nigh hand, and, if the state of the Distemper requires it, to bleed the Patient, before he be moved, the delay of which may produce very troublesome consequences.

SOMETIMES also intermitting Fevers prevail during this season, but they generally are less obstinate than those that happen in Autumn. In Spring they are commonly Tertians, or Quotidians, but seldom Quartans, unless in those subjects, who have been before attacked during the Winter, and in whom, properly speaking, they are only Relapses.

COUGHS.

COUGHS are more troublesome than dangerous: but if they continue any of time, and are neglected, they sometimes degenerate into a *Phtisis Pulmonalis*.

LET the Patient make use of the receipt No. 1. for his common drink, and drink it luke-warm; it will be of service to add a fourth part of new milk.

THE Patient must abstain from wine, from salt and acid food. Rice, and barley broth, and new milk, with the yolk of an egg, will be sufficient nourishment.

IF the Cough becomes too violent and troublesome, so as to prevent the Patient from sleeping, he may take the prescription No 2.

IF the Cough is attended with a Fever, bleeding will be necessary to prevent an Inflammation, which is then to be apprehended.

WHEN the Cough diminishes, and the excretions, which before were without consistence, become thick, and are easily expectorated, the distemper is at an end.

SORE THROAT.

IF the action either of swallowing or respiration suffer an impediment, attended with sensible pain, and the cause is in the neck, or throat, the disorder is called a sore Throat, (*Angina*.)

It is a very dangerous distemper, and sometimes even mortal ; it is known to be so, when respiration is greatly impeded, the voice extremely sharpened, and the anxiety very considerable. A large bleeding is immediately requisite, and cupping glasses are to be applied, around and on the nape of the neck, which often give instant relief : the drink No. 1. must be kept constantly in the mouth warm ; and the poultice No. 3. applied, and continued hot on the neck, night and day.

If the Patient can swallow, let him take every hour a cupfull of the drink No. 1. made hot, with the addition of twenty grains of purified nitre to each pint. If the redness appears on the neck or breast, the Patient often recovers. Otherwise this Disease is frequently mortal ; but it is not common. The following species is much more frequent.

ONE of the *tonsil*s, grows red, swelled,
and

and painful, and the pain commonly extends itself to the internal part of the ear of the diseased side. In a day or two, the Disease attacks the *gland of the other side*, while the swelling disappears from that which was first affected. Sometimes the pulse is hard and quickened, and sometimes not at all.

IN the first case, the urine appears of a deeper colour than it is in health ; bleeding is then necessary; and if the redness, swelling of the throat, and difficulty of breathing do not give way, it will be proper to repeat it.

IN the second case, viz. if the pulse is natural, there is no necessity for bleeding, unless the Patient be of a replete habit.

THE nourishment must be restrained to light broth, to which may be added rice or barley *cream*.

LET the Patient take a tea-cup of the drink No. 4. every hour, warm, unless he sleeps : and let him often keep in his mouth some of the medicated tea, No 5. warm, with which he is also to gargle his throat.

NEXT day let him be purged with the draught No. 6. which, if the disorder does not abate, he may take it again after two days, continuing, in the mean time, the use of No. 4. and No. 5. till he can swallow freely

freely, and the redness hath disappeared from the inside of the throat.

If the disorder has continued too long, before relief was applied, or the inflammation is too considerable, (to give way,) suppuration will ensue.

THAT there will be a suppuration is known, by the swelling and redness in the throat continuing above three days, without any abatement. In this case, the Patient is to keep continually in his mouth some of the decoction No. 7. warm, which likewise may be lightly injected into his throat.

THE cataplasm No. 8. is to be applied, and kept night and day round about his throat.

If the swelling of the throat then begins to grow soft, the abscess will soon burst: if there appear a little spot elevated and white, the concealed lancet (*pharyngotomus*) may with all safety be used, to give, by this means, a freer issue to the pus.

The abscess being either broke of itself or opened by the lancet, the garganism No. 9. must be frequently used, and the cure will soon be compleated.

WHEN it happens that the swelling prevents deglutition entirely, a glister of twelve ounces of new milk and six ounces of barley water is to be administered every four hours, which the Patient must retain as long as he possibly

possibly can. By this means he may be sustained till the abscess breaks.

THERE is still another species of sore throat, which, in the beginning, is easily cured, but by neglect degenerates into a sort of mortification, and corrodes all the parts attacked, causing at the same time a most horrible stench.

THERE appears on the tonsils, on the palate, on both sides of the interior part of the mouth, or within the lips, one or several white spots, sometimes yellowish, and even brown, according as the disorder is more or less violent. The places round these spots are much inflamed and painful. It sometimes happens that the patient has no fever; and the swelling is never so considerable in this case, as in the before described sore throat.

THE last species generally goes off pretty soon, by rubbing every two hours lightly the parts affected with a pencil dipped in the mixture No. 10. and using for a gargarism a simple infusion of elder flowers. It is proper the Patient should drink some cups of the same infusion about four times a day.

It is to be observed, that the said spots increase very suddenly, when the stench of the mouth is great: in that case, the quantity of *sp. sal. mar.* must be augmented, to stop the progress of this evil.

The

The P L E U R I S Y.

THE Pleurisy is known by a sharp pain, and stitches, felt in the breast, and attended with a fever.

THIS pain is increased by inspiration, and lessened by exspiration, and by holding the breath ; the pulse is generally hard, as in all acute and inflammatory diseases : in violent Pleurisies the pain is sometimes so sharp, that the Patient scarce dares to draw his breath, the face grows livid, and he feels himself just suffocating ; in this state the pulse is small and low.

The Cough is almost continual, but interrupted by the violent pain : in some cases, this Cough is dry, without any excretion ; in others it is, from the beginning, attended with excretions ; less danger is to be apprehended in the last case than in the first.

Tho' the sides of the breast are most commonly attacked in this distemper, yet the anterior and posterior parts may be equally affected.

IF the pain is most sensibly felt externally, and chiefly upon touching the part, the disorder is commonly named a false Pleurisy, and is to be treated as follows :

BLEEDING is the first and chief remedy : let

let twelve ounces of blood, or even more, if the subject is replete and robust, be taken from the arm, on the side where the pain is. While the vein is open, let the patient respire strongly, and cough. Bleeding commonly lessens the pain, and sometimes carries it off altogether.

SOME hours after the bleeding, the glyster No. 11. ought to be given.

FLANNELS dipt in the fomentation No. 12^s are to be constantly applied to the place where the pain is felt; and as it would be troublesome to apply this topic during the night, a plaster of Labdanum, spread on leather or linen, may be applied in its room.

IN the morning this plaster must be taken off, the part rubbed with the *ung. altheæ* and the medicine No. 12. Let the patient take every half hour, if he be awake, a spoonful of the mixture No. 13. and drink after it a warm cupfull of the decoction No. 1. to each pint of which one ounce of honey should be added.

IT often happens, that the pain, which after bleeding was much lessened, or quite ceased, returns with as much violence as at first: in this case a second bleeding is necessary, but commonly not so large as the first, which always ought to be very copious:

dous : if after this the pain still returns very sensibly, you must bleed a third time, and sometimes even a fourth, according to the violence of the distemper.

IT must, however, be observed, that slight remains of pain, and such as but little impede respiration, do not require fresh bleedings : the Patient might by them be too much weakened, and rendered languid a long time after.

BLEEDING, therefore, must only be repeated in those cases where the pain is violent enough to obstruct the breath considerably ; the velocity of the pulse, increased commonly at the same time, shows the necessity for this evacuation.

IT is a good sign, when the pain changes its place, and affects the clavicles, the shoulder-blades, the shoulders and back ; and that this new pain requires no bleeding. These changes generally happen about the sixth day : it is then sufficient to chafe the parts in pain lightly, and then anoint them with the *ung. alth.*.

LET the nourishment be light, and consist of thin broth, roasted apples, and well fermented bread : the decoction No. I. or plain barley water with one fourth of new milk, may serve for common drink. If the belly be constipated, the glyster No. II. may be repeated.

As soon as respiration grows easier, and the pain is considerably diminished, it will be sufficient to give every two hours a spoonful of No. 13. with a cupfull of the decoction No. 1. warm after it.

BUT if, notwithstanding several bleedings, the pain continues, without any sensible diminution; and above all, if the rattling of the breast, and want of expectoration shew the lungs to be filling, a blister is to be applied to each calf of the leg.

A sharp blister applied on the painful part has often been attended with very good effects, even when repeated bleedings had procured no cessation of the pain of the side.

CARE must be taken in this, as well as in all inflammatory distempers, that the Patient be not kept too hot, and that the air be often renewed.

WHEN the illness begins to grow milder, by the use of the above medicines, fresh symptoms will appear, which show the morbid matter is concocted, and ready to be expelled.

GREAT care must then be taken, not to prevent its course, but, on the contrary, to facilitate it by all the means that art can suggest.

BLEEDING piles are of service; a white, reddish, or sometimes a brownish sediment
in

in the urine is a favourable symptom : to encourage its continuance, the sick must drink plentifully.

IF in the progress of the distemper, after the symptoms grow milder, the excrements are yellow, and bilious, it is a good sign ; but at the beginning it affords but a bad prognostic.

IN general this disease is carried off by expectoration, especially if the excretions are plentiful and diminish the pleuritic pain, and above all, if they are ripe and resemble pus. Sometimes they are glewy, tenacious, and sanguineous ; but there is nothing to fear from them, if the pain abates, the fever diminishes, and respiration becomes more free. Be cautious, however, not to repeat the bleeding, which, under these circumstances, must be prejudicial. Sometimes the excretions are yellowish, and mixed with streaks of blood, and this also is a favourable sign.

LASTLY, it may be laid down as a general rule, that expectoration is to be esteemed a happy symptom ; whenever the excretions are thrown off with ease, they diminish the pain and fever, and render the respiration easier.

IN such a state of the expectoration, the mixture No. 13. must be laid aside, and the linctus

linctus No. 14. substituted in its place; two spoonfuls of which are to be given once in an hour, and leisurely swallowed, with a cup of the decoction No. 1. warm after it.

If the expectoration does not continue, but suddenly stops, and there comes on a rattling in the breast, attended with anxiety, the danger is very great; blisters on the legs must be applied immediately, the powder No. 15. be given every four hours, and the warm decoction No. 1. sweetened with a little honey, be drank plentifully, till the spitting comes on again, and the breast is relieved.

THERE comes on sometimes, but not often, a painful swelling behind the ears, or on the thighs, which pain is followed by a diminution of that of the breast: in this case, the immediate use of the cataplasm No. 8. or such like, is necessary, to ripen the swelling, which is to be opened with a lancet, as soon as it comes to a head, and be dressed afterwards as an ulcer.

THE violence of the distemper may be so great, that the most efficacious remedies are insufficient to overcome it, and to expel the morbific matter. In this case, supuration, which is always dangerous, comes on, and most commonly the illness degenerates into a consumption, unless means be found

found to evacuate the already formed pus,

THAT this is the state of the case, may be known by the following symptoms.

THE pain is stubborn, and yet less violent than at the beginning: it is attended with a dry cough, or with unripe excretions; there is a continual quickness of the pulse, which increases towards night, or whenever the patient takes any nourishment; the cheeks and lips become red; he has frequent shiverings and night-sweats; the urine is frothy and pale, and he soon becomes extremely weak and lean. The abscess, formed in the lungs, is sometimes evacuated by excretions: when they begin to appear, and are purulent, the infusion No. 16. sweetened with a little honey, is to be given every hour: broths, in which fresh chervil, lettuce, and parsley roots, are boiled, may serve for nourishment; and for drink, barley water, with a fourth part of new milk, both to be continued till the purulent matter is quite evacuated.

BUT this does not always happen; the pus is often formed in a bag; and in that case it must be attempted to draw out this collection of matter.

A SMALL plaster applied, and made to stick closely to the most painful place, will be very proper in the beginning of the illness;

ness ; because if the Pleurisy should degenerate into an abscess, the collection of matter will point towards that place.

WHEN an Abscess is known to be formed, by the signs that have been described, the marked place is to be corroded by a light caustic ; and when open, care must be taken to keep up the suppuration. In such a case, there is reason to hope, as the resistance is the least at this place, that the matter collected will take its course, and be discharged by it ; for these collections are often lodged between the Pleura and the adjacent parts.

FOR the same reason, a seton on the spot is successfully used ; and the pus has often been seen to discharge through such a passage procured by art.

IF the matter contained in the abscess cannot be drawn to the external parts, it will occasion a swelling of the Pleura towards the cavity of the breast ; whereby the lungs will be oppressed, the anxiety daily increase, the Pleura burst, all the symptoms suddenly disappear, but come on again soon, and the pus fall into the cavity of the breast.

UNDER these circumstances, no other method can be used but the Paracenthesis, to discharge the breast from the pus there lodged, and prevent a mortal consumption.

DURING

DURING this last trial, the use of the medicine No. 16. is to be continued. If, during the course of the distemper, the patient can get no sleep, a pint of the emulsion No. 17. is to be administered, to which may occasionally be added an ounce of the syrup of white poppies, or more if necessary.

P E R I P N E U M O N Y.

THIS Distemper is, properly speaking, an inflammation of the lungs: it is dangerous, and even more so than the Pleurisy itself, which sometimes degenerates into a Peripneumony, when the patient is forced, by excess of pain, to keep in his breath.

A DIFFICULTY of breathing, the load and oppression of the breast, and an acute and continual Fever, indicate a Peripneumony. In this distemper the patient feels no pain; or if he does complain of any, it is of such a dull one as distinguishes the Peripneumony from the Pleurisy; which last, in inspiration, gives the patient a very acute pain.

THE pulse is not so hard in the disease we are now describing, as in the Pleurisy and other inflammatory distempers; but, on the contrary, is generally found much softer.

IF the Peripneumony is violent, there immediately comes on a great weakness, the pulse becomes small, soft, unequal; the respiration is short, frequent, difficult, and accompanied with a continual cough; the patient cannot lie down for fear of suffocation, but is obliged to sit upright in his bed; his face, eyes, tongue, and lips, become red and inflamed: these symptoms are followed by an insupportable anxiety, and soon after by a delirium, and death.

ALL the signs, therefore, that we have recited, give us a very bad prognostic.

A GREATER hardness in the pulse, a less difficulty in breathing, more ease in lying down, less redness and swelling in the face, the eyes, and the lips, are, on the contrary, favourable symptoms.

THIS distemper requires immediate help, for very soon it brings the patient into evident danger.

You must begin by a large bleeding in the arm, and repeat it in the same manner as in a Pleurisy, if the anxiety and difficulty of breathing do not diminish. If the blood, when drawn, remains fluid and thin, and scarce coagulates at all, and if after the bleeding the respiration is not freer, it is a bad sign, which indicates, that the thicker parts are retained in the lungs, and the thinner

thinner only discharged. In this case, a fresh bleeding would produce no effect, and only evacuate that part of the blood which is least thick, and could still have made its way thro' the lungs.

SOME hours after the bleeding, it will be proper to give the glyster No. 11. Fomentations, ointments, and plaisters, may be applied to the breast, but it must not be expected that these sort of things will be attended with as good success as in the Pleurisy.

It will be better to apply frequently to the patient's mouth and nostrils, a linen or sponge soaked in warm water, the vapours of which may, together with the air, enter by inspiration into the lungs.

THE diet ought, as in the Pleurisy, to be extremely light, and the broths still thinner.

Let the common drink be the decoction No. 1. or barley-water; but instead of mixing milk with it, add to each pint half an ounce of pure honey.

WHILE the patient is awake, let him take every half hour a spoonful of No. 13. and drink after it a warm cup of the decoction No. 1.

IF, on the use of these medicines, the anxiety diminishes, the respiration becomes freer, the Fever less violent, the pulse more vigorous and equal, the tongue moist, and

every part of the body, even to the extremities, of an equal heat ; if, above all, the skin is moist and soft, we may hope for the best, and nothing more is required than a continuance of the same means, as the inflammation of the lungs is beginning to be resolved, and gradually to decline.

BUT things seldom take this turn, unless the distemper is not violent, the solid parts are supple, and relief has been applied from the beginning. It oftner happens, that the matter of this Disease is evacuated by expectoration.

The spitting must, therefore, be carefully attended to ; and it is a very bad sign, when at the same time the patient does not expectorate at all, and has a difficulty to breathe, with a rattling in his throat. The spittings are good, if discharged speedily, copiously, and easily. They should be of a proper consistence ; sometimes they appear yellow, and streaked with a little blood ; which ought to give no uneasiness, for excretions of this sort are always good, and grow white in time.

THE effect they produce is remarkable, by the diminution of anxiety, the freedom of respiration, and the alteration in the pulse, which grows stronger and fuller.

LET the patient, at that time, take two

tea-spoonfuls of the linctus No. 14. and after swallowing them softly, drink a cup of the warm decoction No. 1.

NOTHING more is to be done under these circumstances ; and bleeding, purging, or exciting sweats, would be detrimental.

WE ought chiefly to guard against the cold air, and cold drinks, for either the one or the other will stop the expectoration, and thereby throw the patient into imminent danger.

IF a suppression of the spitting should happen, and the anxiety be followed by the rattling of the throat, blisters are to be applied to the legs, the powder No. 15. is to be given every four hours, and the same decoction No. 1. be used as was ordered for the Pleurisy. The patient is also to inspire by the mouth and nostrils the vapour of warm water.

IT sometimes happens, that, during the course of the distemper, the patient voids by stool a yellow and bilious matter, and is relieved by it. This is also a favourable sign, as has been observed, in speaking of the Pleurisy.

A LARGE and thick sediment in the urine, at first red, afterwards turning white, is likewise a good symptom. When this happens, the patient must drink plentifully

as in the Pleurify. Nevertheless, it rarely happens that the cause of the evil is discharged merely by urine; the spitting, which generally comes on about the same time, contributes greatly to the entire cure.

WHEN the patient, by the means of these evacuations, begins to find his breast disengaged, he may have his broth somewhat stronger; but he should constantly take but little at a time and often, that the lungs may not afresh be overcharged by a chyle, both too crude and too copious. Sometimes a plentiful bleeding of the nose gives relief to the patient; but this seldom happens.

IF none of the evacuations here described are observed within the space of a fortnight, if the Fever continues pretty strong, and the Cough dry; if the heat extends to the extremities of the body; if the pulse is quick, soft, and wavering; if a difficulty of breathing and shiverings accompany these symptoms; if the cheeks and lips are red, the thirst great, and, lastly, the Fever stronger towards night, it is certain that the inflammation is turning to an Abscess.

THE indications of an Abscess already formed in the lungs, besides the symptoms already described, are as follow: A dry continual obstinate cough, which increases when the sick moves, or takes any nourishment;

ment; he can only lie on the affected side, without its being possible for him to lie on the other; he has periodically a little continued Fever, which augments whenever he eats, drinks, or stirs, and is attended with a redness of the lips and cheeks; he has no appetite, but a violent thirst, and complains of night-sweats, especially of the head, and the upper part of the breast; the urine is spumous, he is greatly emaciated, and extremely weak.

WHILE the Abscess remains whole, the purulent tumor increases more and more; it presses upon those parts of the lungs which as yet are found; it obstructs the respiration, and, after the most terrible anxieties, suffocates the patient.

It is therefore essential, that the Abscess should break, and be matured, in order that the pus be evacuated. But it may happen to break in such a manner, as to disperse the matter into the breast, and occasion an Empyema, which almost always proves mortal. This is known to be the case, by the sudden diminution of all the symptoms, sometimes attended with slight faintings, and the total suppression of purulent spittings. It is because the Abscess is in effect burst, that the symptoms proceeding from the distention of the purulent bag immediately cease:

cease; but the matter spread in the cavity of the breast, growing every day more copious, and more acrid, soon occasions new symptoms, worse than the preceding ones.

THE Paracenthesis is the only means of help left; but as the ulcer has already corroded the substance of the lungs, the succs will be very doubtful: and even tho' the pus is evacuated, the sick person generally dies after the operation.

MUCH more is it to be wished, that the Abscess may break in such a manner, as to let the pus fall into the bronchi or air vessels of the lungs, that so it may be evacuated by spitting.

WHEN this happens, it is to be feared, lest the bronchi be totally filled and stopped by the quantity of pus spreading itself instantly, and all at once, and occasioning thereby a suffocation: but if the pus that falls in these vessels can still be discharged, the patient often recovers, tho' the purulent consumption is always to be apprehended.

THE following are the principal succours which art has found out to forward the opening of the Abscess into the bronchi, and the evacuation of the pus by expectoration.

As soon as the symptoms of an Abscess, as described above, are perceived, let the sick inspire continually by the mouth and nostrils;

nostrils the vapour of warm water, to soften and relax the parts.

LET him take fatter broth, and in larger quantity, than before, that the stomach being filled, the descent of the diaphragm may be more difficult, and the Abscess more compressed. The patient must be excited to cough, by applying warm vinegar to his nostrils, or to cry with a loud voice. This may procure a chance of breaking the Abscess, which, if the strength of the sick person can bear it, may be still forwarded by giving him an airing in a carriage, on a rough road, where he may be well shook.

As it is impossible to know exactly the moment when the Abscess will break, you must repeat, from time to time, the attempts here described.

IF, when the Abscess is broke, the excretions are purulent, white, and smooth ; if the fever disappears, or diminishes considerably ; if the appetite returns, the thirst ceases, and, lastly, the excrements are solid and natural, there is reason to hope that the sick will recover.

IF, on the contrary, the excretions are stained of different colours, with a bad smell ; if the fever doth not cease, or, having ceased, returns again ; if the thirst remains

mains, and the appetite doth not increase, it is to be feared the patient will sink under it.

WHEN the Abscess of the lungs discharges itself by means of purulent excretions, a little rice, or oats boiled in milk, affords an excellent nourishment; but care must be taken, that the sick take not too much at once, but little and often.

THE infusion No. 15. with a third part milk and a little honey, will be a proper drink. He is to take thrice a day the powder No. 18. and as the lungs have been fatigued by a continual cough during the day, some relaxation ought to be procured in the night; wherefore let the patient take two pills No. 19.

IF he is somewhat constive, it is not amiss, but if he remains so several days, the glyster No. 11. is to be given. If the excretions diminish little by little, appetite comes on, strength increases, and the patient gets rid of his fever, a quick cure may be expected.

WHEN the excretions are considerably lessened, the powder No. 18. and infusion No. 16. are no more to be used; instead of which, three small spoonfuls of the linctus No. 20. and after it three cups of the infusion No. 21. may be taken thrice a-day.

If, notwithstanding this, the cough returns

turns stronger towards night, the patient may continue to take the pills No. 19. which otherwise are also to be left off.

IF, after the Abscess in the lungs hath begun to be evacuated by excretion, this evacuation should suddenly stop, an extreme anxiety succeeds, together with a rattling in the breast, and the sick is in very imminent danger. This accident is commonly caused by the imprudent admission of cold air, or by some violent emotion of the mind, as anger, fear, or such like.

A SPEEDY relief must be given, by causing the patient to inspire the vapour of warm water; both by the mouth and nostrils, making him drink freely of the warm infusion No. 16. and giving him every four hours the powder No. 13. until the breast be disengaged, and expectoration comes on again; after which the use of the powder is to be discontinued.

IT will be of service to apply blisters to the calves of the legs, as has been recommended in the Pleurify.

WHEN the purulent matter is reforbed by the veins, it sometimes occasions a sudden deposit of matter in other parts of the body, and there causes an abscess, viz. about the ears, the arms, or thighs. The load of the breast ceases at the same time; and

the same remedies are to be used, and the same rules observed, as in the case of an Abscess after a Pleurisy.

As the inflammations of the external parts may degenerate into schirrous hardnesses, the same accident is to be feared in inflammations of the internal parts: for after a Peripneumony, there sometimes remains in the lungs a schirrous and callous hardness, in which case there is almost always an adhesion to the Pleura. Respiration continues in that case difficult for the rest of life, attended with a little cough, chiefly after meals, and after exercise; and there is no appearance of any of the indications of an Abscess we have been describing. This accident can rarely be got the better of; and the little relief that may be afforded is scarce to be expected in a military life, unless it be for the cavalry, by riding on horseback.

LASTLY, if the Peripneumony be so violent, that the remedies have no effect, gangrene and death are the consequence. This is foreseen, when the patient labours with intolerable anxiety, failing into extreme and sudden faintnesses, with an unequal, feeble, and very quick pulse, and the excretions without consistence, stinking and black. All these signs indicate a speedy and inevitable death.

RHEU-

RHEUMATISM, and RHEUMATIC PAINS.

THE general cause of the Rheumatism is the sudden exposition of the body to the cold after being considerably heated, either by work or the weather ; especially if a person, being overcome by the heat, throws off his cloaths, and rests himself in a damp and cold place,

THE soldier is most frequently liable to this disorder, when heated by fatigue, and exposed to rain, he is obliged to wear his wet cloaths, without changing them.

THE cold nights, which in Spring and Autumn succeed very warm days, are also a cause of the Rheumatism. This distemper begins with an universal shivering, followed by heat, thirst, uneasiness and fever. After a day or two, and even sometimes sooner, the patient feels a sharp pain, not confined to one place, but moving from one limb to another, viz. at the wrists, the shoulders, the knees ; so different parts of the body are in this manner successively affected ; and the articulations, that are attacked, become red and swelled.

SOMETIMES, in this disorder, the tendinous expansions covering the muscles are attacked,

attacked, and occasion an excessive pain on the least motion of the part affected. Sometimes the Fever ceases in a few days, though the pain continues. In general, it is a very troublesome disorder, especially when it attacks the loins, as the sick is then confined to a supine posture, without motion, and, as it were, like a log. It often passes from the loins to the hips, or upper joints of the thighs; where, if it remains long fixed, the cure becomes very difficult.

WHEN the pain suddenly and often changes from place to place, it is to be feared that the cause of the illness will be drove inwardly, and attack the lungs or brain, which would be attended with the greatest danger. This accident is discovered by a delirium, or a violent oppression of the breast, succeeding a cessation of pain in the extremities.

This disease is seldom mortal; but the violence of the pains, and their continuation upon an improper treatment, induce us to employ quick and efficacious remedies. When the disorder is neglected, it often happens, that the articulations are deprived of motion, and there remains for life an incurable stiffness of the joint.
(*Ankylosis.*)

THE method of treatment is as follows,

TAKE

TAKE ten ounces of blood from the arm of the affected side.

LET flannels, imbibed in the warm fomentation No. 12. be constantly applied to the part in pain.

THE diet ought to be light, consisting of small broth, with decoctions of barley, oats, or rice, and with roasted apples.

FOR common drink, use the decoction No. 1. or barley-water with a fourth part milk.

Two spoonfuls of the mixture No. 22. with a cupfull of the infusion No. 23. warm, may be given every hour, unless the patient be asleep.

THE following day let him have the glyster No. 11. and constantly continue the medicines No. 22. and 23.

IF the pain does not give way, and the Fever continues, the bleeding is to be repeated the next day, the fomentation No. 12. and the medicines No. 22. and 23. are to be continued; after which, the following morning, let the patient take the purge No. 6. omitting during this day the use of No. 22. and 23. and taking at night the anodyne draught No. 24. Let him afterwards continue two days longer the use of No. 22. and 23. and on the third day re-

peat the purge No. 6. and at night the draught No. 24.

By this method, we commonly get the better of this disorder. If a good deal of a brick coloured sediment appears in the urine, attended with a general breathing sweat, it is a good sign.

It will then be sufficient to compleat the cure, to keep the patient warm in bed, and make him take the decoction No. 23.

BUT if, after the use of these remedies, the pain still continues, and the part affected grows red, leeches are to be applied upon it.

SOMETIMES the Fever ceases, the patient appears recovered, but the pain still roves from one joint to another : in this case, let the patient take half a drachm of Venice soap made into pills, morning, noon, and night, drinking after it six ounces of the infusion No 23. made warm. He must be kept from the cold, and the articulations lightly rubbed with a piece of dry flannel.

IT happens likewise sometimes, that the patient, tho' otherwise recovered, has a fixed pain left about the articulation of the hip. Apply in that case a blister, about the size of a crown piece, upon the part for twelve hours, then take it off, and

pierce

pierce the bladder it has raised, that the lymph amassed may flow out, and cure the wound by means of the plaster, called *empl. allum coctum*.

EIGHT days after the place where the blister was applied is healed, apply another, and proceed as before, and if the pain is then not entirely vanished, this operation may be repeated four times: Observe, when you take off the blister, only to pierce the vesicle, and not take the epidermis, for the place thus made bare, would be extremely painful, and without any advance towards the cure.

THOSE who have suffered of this disorder in Autumn, must take care, during the following winter, not to expose themselves to the cold, and the injuries of the season, for they would certainly have a relapse.

WHEN by the pain continuing long fixed in the same place, the affected articulation begins to stiffen, let the part be twice a day held over the steam of hot water, then well wiped with hot linen, lightly rubbed, and anointed with *ung. altheæ*.

INTERMITTING FEVERS.

A FEVER is known by a quickness of the pulse, usually attended with lassitude, languor, weakness, thirst, and several other symptoms.

WHEN after a fit of several hours, it sensibly diminishes, with all its symptoms, and at last absolutely ceases, but in such a manner as to return again, it is called an Intermittent Fever.

THIS Fever has different appellations, according to the length of the interval between the fits.

IF it returns every day, it is called a Quotidian; if there is a day between each fit, it is called a Tertian; if the return is after two days free, it is named a Quartan.

THE Intermittent Fever comes on with gaping, lassitude, debility, colds, shiverings, tremblings, paleness of the extremities, anxieties, sickness, and sometimes vomiting. The pulse is feeble and small, and the thirst pretty great. Heat succeeds after some time; it insensibly augments till it becomes extreme. The body then grows red, the anxiety diminishes, the pulse is fuller and stronger, the thirst excessive, and the patient complains of a violent headache,

and

and pain in all his limbs ; lastly, a general sweat succeeds ; all the described symptoms diminish, and the patient often falls into a sleep, after which he wakes without Fever, his pulse is natural, and there remains nothing but lassitude, and weakness. Sometimes during the hot fit of the Fever, bilious matters are thrown up with a perception of relief.

THE urine after the Fever, or during the sweat, is reddish and frothy ; and as soon as it is cold, there appears on the top a pellicle, adhering to the sides of the vessel, at the bottom of which is deposited a sediment, in colour resembling pounded brick or bole ammoniac.

THIS appearance is, however, seldom observed in any other but autumnal intermittent fevers, and it is more so after several paroxysms. In the spring Intermittents, the urine is commonly less red, and rather yellowish, a cloud forms in the middle, and it deposits a white sediment, which is a good symptom.

OF the two species of Intermittent Fevers we have just mentioned, the vernal ones are easier cured than the autumnal ones, which are attended with more troublesome symptoms.

THE Intermittents which prevail from
G February

February to July, are called Vernal; and those that begin in the latter end of July, or beginning of August, and cease at the end of January, or sometimes sooner, are called Autumnal Intermittents.

AFTER the long and violent heats of the summer, if the troops have been much fatigued, there will be many Autumnal Fevers, and of the most dangerous kind, especially if the military operations require camping in marshy places.

IN September and October the number of these Fevers is commonly very considerable, but there is great hope to see that number diminish at the fall of the leaf, especially if the winds blow any thing hard.

As there is a great difference between the Spring and Autumn Fevers, and as the method of treating them often differ much, we shall treat separately of each.

SPRING INTERMITTENTS.

SPRING Intermittents are generally Tertians, very often of a kindly sort; sometimes double Tertians, but seldom than in Autumn.

WE call that Fever a double Tertian, where a fresh paroxysm comes on every day,

day, but the fit is generally slighter on the alternate days.

DURING the paroxysm, it will be sufficient to take a large quantity of any diluting liquor, made agreeable to the palate, but always warm, since cold draughts would be hurtful.

THE patient may therefore drink of the ptilan No. 25. keeping himself quiet and in a moderate degree of heat.

THE fit most commonly goes off by an universal sweat, which must be kept up by warm drink, but ought not to be rendered excessive by too much covering, or other means that provoke heat.

JUST at this time, viz. on the going off of the fit, or as soon as it is over, the patient must have a mess of broth with some lemon juice, or cream of tartar in it, to make it acid.

THE intermediate days that are free from Fever, he may take food somewhat more solid, viz. a little meat, provided the flesh be of young animals : beef will not hurt, so it be but tender, but all sorts of fat are to be avoided.

NOTHING is to be eat near the time that the return of the paroxysm is expected ; the nourishment then taken would load the stomach

mach during the fit, and cause a bad digestion.

FOUR hours, however, before the fit, the patient may take some light broth. As in spring Agues, the paroxysms commonly anticipate the time they should return at, regard must be had thereto in the taking of nourishment.

If the day the patient is without Fever be serene, it will be proper for him to use a little exercise; but not to lassitude; he ought likewise to endeavour to sleep rather more than usual.

It is to be remarked, that those spring Agues often turn to inflammatory disorders, especially in young and sanguine subjects: bleeding is therefore proper, especially if the sick have a redness in the face, a violent head-ach, or feel some pain on the side of the breast.

If attended with frequent flatulent eruptions, if the tongue is charged, a bitter taste in the mouth, or a light vertigo, it will be proper to give him an emetic.

Let him take four hours before the return of the fit the powder No. 26. or No. 27. if of a weaker constitution, as soon as he shall have vomited, let him drink warm water plentifully; he will soon throw it up, and vomit afresh; he then must repeat his drinking,

drinking, and go on in this manner till what is to be thrown off his stomach, be diluted, and his vomiting made easy.

AFTER vomiting several times, the water drank commonly stays one hour: after the vomiting hath ceased, let the patient have the potion No. 24. and so wait for the paroxysm, during which let him take the ptisan No. 25. observing the rules before laid down.

IF he complains of pains cross his back, of grumbling or wind in his bowels, if his belly is swelled or hard, he must be purged in the following manner.

EIGHT hours before the return of the fit, let him take the purge No. 28. and six hours after he hath taken it, that is, two hours before the fit, give him the draught No. 24.

IF the symptoms, that gave occasion to the purge, or the vomit, continue, these remedies may be repeated, which however is but seldom the case in spring Fevers.

OBSERVE, that sometimes emetics do not evacuate only by vomit, but by stool also, and that purges act likewise sometimes by vomit. There is nothing to be feared when this happens, since the only object of these remedies is to evacuate the stomach and intestines. After the bowels are thus cleansed,

cleansed, let the patient take every two hours a spoonful of the mixture No. 29. drinking after it a cup of camomile flower tea. This remedy must not be used in the paroxysm, but only whilst the patient is without Fever, nor should he be waked to take it.

THIS is the method of treating Spring Fevers: and there is seldom a necessity for using the bark.

IF after the third or fourth paroxysm, ulcerated pustules break out about the nose or lips, it is a good sign, and the fever quickly ceases: but this is not so sure in Autumnal Fevers.

IT sometimes happens, tho' rarely, that after seven or eight fits, the Spring Fever does not cease, nor even considerably diminish, and that, on the contrary, the fit become longer and stronger. This is particularly the case, where the patients are subject to sweat copiously, as soon as they are in bed. Here the bark becomes necessary.

LET him take every three hours while the Fever is off, one of the powders No. 30. in some wine.

THIS method will soon complete the cure; and as in the spring the weather grows better every day, there is but little fear of a relapse.

AUTUM.

AUTUMNAL INTERMITTENTS.

THESE Fevers are more obstinate than those in the spring ; and of these the worst sort happen commonly after a very hot summer.

THEY are also harder to be known ; for when they first begin, the fits are so long, and the returns so frequent, that they seem continued Fevers, with little or no intermission.

SOMETIMES the Fever abates a little, and then returns in a few hours, after a light shivering. It is only when it begins to give way its character is first known ; it then appears that the disorder is a true intermittent. These Fevers, which at first appear to be continued, often degenerate into Quartans.

SOMETIMES these Fevers, which in the beginning did intermit, after long and redoubled paroxysms, are changed into dangerous continued Fevers.

THESE Fevers are always bilious ; the stomach and intestines are filled with putrid matter, which must be discharged without delay ; to postpone it would be detrimental.

LET the patient take the emetic No. 26. or 27. having regard, on this occasion, to what

what has been said on the subject of intermitting Spring Fevers.

If the skin of the face is tight and red, the eyes inflamed, and the heat great and general throughout the body, a bleeding must precede the vomit.

ON the contrary, if the face is shrunk and pale, and the pulse not full, bleeding would hurt, and must be restrained from.

THE vomit must be given in the intermission of the Fever; or if it does not cease entirely, that instant is to be chosen when it is least violent.

SOMETIMES also, in an Autumnal Fever, it is necessary to repeat the vomit, that is, when the nauseous sickness, the bitter taste of the mouth, and the foulness of the tongue, continue.

THE day the patient takes no vomit, let him drink the decoction No. 25. adding an ounce of the oxymel No. 31. to every pint of the decoction.

AFTER the first or second vomit, the powder No. 32. is to be taken every four hours.

THIS method will commonly succeed in these Fevers; and if before, they were continued, they will become intermittent, so that there will be a considerable interval from one paroxysm to another, let the patient

tient then take the mixture No. 29. following the directions given under the head of Spring Intermittents.

THE food should likewise be the same as in these Fevers; broths made pleasant with juice of lemon, or cream of tartar, roasted apples or pears, and well fermented bread, ought to be the principal nourishment. When he begins to recover a little more strength, you may add some flesh meat, either veal or lamb: a little wine taken moderately to recruit his strength will do no harm.

BUT as in Autumn the days are continually growing colder, the recovering patient must guard with care against the inclemency of the weather, otherwise a relapse is much to be feared.

LET him also for a fortnight, on his recovery, take the quantity of a nutmeg of the electuary No. 33. in the morning fasting, an hour before dinner, and an hour after supper.

WHEN he has been a month without fever, give him the pills No. 34. in the morning fasting; repeat them a second time in eight days, and a third time in eight days more.

IF, after the use of the emetic, and other remedies here described, the fever should

still continue, without any diminution of the paroxysms, and if the patient grows weaker, the use of the bark becomes necessary: this happens more frequently in Autumnal, than in Spring fevers.

THE powders No. 30. must then be made use of, as in Spring fevers, and in a fortnight be again repeated.

IF the eyes grow yellow, the sick feel great anxiety at the orifice of the stomach, and the urine is icterial, you must then (unless the extreme weakness of the patient forbid) leave off the use of the bark during the space of a fortnight; instead of which, for some days give him two spoonfuls of the mixture No. 35. every three hours, till these symptoms are abated: the fever will return; but during this interval, the sick having recovered strength, will better support it, and it soon will absolutely leave him.

IF the use of the bark in this case was obstinately pursued, it would bring on some chronological and obstinate disorder. It must be observed, that when the fever has been driven away by the bark, the pills No. 34. are not to be made use of, for commonly they bring it on again.

IT sometimes happens, that these fevers are from the beginning attended with the

worst

worst of symptoms, an unequal pulse, a cadaverous countenance, frequent faintness, and cold sweats. In some subjects, these symptoms are attended with a cardialgia, or violent pain of the stomach, and in others with a sleepy heaviness, sometimes so profound that the patient can scarcely be waked.

IN this case the bark must be immediately given; for it is to be feared another fit could not be bore. The prescription No. 30. may be used.

IF by this means the fever being suppressed, the face becomes of the colour of wax, and anxieties about the orifice of the stomach are complained of, let the remedy No. 35. be used in the manner before explained.

QUARTAN FEVERS.

THE first thing to be observed is, that bleeding is scarcely ever proper in these fevers.

LET the patient take the emetic No. 26. or 27. before the fit comes on, following the method prescribed in the Spring Intermittents.

BEFORE the next paroxysm, give him the purge No. 28. and then the quantity of a nutmeg of the electuary No. 36. which

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he must leave off while the fever fit is on him.

IF, after eight fits, the fever does not diminish, and the patient grows weak, he must take the powders of bark No. 30. observing what has been before said on that subject.

EIGHT days after the fever has left him, the same powders No. 30. are to be repeated, and a third and last time at the end of a fortnight, by which means there will be no fear of a relapse.

IN the intermediate days of the paroxysms, the sick may be indulged with more wine and a freer nourishment, in this sort of fever, than in any other.

T H E J A U N D I C E.

AFTER a Fever, that hath continued for a length of time, and above all, after an Autumnal Fever, sometimes the hypocondria remain hard and tense, either with or without a dull pain ; the patient feels after his meals an anxiety, which sometimes is followed by vomitings ; the white of the eyes grows yellowish ; the urine is tinged of an obscure yellow, and this colour quickly spreads over the superficies of the body.

THIS

THIS illness is also a common consequence of bad nourishment ; and the soldier is most subject to its attacks, when a scarcity of provisions hath obliged him to live on meats of difficult digestion.

LET the patient take every three hours four spoonfuls of the mixture No. 35. drinking after it four ounces of the decoction No. 37. which may any where be easily prepared.

NIGHT and morning let him have half a drachm of Venice soap in pills, and his right hypocondrium be rubbed with flannel every morning, for a quarter of an hour, while fasting.

THIS method, followed some days, generally renders the body open, and procures relief ; but it must be continued till the urine recovers its natural colour, and the yellowness disappears from the eyes and the skin.

IF the body is still costive after having used these medicines six days, you must give the pills No. 34. in the morning, and all that day abstain from the use of the other medicines, which must be resumed the following days.

EXERCISE is excellent in this distemper, above all in open air, if the weather permits.

FARINACEOUS

FARINACEOUS and glairy food is to be avoided, and broth wherein are boiled chervil, sorrel, lettuce, endive, or sweet succory, is proper to be used.

THE DROPSY.

WHEN the aqueous part of the blood is amassed together, and retained in any cavity of the body greater or less, this disease is called a Dropsy.

THE denominations of it are different, according to the parts of the body affected.

IF the water is detained in the adipose membrane, and thereby causes a general swelling, it is called *Anasarca*. The swelling generally begins in the inferior parts, and gains insensibly the whole body; the eyes are languid, the face and body fallow, the urine in small quantity, and the patient never sweats. On pressing the swelled part, it pits. The swelled parts, and chiefly the thighs and feet, are always very cold.

IT is common enough in the Army for this disease to succeed Intermittent Fevers of long duration, especially in autumn and winter. The soldier is also subject to it, when after having suddenly drank a quantity of cold water, he rests himself in a cold place: it is also frequently the consequence of

of a considerable loss of blood, either from wounds, or bleedings too often repeated.

WHEN the Anasarca comes on after a long Intermittent Fever, evacuations are not extremely necessary; but it is commonly cured by giving thrice a day, viz. in the morning fasting, one hour before dinner, and one hou. before supper, two ounces of the prepared wine No. 38.

To finish the cure, the patient must be kept warm, either by the natural heat of the air, or by an artificial one; he ought to be well covered in the night, keep to dry food, such as meat or fish roasted; his drink should be little and pure, and as much exercise be used as his strength will admit of.

IT will be found useful to rub the swelled parts with warm flannels, as often as you can. If the patient voids urine in larger quantity, and begins to sweat in bed, and the swelled parts come down, it is a very favourable sign.

AFTER the swelling hath disappeared, there remains such a relaxation in the parts as threaten a relapse: this may be prevented by causing the patient to wear his cloaths straiter than usual, and rolling his legs and thighs with bandages. Bodily exercise in the open air, and warm weather, does infinite good.

IN this manner generally the Anasarca that succeeds Intermittent Fevers is cured happily enough. But when this distemper proceeds from other causes, it often is more obstinate, and requires large evacuations of the serous humour. Many ways are tried to procure these evacuations, but experience shews the remedy No. 39. to be sure and efficacious. The patient is to take a spoonful of this in the morning; or if, as it sometimes does, it brings on a vomiting, only half a spoonful. The most common effect is, however only a simple sickness.

THE urine after the use of this remedy comes away in large quantity, and affords a considerable relief. It seldom purges; but if it should, does no harm:

THIS medicine is to be taken every day, till all the serosities are evacuated, and the swelling of the body entirely come down. If the dose is not efficacious enough in robust constitutions, it should be insensibly augmented till it procures a large discharge by urine. When the patient is on the recovery, the same regimen must be observed as has been just described.

SOMETIMES the extravasated lymph is accumulated in the lower belly, and the quantity increases so much as to cause it to swell excessively. When so, by pressing

with

with one hand on one side of the belly, and striking on the other with the other hand, the fluctuation is felt, and water is found to abound.

WHEN the distemper is recent, it is cured often enough only by the use of the remedy No. 39. but if the flux of urine does not come on in some days, nor the swelling of the belly diminish, haste must be made to draw off the water by the puncture. The operation is safe, and sure enough ; but if attempted when the disease is more inveterate, it is less efficacious.

IT will be proper, as much as possible, to draw off all the water all together at once; which may be done safely, by straitening the patient's belly with a bandage, by little and little, and more and more, as the water runs off: the faintings and other accidents will, by this means, be avoided.

AFTER the evacuation procured by the puncture, the belly must be bound tight with rollers, and the patient observe the diet we have described above.

THE use of the remedy No. 38. will be very proper here. Sometimes the belly swells again, and the puncture is then to be repeated.

As it sometimes, though but rarely, happens, that the swelling of the belly is

caused only by wind, and not at all by a collection of lymph, the most scrupulous attention must be used in observing what the case is, because in this last the puncture is scarce ever of use, and, on the contrary, generally accelerates death.

THIS last disease is called *Tympanites*, or Dropsey of the Belly.

1st. GENERALLY the belly is not so excessively swelled as in the Dropsey.

2d. THE belly appears elevated before, and depressed on the lateral parts.

3d. WHEN the belly is struck, the motion of water is not felt, but it gives a sound somewhat resembling that of a drum.

4th. Tho' the sick lie on either of his sides, the form of the belly remains the same, the skin of which is white, extended, and elastic.

5th. COSTIVENESS, and gripings about the navel, often precede this distemper.

6th. THE body of the patient is lighter than in a Dropsey of the Belly, where the collection of water considerably augments the weight.

UPON the whole, this distemper is more dangerous than the other, and is often mortal.

THE cure may be attempted in the following manner. Let the patient's belly be rubbed

rubbed with flannel, for a quarter of an hour at a time, twice a day; and after each friction, let it be anointed with the liniment No. 40. and for several days let him at night take the powder No. 41.

If the wind begin to pass by the anus, and the belly grows less, there is room to hope a cure.

It happens sometimes, that the lymph collects in the cavity of the breast; and it has been often observed, that soldiers are subject to this kind of Dropsy, when, after having been heated by work, and all in a sweat, they suddenly expose themselves to the cold, and greedily drink cold water.

This disease is known by the preceding causes, by the difficulty of breathing, especially when the patient begins to sleep, and by a dry cough; he cannot lie down, but is obliged to sit up in his bed, his body bent forwards, and has commonly his feet swelled at the beginning of this distemper.

It is observed, that the breast is sometimes disengaged when the swellings of the legs and thighs become very considerable; and that, on the contrary, the breast becomes more oppressed, when this swelling suddenly disappears.

This sort of Dropsy, especially if not inveterate

veterate, is often successfully cured by the use of the remedy No. 39.

If this does not answer, nothing remains but the puncture; but we find by experience, that this is but a doubtful means, and not always attended with success.

VOMITING.

OUR present inquiry does not regard those Vomitings that attend other distempers, as Fevers, nephritic Cholics, &c. but only those occasioned by bad food, and a loaded stomach.

The surest remedy, in this case, is to cause a large quantity of warm water to be drank, to render the vomiting and evacuation of foul matter easier.

If after this there remains any nausea, or that the tongue be loaded by a pituitous glairy matter, a light emetic, such as No. 27. should be given, and the same regimen observed as prescribed in Intermittent Fevers.

WHEN the patient has done vomiting, let him take two spoonfuls every three hours of the mixture No. 42. and on the evening of the day he takes his vomit, let him have the draught No. 24.

COLERA

C O L E R A M O R B U S.

IT is a sudden and immoderate evacuation of the humours, both upwards and downwards.

THO' this may happen, at all times of the year, in consequence of overcharging the stomach, and a crapula; yet it is most frequent towards the end of the summer, and beginning of the autumn. It is often occasioned in summer by eating too much fruit, drinking putrid water, or a great quantity of new and sweet wine, called *Must*.

THE violence of this disorder is such as to reduce the strongest man in a few hours, and sometimes to carry him quite off in the space of twenty-four hours.

THE thirst is commonly violent, the anxiety great, the pulse quick, small, and often unequal. The patient has cold sweats; his face is wan and cadaverous, and his extremities cold.

THE thighs or hands are attacked with spasms, and sometimes both together; all these symptoms are soon followed by convulsions, and by death, unless prevented by the most speedy and efficacious remedies.

EVERY

EVERY emetic and purge is to be avoided, for the most gentle are hurtful in this case. The patient must be continually taking chicken or veal broth, made so light as scarcely to have the taste of meat; or, instead of these, panada. A glister of either of these drinks is likewise to be given, in order to discharge all acrid and irritating matter from the intestines.

AFTER this method has been continued for three or four hours, a spoonful of the mixture No. 43. is to be given every half quarter of an hour, till the vomiting and looseness are either stopped, or considerably diminished.

WHEN the patient begins to be somewhat better, it will be sufficient for him to take only every three hours a spoonful of the same medicine, till he has taken it all.

THOUGH the vomiting and looseness should by this means be entirely stopped, let the patient still continue, for four days, to take three spoonfuls of the same remedy No. 43. every night and morning.

THE best food, on these occasions, is veal broth with rice in it, taken little at a time, and often.

WHEN it happens that the sick lies long without help, and has had these evacuations for several hours, and consequently is grown

grown very weak, and especially if he feels spasms in his thighs or hands, you must immediately recur to the mixture No. 43. in the manner above described.

A DIARRHOEA

WHEN the stools are liquid, and more frequent than usual, the disorder is called a *Diarrhoea*.

The pains and gripings of the belly are not violent in this distemper; which by this principally is distinguished from the Dysentery, which we shall treat of afterwards.

As the Diarrhoea sometimes serves for the evacuation of bad humours, it follows, that it is not always hurtful, and that it may even be advantageous.

It is of service when it does not affect the strength, but, on the contrary, renders the body more light and alert. On the other hand, it is hurtful when it brings on languor and weakness.

The Diarrhoea, that at first appeared serviceable, may become detrimental, by its too long duration, viz. if it lasts four or five days; for then the body is worn out by too long a flux, the intestines excoriate, a lively pain of the lower belly, with gripings,

gripings, succeeds, and the Diarrhoea degenerates into a Dysentery.

When the Diarrhoea requires any remedy, you may give the powder No. 44. and at night the potion No. 24. Veal broth with rice, and millet boiled in milk to a thickness, are proper food for the sick.

If the Diarrhoea does not stop in two days, the powder No. 44. and potion No. 24. must be repeated, and again in two days, if it should so long continue.

To avoid a relapse, let the patient, on his recovery, for four nights successively, take the bolus No. 45.

Care must be taken that he be well covered and cloathed, and guarded against the injuries of cold air.

T H E D Y S E N T E R Y.

A DIARRHOEA too long neglected often degenerates into a Dysentery.

BUT it most commonly happens, that it is not preceded by that disorder; and in the army it reigns during the heat of summer, and the beginning of autumn.

A FLUX of the belly, attended with violent gripings, and very painful strainings for stool, is called a Dysentery.

T H E

THE stools are not always accompanied with blood, as several physicians have pretended, who therefore have called this disorder *the bloody flux*.

NEVERTHELESS, the foecal matters are often reddish and bloody, especially if the disorder has lasted any time.

THIS distemper chiefly prevails among the troops. The causes that produce it are as follow :

THE bile grown acrid by the great heats and the fatigues of war ; especially if the soldier, when heated, suddenly exposes himself to cold air, or sleeps in his cloaths, soaked with rain : for which reason it is often brief in places, where cold nights succeed to hot days.

STAGNATING, or marsh water for common drink.

MEAT, or fish, beginning to be tainted, musty bread, or bread made of musty corn for food.

SURE and reiterated observations convince us, that summer fruits scarce ever cause the Dysentery ; but the excess of them may do hurt.

THIS distemper proceeding from the causes just described, soon infects a whole army : the healthy soldiers are more especially infected by the putrid exhalations of

the fœcal matters, if they use the same bog-houses as the sick.

THIS point must therefore be carefully attended to, when the Dysentery prevails among the troops: it would be proper to dig deep trenches to serve for necessities for the sick soldiers, to cover several times in a day the fœcal matters with earth, and to have other trenches reserved altogether for those in health.

To change the camp often would also be a proper means to stop the progress of this disorder; and by what has been said relative to the causes, it will appear necessary to take all possible care to avoid them.

THE manner of treating the Dysentery is as follows:

IF the sick is of a sanguine habit, and has great heat all over his body, or much Fever, he must lose eight or ten ounces of blood from the arm; but these symptoms are rarely met with.

As the Dysentery is seldom attended with a Fever, and then bleeding is of no use, it will be sufficient to give the patient the powder No. 46. in wine.

AFTER the first vomiting occasioned by the powder, he must drink warm water with a little honey in it; this will excite fresh vomiting; after which he is still to

be plied with warm water till he brings it up as clear as he drank it.

AFTER the patient shall have rested two hours from his last vomiting, you may give him some small slices of toasted bread, soaked in four ounces of cold wine; and to make it pleasant, a little cinnamon and sugar may be added. At night let him take the pill No. 47.

THE same remedies are to be repeated next day; and if the disorder is not entirely, or much abated, the third day again.

BUT if the distemper is considerably dismissed, it will be proper to leave a day's interval between the use of these remedies, before they are given a third time.

EXPERIENCE has shown, that instead of the powder No. 46. that No. 48. with the pill No. 47. at night, has been given with good success. This must also be repeated three times, leaving the interval of one day, except the Dysentery should stop sooner. If the remedy No. 48. be too weak for robust constitutions, the dose may be increased to ten or twelve grains. After these evacuations, the patient may, for several days, take at morning, noon, and night, one drachm of the electuary No. 49.

His drink must be two parts in three of barley or millet water, and one of new milk; and this is to be used in large quantities.

FOR food, milk thickened with barley, oats, millet or rice, may be given; and when the excessive stench of the stools is somewhat abated, meat broth thickened with the same pulses.

BUT if the malignity or duration of the distemper should have, in a manner, annihilated the strength of the patient, evacuating medicines must be laid aside, as he is already but too weak.

THIS is known to be the case, by the violence of the gripings and strainings, by the vacillating small pulse, by the pale countenance, by the nauseating all food, and by an unextinguishable thirst.

LET the patient take every hour one ounce of the medicated wine No. 50. and night and morning the pill No. 47.

As the bad symptoms begin to disappear, and strength to come again, let the powder No. 44. be taken in the morning, and in the evening, the Pill No. 47. to be repeated thrice, with one day's interval, if the disorder be not over sooner.

FOR some days after, let the patient take one drachm of the electuary No. 49. thrice a day.

SOMETIMES the intestines having been excoriated, by the frequent passage of acrid matters, the patient is very much incommoded with a continual inclination to go

to

to stool, tho' he avoids little or nothing : in this situation he is to have the glyster No. 51. and to retain it as long as possible.

IF, after the evacuations, there should remain such like pains in the lower belly, the patient would receive great relief, by swallowing, every day, an egg boiled soft, with a little fresh butter.

INFLAMMATION of the INTESTINES.

AN INFLAMMATION of the INTESTINES, a very dangerous distemper, often arises from the same causes as a Dysentery.

IT is discovered by a violent pain of the lower belly, which often increases upon the touch ; by the swelling of the belly, by vomitings, and by constipation. These symptoms are attended, at the same time, with an acute and continual Fever, and a violent heat : the pulse is hard, the urine clear, and of a bright red, and there is a sudden prostration of strength.

IF the symptoms are violent, most commonly death is soon the consequence. Before the patient expires, the pain ceases ; but the extremities become cold and livid, the face cadaverous, the pulse small, quick, and

and unequal. All these are signs of approaching death ; altho' the sick, and those about him, are apt to draw an happy omen from the cessation of pain.

COPIOUS bleeding is immediately to be had recourse to, and repeated boldly if the pains do not go off, or remit considerably ; or if they return again.

LET the patient take the glyster No. 52. three or four times in a day.

HIS belly must be constantly fomented with flannels steeped in the fomentation No. 12.

THE caul of an animal fresh killed sometimes produces a good effect.

LET the patient take every half hour a warm cup of No. 53.

IT is a good sign if the pulse becomes equal, and remains so, if the pain diminishes, the sick break wind downward, and the glyster bring away with it foecal matter.

SOMETIMES, notwithstanding several glysters, the belly remains obstinately constipated : in this case the fumes of tobacco injected thro' the anus have produced very good effects.

THE drink is to be warm barley water, and light broths the whole nourishment, until

until three days after the disorder shall have entirely ceased.

AND even then it will be necessary to observe an exact diet for some time, lest the Intestines, irritated anew by acrid food, occasion a relapse.

THIS distemper is indeed so violent, that if it does not quickly give way to proper application, it degenerates immediately into a mortal gangrene. But, by the careful use of the above recited remedies, one may hope to resolve the Inflammation of the Intestines.

IF this method has begun to be used too late, if the distemper lasts, without growing worse, three or four days, and a dead pain succeeds to the acute pain of the lower belly ; if at the same time the patient feels an unusual heaviness, and has wandering shiverings all over his body, it is certain there is an Abscess forming.

IN which case he must have the fomentation No. 12. constantly applied on his belly during the day, and at night a plaster of labdanum.

IF the Abscess seems to be ready to pierce externally, which may be if the Intestines adhere to the peritoneum, it must be opened to discharge the pus. But this case seldom happens.

IF the Abscess breaks in the cavity of the lower belly, the consequence is much to be feared, unless the matter can be drawn off directly, which is very difficult to be done: nor is it easy to judge of the existence of this case, because the quantity of matter from out of this Abscess is not considerable enough to cause any remarkable swelling of the belly.

THE pus is more frequently evacuated by the anus: the glyster No. 52. repeated several times, after suppuration is perfected, facilitates its course. By the smoothing of the internal coat of the intestines the evacuation of the matter becomes easier that way.

AFTER the pus is evacuated, whether alone or with the excrements, the patient must drink plentifully of the decoction No. 16. sweetened with honey, and is to take the powder No. 18. three times a day.

LET endive, lettuce, chervil, or such like tender herbs, be boiled in broth for his food; but it must be strained thro' a sieve, lest any thick substances should collect into a mass in the intestines.

LET him continue this method for three days after the pus shall have ceased passing thro' the anus; and by degrees he may return to his former way of living.

PHRENZY.

PHRENZY.

A PHRENZY is a continued delirium, attended with an acute Fever. It is thereby distinguished from the Delirium, which is sometimes observed in the height of Intermittent Fevers, and which finishes with the fit.

AN extreme heat, and a violent inflammatory head-ach, commonly precede the Phrenzy: the eyes and face are red; the patients, when asked questions, answer with ferocity; they pluck the knap of their cover-lids.

THE more frequent causes of this distemper are, the violent heat of the sun, to which the soldier is exposed, especially if bare headed, sleeping in that condition, long watches, extreme emotions of anger, excess of wine, brandy, or other spirituous liquors.

IN this distemper the pulse commonly is quick, and respiration strong, and not frequent.

A Phrenzy is very dangerous, and often occasions sudden death, for it is a true inflammation of the meninges, and sometimes even of the brain itself.

GREENISH vomitings, frequent spitting, shiverings, crude aqueous and pale urine, L. convulsions,

convulsions, and no thirst, are bad signs: bleeding piles, a flux of the belly, a copious hæmorrhage of the nose, give relief to the patient.

PAIN of the breast, or of the lower parts, is good in this illness: a strong cough coming on, sometimes also gives ease.

BLEEDING here is essentially necessary: it should be large, and chiefly in the foot: if the Fever and heat continue, it must be repeated: and it will be right, after the first bleeding of the foot, to open one of the jugulars.

THE bleedings must be repeated, till the extreme heat and the violence of the Delirium are abated. While the patient does not sleep, he must take every hour a cup of the remedy No. 54. warm.

FOR his common drink, the decoction No. 25. may be used, and night and morning the glyster No. 11. be given.

IF the hæmorrhoids swell, let leeches be applied.

IT will be proper to shave the patient's head, and to make him rinse his mouth often with warm water: let a compress dipped in oxyciate, or vinegar, and water, in equal quantities, be applied on his forehead: fresh and temperate air is most proper for him, and he ought to be kept sitting upright

right in his bed, with his head raised as much as possible.

IT would be also proper to make him rise twice a day, to set him in an arm chair, and bathe his feet in warm water. After the night bathing, the paste No. 55. should be applied to the soles of his feet, and lie on till morning.

DURING the whole time of the illness, he must be confined to plain barley water, or water gruel.

IF, after the use of these remedies, the Fever begins sensibly to grow less, and the Delirium to wear off, but the patient can get no sleep, let him have the emulsion No. 17. at night, with the addition of an ounce and a half of syrup of white poppies.

BUT anodynes must be carefully avoided, while the illness continues in its force.

AT the beginning of this dangerous disorder, all the remedies here recited must be vigorously employed: but when the heat and Delirium are considerably diminished, bleeding and glysters are no longer necessary, the drink No. 25. will be sufficient, and the nourishment may be a little stronger.

NOTWITHSTANDING the diminution of the symptoms, it happens often enough, that the Delirium does not entirely give way: but

but commonly it decreases insensibly, especially if several times a day, and as much as his strength will permit, the patient is made to sit up in an arm chair with his body upright.

HÆMORRHAGE of the NOSE.

AS Bleeding of the Nose is a pretty common symptom in ardent Fevers, almost always giving relief, and sometimes even curing the distemper, it is easily apprehended, that it must not be too lightly stopped.

BUT sometimes the Bleeding of the Nose is so violent, both in sick persons, and in those who are in health, that bodily strength is so wasted, as to bring on total faintings, so that even death may ensue.

IN this case, the too violent Hæmorrhage must be stopped. To judge when this ought to be done, requires a little attention to the following considerations.

WHILE the pulse keeps full, and the heat of the body is every where equal, even to the extremities, and the lips and the face keep their red colour, there is no fear from the Hæmorrhage, was it even violent.

BUT

BUT when the pulse begins to undulate, and the face and lips grow pale, it is time to stop the bleeding.

THE means of stopping it are, applying bandages to the arms and thighs of the patient, because the veins being thereby compressed, the reflux of the blood to the heart is in less quantity. The Hæmorrhage stopped, the bandages are not to be loosed all at once, but successively one another, in such a manner as to let space of a quarter of an hour between the loosening of each bandage.

IF, by the application of the bandages in the manner described, the Hæmorrhage is not stopped, or if it comes on again before taking them off, the following method is to be used :

LET a tent of lint imbibed in the styptic No. 56. be put up that nostril from which the blood came. If some lint dipped in the styptic be wrapped round a quill, it will be easily introduced up the nose: at first, for about half an inch, it must be put up horizontally, then raising the quill insensibly, it is to be pushed gently, and by this means the lint introduced as far as possible without hurting the adjacent parts. Afterwards, by gently compressing the nostrils, the quill may be withdrawn, and the lint left in the nose,

nose, where it is to remain for a day or two, till it falls out of itself.

THE agaric of the oak is also an efficacious remedy for stopping the bleeding. Some of the powder No. 57. may be blown through a quill into the patient's nostrils.

A CONTINUED FEVER.

A FEVER, that lasts from the moment of the first access, without interruption, to the end of the disease, is called a continued Fever.

THE principal causes of Fevers of this sort in an Army, are, excessive fatigue, and extreme lassitude, which is its consequence, especially during the heat of summer, if the soldier is under the necessity of enduring thirst, or drink too much spiritous liquors.

FOR the most fluid and lightest parts of the blood being by these means lost; what remains, grown more thick and acrid, is in a state to occasion great disorders, and above all inflammatory ones, because the mass of humours so thickened is now greatly disposed to inflammation.

WHEN a Fever of this sort produces a topical inflammation, the disease takes its name

name from the part affected : for the Pleurisy, Peripneumony, Phrenzy, sore Throat, (*Quinzy,*) Inflammation of the intestines, are often preceded, and always accompanied with a continued Fever.

BUT when it happens that some of the above recited causes occasion this Fever, and that it affects no part in particular, it is called simply a Continued Fever.

THIS Fever is known by the causes that precede it, by the vigour of the time of life, and a hot and sanguine constitution, by a hard and quick pulse, and chiefly by its extreme heat, which burns, as it were, the fingers of him who touches it. The urine is red, thick, turbid, the tongue dry, the thirst great ; often an intolerable pain of the head, and an obstructed respiration.

THIS disease, always dangerous, is more or less so according to the violence of the described symptoms.

LARGE bleedings are necessary in the beginning, which are to be repeated till the great heat and dryness of the tongue begins to abate. Barley water is the common and proper drink ; but to every pint should be added an ounce of the remedy No. 31. of which let him take largely ; let there be given him every two hours a cup of the decoction

cocction No. 54. and twice a day the glyster No. 11.

THIS method is to be continued till the decline of the distemper, which is known by the diminution of heat, of the quickness of the pulse, and of thirst; by the humidity of the mouth and tongue, by the urine being not so high coloured, and by the sediment it then deposes. The same regimen to be observed as in the Pleurify.

As the disease grows milder, the decoction No. 25. will be sufficient for common drink, and let the diet be gradually augmented till he is quite well.

IT is highly necessary to observe, that there is also another sort of Continued Fever, without an inflammatory thickness of the blood, but rather occasioned by a putrid dissolution of the humours. This last sort is much worse, and more dangerous than the other, and very often this Fever proves contagious.

THIS happens most frequently, when, during the great heats, the Army is encamped in marshy places; for then they respire an air corrupted with bad effluvia. This sort of Fever prevails also very much, where many men, even were they healthy, are lodged together in a narrow space, where the air cannot be renewed
oste

often enough. Ships of war and hospitals, where the sick and wounded are much straitened, are frequently visited by these Fevers, especially if the air cannot be refreshed often enough; because the air then to be respired is so corrupted by the effluvia from the bodies, the stink of the excrements, and the putridness of the gangrened parts, that it engenders a very bad, and truly putrid Fever, which soon grows contagious. It is therefore sometimes called the Jail or Hospital Fever. Its particular symptoms should be exactly described, thereby to know this distemper.

IT begins by a shivering, followed by a heat, but not violent; soon after, the shivering again, after which the heat, and so the shiverings and heat alternately.

TOTAL loss of appetite, sleep disturbed, and without refreshment, a heavy pain of the head, affecting especially the anterior part: the pulse is almost as in a natural state: the skin is not always very dry: the sick languish on in this manner some days, without being able to attend their business, yet without being obliged to keep their bed. The tongue is seldom dry; it is more commonly soft, moist, and covered with a sort of crust of yellowish green. The patient dozes much, sleeps little, and seems quite absorbed in profound reveries:

in the progress of the illness, comes on a trembling of the hands, hardness of hearing, and dimness of sight; the pulse begins to grow feeble, and the patient is desirous of cordials and wine. Towards night, all the symptoms grow worse: lastly, at different times during the course of this distemper, there appear purple spots of an irregular figure.

THE following symptoms are considered as mortal: A sudden prostration of strength, weakness of the sight: the posture of the sick, stretched on his back, and drawing up his knees to him; reiterated efforts to get out of bed, black aphthæ, livid petechiæ, and stripes also livid, resembling the blow of a whip spread over the body; the flux of the belly, with lead coloured or blackish stools, weaken the patient more and more.

DEAFNESS is not a bad symptom in this distemper. Nay, it has been observed, that patients on their recovery are apt to grow deaf, and that sometimes they have an Abscess in the conduit of the ear.

BILIOUS stools, thick urine, a moist tongue, are good omens, especially if the patient keep up his strength.

A NUMBER of little red pustules, or white and elevated miliary ones, are good

if at the same time expectoration is easy, and the urine deposes a thick sediment. Lastly, it is counted a good sign, when an easy sweat comes on, and relieves the patient, or the parotids swell, or there appear white apthæ.

As the causes here recited indicate that all things tend to putrefaction, and that the strength is extremely exhausted, bleeding can seldom be of use, unless in replete habits, and that but once: for large bleedings abate the strength immediately, and occasion a Delirium. It is very necessary that the air be often renewed.

In case of a nausea, or weight felt about the region of the stomach, or that the tongue be covered with a yellowish green crust, the patient must take the emetic No. 27. and after the first effect of this powder, let him drink plentifully of warm water, that he may vomit easy, which is to be repeated, as has been said in the article of Intermittents.

THE evening after the emetic, let the patient take the bolus No. 58. and drink after it six ounces of the whey No. 59. If milk cannot be procured, the decoction No. 25. may be substituted in its room, observing to add two ounces of wine, and half an ounce of oxymel, to every pint. This whey,

or

or decoction, may serve for common drink, especially as the sick are fond of vinous and comforting drinks, and that these drinks are suitable to this distemper.

LET him take every six hours the powder No. 60. with six ounces of the above whey, or decoction.

DEATH, preceded by great anxiety and convulsions, is often the consequence of extreme languors, when the purples disappear, or the miliary spots strike in: in which case a spoonful of the mixture No. 61. is to be immediately given, with three ounces of the whey or decoction No. 25. to be repeated every three hours till he finds ease, and the purples appear again, or the miliary spots rise; after which the same remedies are to be continued every four hours only. If, in consequence of this method, an equal breathing sweat comes on through the whole body, the patient finds great ease thereby. If the belly is constipated, let the glyster No. 52. be given.

It is proper to discharge the patients from out of the hospital, as soon as they begin to recover, that they may breathe a purer air; otherwise a relapse is much to be feared, which is seldom or never got over.

THE

THE SCURVY

THIS is a common distemper, and of difficult cure, more especially in sieges and unhealthy places, where sometimes the troops are obliged to take up their winter-quarters.

IT begins by a numbness of the limbs, with an unusual lassitude of the whole body : after walking, the limbs and muscles feel quite fatigued, and, as it were, broken. In the increase of the distemper, respiration becomes short and difficult ; sometimes the thighs swell ; at first the face is pale, then grows brown, and the skin is stained with spots of different colours, the mouth begins to smell, the teeth loosen in the sockets, the gums swell, itch, grow painful, and bleed on the least touch ; lastly, wandering pains affect different parts of the body.

IN the progress of the distemper, the gums putrify and exhale an horrid stench ; the teeth grow yellow, then black and carious. Sometimes happen violent hæmorrhages ; very bad conditioned ulcers break out, especially on the thighs ; the patient feels violent and painful shootings in all his limbs, which increase in the night, and the body is covered with black spots. At this period
the

the distemper suddenly grows worse, Fevers come on of different kinds, every thing grows quickly putrid, and mortal hæmorrhages break out of the mouth, the nose, or about the anus; the viscera putrify; and faintings succeed, which are soon followed by death.

THIS distemper is frequent in winter quarters, from the following causes.

NOISOME vapours, arising from marshy grounds and stagnating waters, inaction, scarcity of greens and vegetables, drinking of corrupted and stagnating waters, the use of salted and smoaked flesh and fish, and of cheese too old and acrid; damp and low lodgings, and not being open to the course of the winds.

FEAR and sorrow also occasion this disorder, and increase it in those already attacked with it. By that, and by bad food, it often makes such ravages in besieged places.

EXPERIENCE shows, that the humours in this disease are not only putrid and acrimonius, but also condensed.

THEREFORE, in the cure, care must be taken to attenuate the viscofity of the humours, and to prevent or correct putrefaction.

WE are to lend all the assistance of art to

to prevent, or avoid the causes of this evil, and thereby preserve the soldier from the ravages of this distemper.

FIRST, by correcting the impure waters. This is done by mixing two ounces of vinegar, and two uncies of brandy, to every pot of water. For want of these, some slices of calamus aromaticus may be steeped in the water. This is a sort of reed, very common, growing almost every where, in such low, marshy, and damp grounds, as are most subject to the Scurvy.

STRONG purges, vomits, and bleeding, do no service in this distemper.

BUT as bad nourishment is one cause that produces the scurvy, the stomach and intestines must be cleared, and evacuated, which is easily done, by gentle and reiterated purges, such as No. 34. to be taken three times, with the interval of a day between each.

THE food should be broth, with chervil, sorrel, spinage, lettuce, endive, succory, cabbage, especially red cabbage, young nettle buds and tops, or any other sort of tender herbage, boiled in it; the preference to be given to those easiest to come at.

FRUIT quite ripe, used moderately, always produces a good effect: but if neither fruit nor greens can be procured, the patient

tient must have his broth with barley, oats, or rice; he may eat likewise a little veal, or fowl, but it must be moderately.

AFTER the use of light purgatives, anti-scorbutics will be proper, but which are to be varied according to the different constitution of the patient.

IF he feels himself cold, his face pale, his legs swell, and his thirst is not great, let him take two ounces, that is, about a tea-cup of the decoction No. 62. thrice a day.

IF he is hot, his pulse feverish, his thirst great, his breath bad, his gums bleeding and half putrid, the decoction No. 62 is not so proper as No. 63. to the quantity of three ounces thrice a day.

RIPE fruits, and roasted apples and pears, easy to be procured, are also very proper.

THE remedies are to be continued a great while. When the limbs move easier, and the pain diminishes, the distemper grows better, and then exercise and good food will be sufficient to compleat the cure. To carry off all relicks, it will be proper, on recovery, to take fifty drops of the elixir No. 64. in wine and water, equal quantities, thrice a-day.

ALTHO' it be certain, that when the distemper is at an end, the symptoms ought

ought likewise to cease; yet it is no less true, that after the scurvy, we often see those who have been attacked by it subject to ulcers of the gums, lips, inside of the cheeks, and of the palate, which soon spread, and corrode these parts, and in a little time turn to a gangrene. These ulcers often deceive those who do not rightly understand them: they appear in form of white or yellowish spots, red, and inflamed round the border, and often very painful. A great stench accompanies them, and the spittle, which comes in plenty, is also of a bad smell. This evil requires an immediate remedy, otherwise all would soon be infected with a gangrenous putrid humour, the teeth would fall out of the sockets, the jaws would be affected, and entirely corrupted.

BUT this disorder is easily got the better of, by touching the parts lightly and often in the day with a little lint dipped in the preparation No. 65. Little compresses, imbued with the same, may also be applied between the guins and lip, and renewed from time to time.

CARE must be taken not to rub the parts affected too much, as is the bad custom of some, for the evil and pain is thereby augmented.

IF the stench is great, and the ulcers extend themselves rapidly, the quantity of spirit of sea salt is to be augmented, till you get the better of the gangrenous corruption.

THE GANGRENE.

AS mention has been made of the gangrene, it may be here proper to take notice, that the bark taken internally is a most efficacious remedy for this disorder, whatsoever part is attacked.

THE patient is to take every four hours one of the powders No. 30. till the gangrene begins to separate from the sound parts, and a good suppuration comes on: at which time it will be sufficient for him to take them twice a-day till the ulcer is mundified.

THE bark is equally proper, when the scorbutic ulcers of the inside of the mouth threaten to gangrene.

LUES VENEREA.

VENEREAL disorders are always caused by contact, communicated by the infected to, even, the soundest bodies.

THIS

THIS contagion produces many different disorders, which, according to the different parts of the body where it fixes, go under different denominations.

SMALL ulcers appearing at the extremity of the penis, or on the prepuce, are called venereal shancres: if the nervous papilæ of the genital parts form little elevations like warts, they are called venereal verrucæ: if the internal superficies of the urethra is affected, there arises a difficulty and pain in making water, named a strangury, and a running of a yellowish, greenish, or sometimes brownish matter; it is then called a gonorrhœa; if swellings in the groins, buboes.

WHEN the virus having gained the blood circulates with the humours, where-ever it stops, it produces evils of different kinds, for instance, pustules, and spots upon the skin, that sometimes degenerate into filthy crusts: ulcers in the adipose membrane, not giving way in the least to such medicines as are proper in other ulcers; which corroding the adjacent parts, leave profound and frightful cicatrices: these ulcers no sooner disappear from one place, but they quickly show themselves again in some neighbouring part.

THE throat most frequently, and the roof

roof of the mouth, are corroded little by little by this distemper: there appears in these parts a spot, resembling bacon; the voice becomes hoarse, the action of swallowing is attended with pain, and the spot we spoke of gaining ground by little and little, destroys all the soft parts, and at length attacks the bones of the palate and mouth; which grow rotten and fall in, and leave for the rest of life a deformity, for which there can be no remedy.

THIS distemper, especially if it is invertebrate, attacks also the bones, and causes swellings on them, which if soft, are called tophi or gummi; if hard, nodes or venereal exostoses; whence ensue very bad caries, with intolerable pain, worse in the night, the warmth of the bed increasing it; but rather easier in the day.

WHEN the bones are corroded even to the marrow, the cure is extremely difficult, and tho' cured in appearance, it often returns.

THIS distemper may be easily known by the described symptoms.

THE following is a safe method of treating it.

LET the patient take, night and morning, one spoonful of the medicine No. 66; drinking after it a pint of barley water with a third

a third of milk in it, using the same for his common drink : if milk is difficult to get, the decoction No. 67. may be substituted in its room.

This medicine gives no manner of trouble to the patients ; to some it procures some light stools, but this seldom ; in others it works by urine and sweat. Its use may be continued with the greatest safety till all the symptoms of the disease have absolutely disappeared.

If the weather is mild and temperate, the patient may go out; but in cold and damp weather, it is better he should keep his room.

If the medicine seems to act too slow in robust habits, or when the distemper is inveterate, the dose may be augmented to a spoonful and a half : and if in some days the symptoms do not diminish, two spoonfuls may be given every night and morning, in all four spoonfuls a-day.

The time the patient is to continue the use of this medicine, cannot be exactly limited : often, if the distemper is not very bad, the cure is performed in three weeks ; if inveterate, it takes up more time. But it may certainly be used along while without the least inconvenience.

When the ulcers cleanse, and cicatrize,
when

when the rotten parts of the bone separate and fall off, and when the tumours and nocturnal pains diminish, the distemper gives way to the remedy.

As to the regimen of the diet, let the patient have broths with barley, rice, or oats, or tender greens, his flesh meat lean, milk diet, and ripe fruit.

FAT and smoaked or salted meat, especially bacon, are bad.

THE following remark is necessary to be attended to. Sometimes a salivation comes on from the use of this medicine, but this is but seldom, and almost only to those who have before made use of mercury, either internally or externally: nevertheless, salivation not being necessary to the cure, the use of the medicine No. 66. is to be left off immediately on the first signs of a spitting coming on.

BUT the decoction No. 67. may be still continued.

THE signs of an approaching salivation are as follow.

THE gums begin to swell, to grow red, to itch, and become painful, and the breath to smell ill. As soon as these symptoms are remarked, the use of the remedy No. 66. must, as has been before said, be suspended: but if in eight or ten days these symptoms

symptoms disappear, and the patient is not cured, it may again be used.

IF he has a gonorrhœa, he must drink plentifully of the decoction No. 67. to take off the acrimony of the urine; he may bathe the penis thrice a-day, for a quarter of an hour at a time, in equal quantities of water and milk warm.

IF, by suppression of the gonnorrhœa, or from any other cause, a testicle becomes swelled and painful, and the scrotum red; let him be bled immediately, the fomentation No. 12. applied to the testicle, and let him drink plentifully of the decoction No. 1. adding twenty grains of nitre to each pint. After the redness, swelling, and Fever, which often attend swelled testicles, are appeased, it will be proper to make use of the remedy No. 66.

IF venereal buboes grow hard, a plaster of galbanum is to be applied.

T H E I T C H

IS a very troublesome distemper to armies, and immediately spreads by contact, unless the affected soldiers are separated from those who are well.

THOUGH all the external parts of the body

body may be affected, yet the Itch most commonly shows itself first on the hands, principally between the fingers : first appears a pustule, or two, full of a sort of clear water, which itch extremely : when these pustules are broke by scratching, the water that issues out communicates the disorder to the neighbouring parts. It is not easy in the beginning to distinguish the Itch, unless one is well acquainted with this disorder : but in its progress the pustules augment both in number and size ; and when opened by scratching, a disgusting crust is formed, and the evil gains the superficies of the whole body.

HITHERTO the Itch hath its seat between the epidermis and the skin ; but if it continues long, it makes way through the skin into the membrana adipota, where it forms small ulcers, commonly in great number. This sort of Itch is the nastiest and worst, and at the same time extremely contagious.

IT is to be treated in the following manner.

THE body is to be kept clean, and linen often changed : if the season of the year permit, they must bathe, and in waters impregnated with sulphur, if they can : if they cannot, experience shews, that to bathe

in

in running water will be of service. The shirt, breeches, and stockings, are to be scented with brimstone before they are put on: but this fumigation must be made in the open air, lest the sulphurous vapours should do hurt, if taken in by respiration:

LET the patient take the purging powder No. 68. in the morning fasting, and repeat it every eight days.

ON the intermediate days, let him take, morning, noon, and night, one of the powders No. 69.

LET the parts affected be anointed every night with the ointment No. 70.

IF the Itch covers both the whole body and all the limbs, they must not all be anointed together at once; but you may begin by the hands, and the arms; continue the next day by the feet, legs, and thighs, and the third day the body; the fourth day to begin again by the hands and arms, the fifth the feet, &c. and so on to the entire cure.

WHEN the pustules are dry, the crusts fall, and the ulcers disappear and return no more, the patient is well.

SOME spots will, indeed, remain on the skin, but these marks wear off insensibly, and in time quite disappear.

THE patient must abstain from all manner of salt food during the cure.

WORMS.

SOLDIERS are frequently troubled with worms. Bad food, unwholesome water, and other causes engender them. Vertigoes, nausea, sudden swellings of the lower belly, especially after meals, the heart-burn, grumbling in the bowels, and troublesome itching of the nose, are indications of Worms. Some have a voracious appetite, others lose it entirely : the face is pale, and sunk.

BUT all the signs here described are not all found at the same time in each patient ; but the more of them are discovered, the more certainty we have of the distemper.

BUT, after all, the most convincing sign is, when the sick void Worms, by vomit or stool.

ALL the cure consists in expelling them out of the body, but this is not easy ; for Worms are found to stick, as it were, to the Intestines, since otherwise they would come away with the excrements.

IT will, therefore, be proper, in order to get the better of them, for a couple of days to give the patient somewhat, that by its smell may, in some manner, infect

fect the intestines; after which to give a rough purge.

LET the patient take five grains of asa foetida in pills every three hours, for two days.

THE third day let him have the purging powder No. 71. in the morning fasting, taking after it a light broth, to be continued from time to time, till the medicine has done working.

IF, after this process, the symptoms do not disappear, in eight days time the whole must be repeated.

RECIPES.

R E C I P E S.

T R E A T I S E on the referred to, in the foregoing

D I S E A S E S O F T H E A R M Y.

1. TAKE of the species for the pectoral decoction three ounces. Boil in a sufficient quantity of water for half an hour, to strain three pounds.

2. Take of the mass for pil. cynogloss. eight grains. Make two pills for a dose,

3. Take of the species for the emollient decoction six ounces. Boil in sufficient water to the thickness of a cataplasm, adding towards the end mustard seed bruised one ounce, for a poultice.

4. Take flower of elder one ounce. Let it just boil up in a sufficient quantity of water in a close vessel: then digest warm for half an hour; strain two pounds. To which add, rob of elder one ounce and a half, pure nitre forty grains. Mix.

5. Take flower of elder, and red roses, of each half an ounce, pure nitre one drachm. Mix. Infuse a pugil of this in warm water for tea.

6. Take leaves of senna six drachms, water scurvy grass two drachms, agaric one drachm, tamarinds half an ounce.

Boil

Boil for a quarter of an hour, in water enough ; strain two ounces, add syrup of rhubarb half an ounce. Mix for a draught to be taken at once.

7. Take of the species for emollient decoction four ounces. Boil for half an hour in water enough to strain three pounds.

8. Take of the residue after the straining of the last, at will, add meal of lintseed, oil of lintseed, of each two ounces. Mix for a cataplasm.

9. Take flowers of red roses two pugs, agrimony one handful. Mix. Infuse like a tea for a gargarism. Add a little honey.

10. Take honey of roses half an ounce, spirit of sea salt, twenty drops. Mix.

11. Take species for the emollient decoction two ounces. Boil in water sufficient, for half an hour ; strain one pound. Add simple oxymel two ounces, pure nitre one drachm. Mix for a glister.

12. Take species for emollient decoction three ounces. Boil an hour in water sufficient ; strain four pounds. Dissolve Venice soap two ounces. Mix for a fermentation.

13. Take

13. Take pure nitre one drachm and a half, crabs claws two drachms, syrup of wild poppies two ounces, barley water ten ounces. Mix.

14. Take oil of sweet almonds, or, instead thereof, best olive oil, two ounces, one yolk of an egg; to them well beat up, add pure honey one ounce, Mix for a linctus.

15. Take kermes mineral three grains, crabs claws twenty grains. Mix.

16. Take Paul's betony, agrimony, ground ivy, golden rod, of each equal parts. Infuse in warm water for tea.

17. Take cucumber seed half an ounce, sweet almonds blanched No. 8. bitter ditto No. 2. Mix with barley water one pound: strain for use, for an emulsion.

18. Take myrrh fifteen grains, crabs claws half a drachm. Mix for a powder.

19. Take of the mass for pills of horehound six grains. Make two pills.

20. Take balsam capivi half a drachm, a yolk of an egg. To them, well rubbed in a glass mortar, add pure honey one ounce. Mix.

21. Take coltsfoot, scabious, tops of St. John's wort, of each one handful; powdered

R E C I P E S. 107

powdered liquorish two ounces. Mix. Infuse for tea.

22. Take pure nitre one drachm, crabs claws two drachms, syrup of marshmallows one ounce, barley water ten ounces. Mix.

23. Take rasping of sassafrass two ounces, of the three saunders, of each two drachms, powder of liquorish one ounce. Mix. Infuse for tea.

24. Take liquid laudanum of Sydenham, fifteen drops, syrup of diacodium half an ounce, barley water one ounce. Mix for a draught.

25. Take of the species for the antefebile decoction three ounces. Boil for half an hour, in a close vessel, in sufficient water; strain four pounds for use.

26. Take tartar emetic fifteen grains, a powder for one dose.

27. Take root of ipecacuanha half a drachm, a powder for one dose.

28. Take powder of carnachini forty grains,

29. Take sal. polychrest two drachms, tartar of vitriol one drachm, syrup of five opening roots two ounces, barley water half a pound, distilled water of lemon peel two ounces. Mix.

30. Take

30. Take finely powdered bark one ounce, to be equally divided into twelve papers.

31. Take purified honey three pound, best wine vinegar, one pound. Mix.

32. Take cream of tartar forty grains, sal. polychrest twenty grains. Mix. Several of these doses to be given as occasion may require.

33. Take theriaca diatessarion, conserve of wormwood, of each one ounce. Mix.

34. Take pill. rufi thirty grains. Make seven pills.

35. Take oxymel of squills two ounces, sal. polychrest two drachms, vitriolated tartar one drachm, common water eight ounces, spirit of mint half an ounce. Mix.

36. Take sal. polychrest two drachms, tartar of vitriol one drachm, theriaca diatessar. three ounces, syrup of five opening roots, enough to make an electuary.

37. Take dog grass half a pound, dandelion, with leaves and all, four ounces. Cut and bruise them, and boil in a sufficient quantity of common water, or whey if conveniently to be had, for half an hour; strain by strongly pressing two pounds. Add pure honey three ounces. Mix.

38. Take tops of common wormwood two ounces, roots of calamus aromaticus, gentian, imperatory, of each one ounce, bay berries one ounce and a half, juniper berries three ounces, wild carrot seed one ounce. Cut, bruise, mix. Infuse warm in a close vase, in, either good wine or mead, eight pounds, for twenty four hours.

39. Take squills fresh half an ounce. Infuse in good wine two pounds.

40. Take camphor one drachm. Dissolve, by rubbing it with oil of sweet almonds one ounce, in a mortar.

41. Take distilled oil of anniseed gutt. 45 white sugar forty grains, powdered rhubarb fifteen grains. Mix for a powder.

42. Take distilled water of mint eight ounces, spirit of mint half an ounce. Mix.

43. Take distilled cinnamon water one ounce, barley water half a pound, pure opium three grains, crabs claws one drachm and a half, syrup of white poppies half an ounce. Mix.

44. Take best rhubarb one drachm, citrine myrabalans half a drachm. Mix for a powder.

45. Take Venice treacle one drachm, for a bolus.

46. Take ipecacuanha forty grains in a powder.

47. Take crude opium one grain in a pills
48. Take waxed glass of antimony eight grains in powder.
49. Take bole armoniac six drachms, gumm. arabic. one drachm, Venice treacle one ounce and a half, syrup of wild poppies, enough to make an electuary.
50. Take good wine half a pound, barley water one pound and a half, cinnamon water one ounce, white sugar six drachms. Mix.
51. Take pure turpentine two drachms, one yolk of an egg. To them, well mixed, add Venice treacle half an ounce, pure milk five ounces. Mix for a glyster.
52. Take species for emollient decoction two ounces. Boil in water enough for half an hour; strain ten ounces; add lintseed oil two ounces. Mix for a glyster.
53. Take leaves of marshmallows two handfuls, roots of ditto one ounce, bruised lintseed two drachms. Boil half an hour in water enough to strain three pounds. Add, pure nitre one drachm, pure honey three ounces. Mix.
54. Take tamarinds three ounces. Boil a quarter of an hour in water enough to strain three pounds. Add, pure nitre one drachm, honey two ounces. Mix.
55. Take meal of mustard seed one ounce, linseed one ounce and a half, beans one ounce, common salt two drachms, vinegar

enough to make a paste, to be applied to the soles of the feet.

56. Take white vitriol one drachm, common water one ounce. Mix.

57. Take agaric of the oak, powder it.

58. Take Venice treacle one drachm, salt of hartshorn ten grains. Mix for a bolus.

59. Take new milk two pounds, generous white wine four ounces. Boil for an instant; strain the whey from the curd for use.

60. Take Virginia serpentine root, contrayerva root, of each ten grains, bark half a drachm, camphor four grains. Mix for a powder.

61. Take camphor one drachm. Dissolve, by rubbing in a mortar, and dropping on spirits of wine rectified, twenty drops. Add, white dry sugar two ounces, rub them well together, pour on white wine vinegar ten ounces. Mix. Keep in a well stopt glass vase for use.

62. Take horse-radish root, fresh gathered and sliced thin, four ounces, leaves of scurvy-grass fresh gathered, marsh trefoil, of each two handfuls; sage, one handful. Cut, mix; infuse in generous wine six pounds, in a close vessel, with a gentle heat, for twenty-four hours; strain for use.

63. Take root of sharp pointed dock, polypody of the oak, of each half an ounce, chrystals of tartar three drachms. Boil for

half an hour in milk three pounds ; strain ; Add, honey, one ounce and a half. Mix

64 Take spirit of scurvy-grass two ounces, elixir proprietatis Paracelsi one ounce. Mix.

65 Take spirit of sea salt one drachm, honey of roses one ounce and a half, common water five ounces. Mix.

66. Take corrosive sublimate twelve grains, rectified malt spirit two pounds. Keep in a clean glass vial, till the mercury hath voluntarily dissolved.

67. Take root of marshmallows two ounces. Boil in a sufficient quantity of water for an hour, adding near the end powdered liquorish one ounce. Strain four pounds.

68 Take scammony fifteen grains, fine sugar ten grains, Ethiops mineral twenty grains, diaphoretic antimony twenty grains. Mix for a powder.

69. Take flower of sulphur thirty grains, Ethiops mineral ten grains. Mix for 21 doses.

70 Take Ethiops mineral one ounce, hogs lard three ounces. Mix for an ointment.

71. Take Turbith mineral five grains, root of jalap forty grains, finest white sugar twenty grains. Mix ; rub to a very fine powder in a glass mortar.

EXTRACTS

FROM THE

MARINE PRACTICE

OF

PHYSIC AND SURGERY.

WITH SOME BRIEF DIRECTIONS TO BE
OBSERVED BY SEA-SURGEONS
IN ENGAGEMENTS, &c.

BY WILLIAM NORTHCOTE, SURGEON,
MANY YEARS IN THE SEA-SERVICE.

Including,

The NATURE and TREATMENT,
of
GUN-SHOT WOUNDS.

BY JOHN RANBY, Esquire; SURGEON GENERAL
TO THE BRITISH ARMY.

PHILADELPHIA:

Printed, and Sold, by R. BELL, in Third-Street.

MDCCLXXVI.



OF WOUNDS OF THE VEINS,
ARTERIES, NERVES, AND TENDONS;
WITH OBSERVATIONS.

IN Wounds of the Veins, the blood flows with a smooth even stream, of a gross consistence and dark color; and is ordinarily restrained by the common methods, such as dry lint, styptics, &c.

If an Artery is wounded, the blood flows impetuously and per saltum, and is of a florid color; to suppress which, if the orifice be accessible, make a ligature on the Artery with a crooked needle and waxed thread, which is the surest and best method: but the hæmorrhage may be suppressed by the torniquet, till the ligature can be made. If it be not accessible, and the Artery runs along the side of a bone, apply a suitable bandage, compresses, or bolsters. It is not necessary to compress it so much as totally to preclude the accession of any blood, but only to impede its efflux, and retain the thrombus, so as to grow to the sides of the divided arterial coats. It requires great judgment, however, not to let the compression be too small, to prevent an Aneurism. But if the wounded artery lies within a bone which prevents its lateral compression, the only means remaining is to apply dry lint, and retain it forcibly against the divided orifice. Neither styptics nor cauteries should ever be used to suppress an hæmorrhage when ligature or compression can take place.

If a large Nerve be totally divided, at

WOUNDS OF THE VEINS, &c.

first it causes excruciating pain and inflammation by contracting and stretching the other branches communicating with it; afterwards the part becomes paralytic, and either fades by an atrophy, or is consumed by a mortification. For the arteries being no longer able to propel their contained fluids, for want of the Nerves which supply their coats, the humors are accumulated, stagnate, corrupt, and mortify the part. But if the Nerve (or even a Tendon) be only half divided, there follows a continual and slow laceration, a spreading inflammation, excruciating pain, fever, delirium, convulsions, &c. with a gleet, or thick serous discharge; which symptoms are in proportion more violent as the Nerve is more distended or stretched.

In order to the cure, if the Nerve lie covered, under the skin and membrana adiposa, dilate the Wound, that the medicaments may penetrate to the part. Dress with bals. peruv. warm (dropped in) a pledget of soft digestive, and an emollient poultice, with a proper bandage to take off the distension. Wounds of the Tendons and Ligaments are to be dressed after the same manner, only the applications should be more drying.

In the use of these, if the patient feel the heat of the topics moderate, then they are rightly fitted: if the part itch and smart, and the aperture become wider, the topics are stronger than they ought to be. O F

OF GUN-SHOT WOUNDS, THEIR NATURE AND TREATMENT; WITH OBSERVATIONS.

“**G**UN-SHOT Wounds, of all others, are more complicate, and much more difficult of cure, than an incised Wound, even with loss of substance: because here the fibres and vessels being lacerated, their juices extravasated, and their texture destroyed, a large digestion or suppuration is necessary to remove the injured parts, before the Wound can be incarned and healed; and hence also the symptoms of inflammation, pain, &c. are commonly more violent in Contused Wounds.”

“ They are more or less dangerous, according to their extent, and the part in which they are seated. Those which extend into the bones, viscera, or joints, are of the worse kind; and especially when any of the wadding, cloths, or splinters are carried into the part together with the ball; for the consequences, in these cases, must be inflammations, gangrenes, caries, &c. which make an amputation necessary. But Gun-shot Wounds in the cranium are above all the most malignant and fatal; though even here we have often surprising instances

instances of cures made by art and the efforts of nature, when the case has appeared to be desperate."

"The following method is extracted from Mr. Raaby's excellent Treatise on Gun-shot Wounds, whose penetrating judgment, and great experience in such cases, must be universally acknowledged."

"The first intention, in regard of accidents caused by a musket or pistol ball, is, if possible, to extract the ball, or any other extraneous body that may be lodged in the wounded part. And whenever these casualties are attended with a great effusion of blood, from the rupture of some considerable arterial vessel, it will be absolutely necessary, with all imaginable dispatch, to restrain the bleeding by taking up the artery with the needle; and, at the same time, to be particularly careful that your hold proves no way elusive. There is no depending on any applications, however styptic, on these occasions."

"In order to get at the ball, or any other foreign matter that infects the wound, I would advise probing or poking to be used as sparingly as possible; having constantly experienced, through the whole course of my attendance in these cases, that such a method is highly detrimental to the patient: and,

and, indeed, where probing is necessary, I would always prefer the finger as the best and truest probe."

" If a ball, or any other body happens to be lodged near the orifice, or is found by the touch to lie under the skin, though at some distance from the mouth of the Wound; in the first case it is requisite immediately to remove such extraneous matter; and, on the other occasion, to cut upon it, and take it out. But when it is sunk deep, and lies absolutely beyond the reach of the finger, I could never bring myself to thrust those long forceps the Lord knows where, with scarce any probability of success."

" A great number of instances have occurred to me, where balls have been quickly lodged in the body; till, after many years, they have worked themselves a passage towards the surface, and were consequently very easily extracted. In case the wound be occasioned by a musket or pistol shot, and consequently but small, it will be necessary to dilate it immediately: yet, I think, in Wounds near a joint, or in very membranous or tendinous parts, the knife, as well as forceps, should be put under some restraint; nor any more opening made, than

than what is absolutely requisite for the free discharge of the matter lodged within."

"Wounds in the joints are always dangerous, let them proceed from whatever cause, whether a bullet, or any cutting instrument; and membranous or tendinous parts must undoubtedly suffer from their being thus exposed to the very sensible impressions of the air. I could produce many instances of balls going through muscular parts, and the Wounds being healed with very little trouble. And I have known Wounds of the skull from a broad-sword (both tables having been cut through, and a considerable piece loosened) which were suffered to bleed for several hours, and did well; nor were attended, at least very seldom, with any feverish complaint; which was probably owing to the great quantity of blood lost immediately after the parts had been injured. If the ball has gone quite through, both orifices are to be widened (if in a part where it can be done with safety) and particular care is to be taken to preserve both openings, that especially which is the most depending. No tents are to be made use of, where there is any possibility of avoiding them; and I would, in general, recommend light, easy dressings, with a slight, moderate bandage, just sufficient

sufficient to keep them on the part. Thin flannel is what I would prefer, in case it can be got."

" Where the wounded person has not suffered any great loss of blood, it will be adviseable to open a vein immediately, and take from the arm a very large quantity, and to repeat bleeding, as circumstances may require, the second, and even the third day. This timely precaution will prevent a good deal of pain and inflammation, forward the digestion, and contribute towards obviating a long train of complicated symptoms, that are wont otherwise to interrupt the cure, miserably harass the poor patient, and too often endanger his life."

" For the first twelve days it will be proper to observe a cooling regimen, both in respect of medicines and diet : and as, in circumstances of this kind, it is necessary that the body should by all means be open, a stool should be every day procured, either by emollient clysters, or some gentle laxative. Whatever application is of a hot, spiritous nature, I find remarkably injurious on these occasions, and what no wounded part can in any degree bear."

" Let the first dressing be with lint, dry, or moistened with a little oil, and a
very

very light bandage ; the next with a digestive warmed, and over it the bread and milk poultice, mixed with a sufficient quantity of oil to keep it moist : and, where there is a great tension, and the Wound large, a fomentation. This course is to be continued till the sore is clean ; and then it is to be healed according to art."

" This method will commonly promote a constant, easy perspiration, abate the pain, very much facilitate the digestion, and remove all danger of any approaching inflammation. What induces me to moisten the lint with oil, is the ease that is procured to a Contused Wound from such an application, in comparison with one of an absorbent, drying disposition ; which, instead of giving free liberty to the sanguous blood to discharge itself, and consequently preventing an inflammation by unloading the part, would possibly obstruct the mouths of the capillary vessels, and hinder nature from getting rid of that incumbrance, which she endeavors to throw off."

" Should an inflammation seize any part, through the lodgment of a bullet, or any other foreign body, that could with safety have been more immediately extracted ; all attempts for dislodging such extraneous

traneous matter should be postponed, till the swelling has in some measure subsided, and the inflammatory disposition of the fibres is nearly vanished: unless the ball, or other extraneous body, lies at no great distance from the orifice; and there is, on that account, a certainty of removing this incumbrance, without any material trouble to the patient."

" If a Wound be of such a desperate nature, as to require amputation (which is often the case, when it happens in any particular joint) it would certainly be of consequence to perform the operation immediately as soon as the patient is brought down; lest by delaying it an inflammation, which one may very reasonably expect, should obstruct a work that ought rarely to be entered upon during the continuance of so calamitous a circumstance as that of a smart engagement. The neglecting this critical juncture of taking off a limb frequently reduces the patient to so low a state, and subjects the blood and juices to such an alteration, as must unavoidably render the subsequent operation, if not entirely unsuccessful, at least exceedingly dubious. And in Wounds even where no amputation is required, it is equally adviseable not to defer the care necessary to be taken of them; lest,

lest, by the parts being exposed to the air, there might arise a series of very dangerous symptoms."

"Wounds that border on any considerable artery are very apt to bleed afresh upon motion, or a return of a free circulation of the blood into the part which was interrupted at first by the violence of the injury offered it; and this is almost always the case, when the slough begins to separate: for which reason one should never attempt to remove it by force; but wait, with patience, till there be a perfect separation of this slough; nor be in the least-wise shocked at the accident of arteries thus opening themselves, which a very moderate experience will convince one to be almost inevitable. The patient frequently gives warning of what is coming upon him, by complaining of a great weight and fulness in the limbs, which are ever accompanied with more or less pulsation in them: an infallible prognostic of the consequences. Let the Wound afflict whatsoever part, if these complaints attend it, I instantly enjoin bleeding and the bark."

"I have known several instances of persons losing their lives from the starting of an artery before the surgeon could reach them; particularly where there has preceded

preceded an amputation. And I dare affirm, the quantity of blood lost in some cases, which I have observed to kill, has not amounted to twelve ounces; which I do not know how to account for otherwise, than by the drain which had been made from the mass of blood both before and during the operation; whence a sudden gush, though of so moderate a portion of blood, after the great quantity already lost, gives a check to the circulation, and causes immediate death."

" This reflection, I think, ought to be a lesson to every practitioner, to be particularly intent on the faithful discharge of his duty in regard of tying the vessels. Repeated bleedings in the beginning draw after them many advantages: they generally prevent, and always lessen, any feverish attacks, and seldom fail to obviate imposthumations."

" The body must ever be kept in a laxative state; and, when pain puts it on the rack, immediate recourse must be had to the sovereign and almost divine powers of opium; next to this I likewise add the bark, a medicine which no human eloquence can extol with panegyric proportioned to its inestimable virtues. Of such incomparable benefit is it to mankind!

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I have known it procure rest, if given in large doses, when even opium had been taken without any manner of effect."

" In all large Wounds, especially those made by a cannon-ball, there is constantly a great laceration of the membranes, and parts endowed with an exquisite sensation. These are ever attended with an excruciating pain, and a discharge of a gleety matter; which, if not restrained, proves often of the last consequence."

" In this unhappy state, the bark, given in doses of a drachm each, and repeated every three hours (or oftener, if the stomach will bear it) surprisingly repairs the breach made in the constitution by these terrible accidents. Elixir of vitriol taken three times a-day, in a glass of water, I find to be of singular benefit, and to prove a very good assistant to the virtues of the bark. And if the body be costive, to each dose of the bark I add four or five grains of rhubarb, till that inconvenience is remedied. Should the bark run off by more than four or five successive stools, I take care to check this effect of it by ordering two or three drops of laudanum, or two spoonfuls of the diascordium mixture along with it, every time it is given".

" Where

"Where the sore discharges a considerable quantity of gleety matter, is flabby, looks pale and glossy (which appearances are ever consequent to a loss of substance) the bark continually relieves the pain that is predominant in this case, thickens the matter, lessens its quantity, and quite changes the complexion of the Wound."

"It is very common in cachetic and scorbutic constitutions (which latter too much abounds in sea-faring people, especially in long voyages) for a sore, the first eight or ten days after taking off the limb, to promise all imaginable success: from which time it frequently begins to gleet prodigiously, looks pale, glossy, and flabby; and this gleeting, if not checked, soon proves mortal. In exigencies of this kind, the bark hardly ever fails to procure relief, and works an apparent change in a very short space of time; sometimes in twelve hours."

From what has been here said by Mr. Ranby, it is evident that the bark is one of the best remedies in contracting the vessels, and restoring their due action upon the blood, when too great a quantity of that necessary fluid has been lost by a profuse hæmorrhage, provided the wounded vessels

are

are previously closed up, or well secured from a return of the hæmorrhage.

It also not only secures the most tender solids and small vessels from being dissolved by the acrimony of any matter absorbed, and returned into the whole mass of blood, from large Wounds or latent abscesses; but it likewise preserves the texture of the blood itself from being too much broken, or rendered too watery from the same cause, which would otherwise inevitably produce a fatal and colliquative hectic. But where there is too great a fulness, or too great a strength and contractile force of the solids, and an inflammatory tenacity or siziness in the blood, it may occasion obstructions, pains, inflammations, and their consequences, unless it be timely laid aside upon the appearance of such effects.

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SOME BRIEF DIRECTIONS PREVIOUS TO, AND IN ENGAGEMENTS, &c.

THE value of an able surgeon, and the necessity of his assistance, never more plainly appears than in dangerous wounds received in an engagement or battle; where many brave men must unavoidably perish from loss of blood and other causes, unless restored and snatched, as it were, from the jaws of death by the skill of their surgeon. And no doubt, the better opinion the officers and men conceive of their surgeon, the more spirits they have for the action ; being confident, the wounds, &c. they may chance to receive will be properly treated, and their lives (if possible) preserved. Therefore a surgeon of a man of war should have every thing needful, in a sufficient quantity, always by him in readiness (but more particularly in time of war) placed in some kind of box or drawer by themselves. His capital instruments should be constantly kept clean, bright, and in good order. His apparatus should consist of several tourniquets (of which Petit's screw tourniquet is the most convenient, as the patient can easily manage it himself, after it is fixed) crooked needles of all sizes, threaded with proper flat ligatures, in proportion to the needle ; a large quantity of

portion

scraped (short) lint, some mixed with flour in a bowl; double and single headed rollers (or bandages) of all breadths and lengths, in good store; for slight wounds and contusions, those made of bunting (the fly-part of an old ensign) will be sufficient; but for cases of more consequence, such as amputations, fractures, dislocations, &c. the linen rollers must be used. He ought to be furnished with common needles and thread, with pins in plenty; pledgets of tow, of what sizes he pleases; after they are made, they may be wet with water, or oxycrate, on the same board, and dried either by the galley-fire or in the sun. By this means he may the better lay them together (in a drawer or box) without intangling, and they are both much better and readier to spread, when wanted, with any cerate, cintment, or liniment.

Splints of all sizes must also be at hand, and when used armed with tow, or old linen cloth; likewise bolsters, or compresses of cloth, or coarse tow; but these may be readily made as occasion requires. To the above add yards of incle, or strong tape, to secure your splints in fractures, and for other uses. By this method a surgeon will always be provided against every accident which may befall his Crew.

When

When the enemy is in sight, and you are like to come to an action, as soon as all hands are called to quarters (if your cockpit is not sufficiently large) you must desire the first lieutenant, with the captain's permission, to order the carpenters to lay a platform for your wounded men ; if the cables will not be wanted, in one of the cable tires, or otherwise in the after-hold, by clearing of all manner of lumber out of the way. On the top of a smooth and even tire cask, let there be deals or planks laid close together, over them an old sail, and upon that some seamen's bedding from the purser's store-room (for which you are to have the captain's order, if he will not otherwise deliver them) ready made up, and laid one by another to place your wounded men on after they are drest, that they may lie quiet without being disturbed.

If the ship be small, and there is no cockpit, or such as you have not room to perform your operations in, you must, as near the after hatchway as is convenient, have some cask removed out (if there be not height enough for you to stand upright on the platform) that you may have a place of eight, ten, or twelve feet square, to receive and dress your wounded men, and

from

from thence to hand them to their beds : on one side of this place let there be fixed a chest of a proper height if you have no other convenient seat) to perform your operations upon ; and on another just by (or table) lay all your apparatus, such as your capital instruments, needles, ligatures, lint, flour in a bowl, styptic, bandages, splints, compresses, pledgets spread with yellow basilicon, or some other proper digestive ; thread, tape, tow, pins, new and old linen cloth, a bucket of water to put your sponges in, another empty to receive the blood in your operations ; a dry swab or two to dry the platform when necessary ; a water-caſt full of water near at hand, with one head knocked in, in readiness for dipping out occasionally as it may be wanted. You must also have near you your ung. basil.—e gum. elem.—sambucin ; ol. lin.—olivar. c.—terebinth ; bals. terebinth; tinct. styp.—thæbaic ; sp. c. c. per se.—vol. aromat.—lavend. c. Wine, punch, or grog, and vinegar in plenty.

A number of large candles should be immediately lighted, as soon as the engagement begins, not forgetting to have your mates and assistants properly instructed in what part they are to act, that every one may know his station, and what he has to do,

to prevent confusion in time of action. Here it is necessary to observe, that the surgeon should always take peculiar care to desire the first officer to quarter a sufficient number of hands with him in the cock-pit, that he may want no assistance in the day of battle, however bloody the engagement may be.

All things being ordered, and placed as above in readiness, and the surgeon's and purser's cabin beds made up, to receive the captain, or any of his commission officers, who may chance to be wounded; if you have any sick on board, that cannot stand to their quarters, let them be put down with their hammock and bedding into the hold, fore cockpit, or sheet cable tier, out of the way before the action begins; but be sure to keep your platform entirely for the wounded men. Let one of your mates or assistants go to them now-and-then to see how they are; or else order one of the stoutest of the convalescents to come to you at times, if he is able, and acquaint you if any of them are worse, and in case of faintness, to give them a little cordial, which he should have by him for that purpose.

When the action is begun, if more than one wounded is brought down at a time,

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always

always first take care of him who is in the most immediate danger; but otherwise dress them as they come, without distinction: if any is brought down with a limb off, or a violent hæmorrhage, and you happen to be in the midst of an amputation, or other capital operation, and cannot that instant attend, order your mate or assistant (for the present) immediately to fix a tourniquet on the part, to restrain the flux of blood from being fatal to the patient, and do what else you may think necessary, till you have finished the operation you were about, and laid the patient in bed.

Never encourage those to stay below (after their wounds, &c. are dressed) who have been but little hurt, but insist on their going up again to their quarters, otherwise threaten to report them when the engagement is over. I have many times known cowardly lubbers come tumbling down the ladder with most violent groans and complaints, though at the same time they have received little or no hurt; and all I could do or say would not prevail on them to make a second trial of their courage, nor go up again till the action was all over. Nay, I have been told (by those quartered at the same gun) that some dastardly-fellows have actually put their feet, or stood in

in the way of the carriage, on purpose to be hurt, that they might have a plausible pretence for going down to the doctor; which I must own I have great reason to believe, having sometimes met with such contusions in the legs and feet, occasioned (according to their own confession) by the carriage, but at the same time so slight as was scarce worth mentioning; though sometimes very violent, at other times there was scarce any injury or contusion to be perceived, notwithstanding the most grievous complaints of pain and uneasiness.

When you are entering on any capital operation, you should use your utmost endeavours to encourage the patient (if he is sensible) by promising him, in the softest terms, to treat him tenderly, and to finish with the utmost expedition; and indeed you should use expedition but not hurry: you should not make more haste than the case requires, nor cut less than is necessary, or leave any mischief unremedied; for the neglecting this critical juncture of taking off a limb, frequently reduces the patient to so low a state, and subjects the blood and juices to such an alteration, as must unavoidably render the subsequent operation, if not entirely unsuccessful, at least exceedingly dubious. Therefore, if a

wound

wound be of such a desperate nature as to require amputation (which is often the case in sea engagements) it is certainly of consequence to perform the operation immediately as soon as the man is brought down: and in wounds, even where no amputation is required, it is equally adviseable not to defer the care necessary to be taken of them.

In regard to the wounded, you should act in all respects as if you were entirely unaffected by their groans and complaints; but at the same time I would have you behave with such caution, as not to proceed rashly or cruelly, and be particularly careful to avoid unnecessary pain.

When the action is all over, you are then to go round your patients, and examine if the wounds have bled any thing considerably since they were drest; and if the haemorrhage still continues, remove the dressings very gently and carefully, and apply fresh ones.

It is not improper here to remark that the tourniquets should still remain on those patients, who have had their limbs amputated or shot off; that they may be always in readiness, in case of a fresh haemorrhage; and in case there be no assistant present when it happens, the patient should be

be instructed himself how to tighten it, if he feels the wound bleeding, before help can be procured. You are likewise to see that their wounded limbs, &c. lie easy, and as they ought; and that the patients are supported with proper diet and medicines suitable to the symptomatic fever, &c. as mentioned under the various heads in Northcote's Marine Surgeon,

As soon as possible after the engagement is ended, and your wounded are all taken proper care of, acquaint the captain how many there are wounded, and the nature of their wounds, if they are like to prove mortal, &c. And desire he will please to order cradles forthwith to be made, as many as you think necessary, wherein your wounded men must be placed, with their bedding, in a proper birth by themselves. The cradles are first to be well cleated, and secured to the deck and sides of the ship, placed so, as that you may easily go between to dress the people.

As soon as the ship arrives in a harbour, the sick and wounded must be immediately sent on shore, where their cures will be perfected in a much shorter time than it is possible on board in an insalubrious air, and on such diet only as the ship affords.

It is necessary the surgeon of the ship should

should give a more particular account of patients sent to an hospital, than is the common practice in the navy, of merely filling up a sick ticket with the general name of a disease, &c. He ought to acquaint the surgeon, or his assistant at the hospital, of the peculiar constitution of the patients, the manner they have been treated from first to last, the symptoms, &c. that have occurred; and what ever other circumstances he should be informed of, in order to enable him to perform a more speedy cure.

PREVENTATIVES OF THE SCURVY AT SEA, &c.

TH E best method of preventing the Scurvy at Sea is a liberal use of acids (particularly those of vegetables) and to avoid eating the ships salt provisions as much as possible, to use friction daily, either with a flesh-brush or coarse cloth. Proper exercise, dry linen, and cleanliness, not a little contribute to health.

It appears from many repeated experiments of Dr. Lind, and a number of Surgeons in the royal navy, that of all acids, oranges and lemons have the best effect in preventing

preventing and curing the Scurvy (the latter I shall here omit mentioning, it being already laid down in the Marine Surgeon, Vol II. Chap. VIII. Sect. VI. Art. Scurvy, to which the reader is referred). Oranges, in my opinion, are better than lemons, for by these Lord Anson's people were so speedily and surprizingly recovered at the island of Tinian. It is certain, when they are properly and sufficiently used, they are an infallible cure in every stage and species of the Scurvy, if there is any degree of natural strength left; and where a diarrhoea, lientery, or dysentery are not joined to the other symptoms. Some are apt to think tamarinds, vinegar, spirit of salt, elixir of vitriol, and other acids of the same kind, will do as well; but experience (that best of masters) plainly shews the contrary; and though acids agree in certain properties, they differ widely in others. Whenever these fruits are given without success, you may be fully assured the disease is not the Scurvy; for in the real genuine Scurvy they were never yet known to fail. However it is necessary also to observe that fresh vegetables of all kind prove a great relief to scorbutic patients when set on shore.

But as oranges and lemons are apt to spoil in keeping, there is now to be had an excellent

excellent quintessence of these fruits, which may be very advantageously used as a succedaneum, being but little inferior to the recent juice.

When you are in countries where oranges and lemons grow spontaneously, and can be procured in great plenty at a small expence, I shall here shew how to bring their juices, by a very easy method, into a small quantity without prejudice to their virtues:

Let the juice of these fruits be well cleared from the pulp, and depurated by standing some time; after which it may be poured off from the gross sediment: let it then be poured into any clean open vessel of china or stone ware, which should be wider at the top than at the bottom, that it may evaporate more readily. A china basin or punch bowl is most proper on account of the form. Put this into a pan of water over a clear fire; let the water come almost to boil, and continue nearly in that state, with the bowl full of juice in the middle of it, till the juice is found of the consistence of a thick syrup when cold. The slower the evaporation of the juice is, the better; that is, it ought to continue twelve or fourteen hours over the fire: when it is cold it is to be corked up in a bottle for use.

Two dozen of good oranges, weighing five pounds four ounces, will yield one pound nine ounces and a half depurated juice; and when evaporated there will remain five ounces of extract, which in bulk will be equal to less than three ounces of water: so that twelve dozen of oranges or lemons may be put into a quart bottle, and preserved good several years. When this is mixed with water, and made into punch, few are able to distinguish it from the fresh juice mix'd up in the same manner.

However, when the fresh fruit can be had, the fragrancy of the peel may contribute somewhat to the cure of the Scurvy; and when these are wanting, the same thing may be obtained from a few drops of their chymical essence, or the aromatic oil contained in their rinds; and if a small quantity of this be added to the extract, it will give it the smell and fragrancy of the fresh fruit in great perfection: or rather add a little of the outer peel to the extract, a little before it is taken off the fire, and then the nicest taste will not be able to distinguish the difference between the fresh fruit and this. The virtues of this extract, thus made, lie in so small a compass, that a quart bottle full will serve one man at sea

several years. In making of it there is little or nothing flies off but the water.

It will likewise be of great use to all sea-faring people to have always with them, bullace, sloes, wild-plums, hips, elder-berries, goose-berries, and the like, preserved in bottles, in the same manner as the pastry-cooks keep the latter. Cabbage, French beans, &c. may be preserved by putting them in clean dry stone pots or jars, with a layer of salt at the bottom, then a thin layer of the vegetable covered with salt, and so alternately till the pot is full; then the whole must be pressed down with a weight, and its mouth quite stopped with a cork or timber plug, well pitched over, that no air or moisture may enter: thus the vegetable may be kept fresh and green for a whole year.

At the time of using, the salt is to be washed off with warm water. This is the manner by which they preserve that never-failing remedy Greenland scurvy-grass. Every common sailor should also lay in a stock of onions and mustard, for they are a great preservative at sea. The Dutch sailors are preserved from the Scurvy by pickled cabbage. It must be observed, likewise, that a soup of boiled cabbage and onions will cure an adventitious Scurvy in

its first stage, either at land or sea, in any part of the world ; and what will cure will prevent.

Salt provisions should always be eaten with plenty of vinegar, mustard, and onions, but as little of the meat as possible, especially when the Scurvy begins to make its appearance in the ship. Those who have been weakened by long illness should be more particularly guarded against the Scurvy, by living on boiled biscuit, with a few drops of the quintessence or extract of lemons or oranges, and a spoonful of wine ; as also oatmeal and rice gruels, flummery, stewed barley, with raisins or currants, sago, and wine, &c. But more particularly pickled green cabbage or beans, as before mentioned, and small onions boiled with the portable soup made weak. Most of their food ought to be acidulated with orange and lemon juice, their quintessence or extract.

The inspissated juice of turnips (a thing very easily and cheaply procured) is an excellent kind of ingredient in soup for sea use. The water-dock (*hydrocotleum*) the berries mentioned above, and crab apples ; also apples, pears, or any other fruit, either preserved with coarse sugar (by being boiled in it) or else brought to a
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rob or extract, by boiling their expressed juices, &c. as already laid down for that of lemons and oranges, by which means it may be kept good through the longest voyages. Apples, pears, &c. when well chosen, and well packed in dry tight casks, will keep very good for two or three months; or they may otherwise be cut in slices, and put upon strings in dry weather, by which they will be dried without losing their flavour or taste; they are then to be carefully stowed in very dry boxes, and aired sometimes to prevent their mouldering or being damaged.

Good wine may be made by fermenting the before-mentioned extracts with water and sugar; bullace and sloes are preferable to any other (oranges and lemons excepted) being a noble antiseptic astringent.

Poor people that winter in Greenland, under vast disadvantages in point of air and diet, preserve themselves from the Scurvy by spruce beer.

The common beer brewed for the use of ships should be imbibited with wormwood, chamomile flowers, or even gentian, rather than by means of hops; and by the former it will keep longer than with the latter, without acquiring any bad property, and have full as agreeable a taste; but it should be plentifully

plentifully impregnated with those ingredients.

The shrub black spruce of America makes a most wholesome drink, and affords a balsam superior to most turpentines; it is of the fir kind. A simple decoction of the tops, cones, leaves, or even of the green bark, or wood of these, is an excellent antitoxicutic; but perhaps it is much more so when fermented, as in making spruce beer, which may be brewed fresh every two or three days. It is to be made by pouring boiling water on the tops, cones, leaves, bark, or wood of the spruce, or any other fir, dried or green; the latter may be easily carried in bags at sea: but when these cannot be had, a little turpentine or wormwood may be substituted; which ever be used, it is then to be fermented by the addition of a proper quantity of molasses, which, by its diaphoretic quality, makes it a more suitable medicine.

Again, when spruce cannot be had, the common fir-tops used for fuel in the ship should be first boiled in water, and then the decoction be fermented with molasses; to which may be added a small quantity of wormwood and root of horseradish (when it can be got); the fresher it is drank the better. When other things
are

are wanting, tar-water may be fermented in the same manner.

A drink may also be brewed the same way from the sassafras chips, or from the branches or berries of the juniper plant: for if the benefit is supposed to depend (as it certainly does) upon the fermentative quality, or to be derived from an acescent, antiseptic, corroborative, and balsamic virtue in the remedy, what is more liberally endowed with these qualities than these substances I have mentioned?

Besides fresh and preserved fruits, vegetables, and the drinks above mentioned, fermented liquors of all sorts are good, but more particularly cyder; among these are included many wines of every kind; or the juices of fruits (already taken notice of) may be fermented with ale, &c.

The late very learned and justly celebrated Doctor Huxham says, "Let all ships, that are to proceed on a long cruise or voyage, be supplied with a sufficient quantity of sound generous cyder; the rougher, provided it is perfectly sound, the better."

If apples are found of such vast service in the Scurvy, surely the juice of them, when become a vinous liquor, cannot but
be

be very salutary, and seems exceedingly well adapted, as a common drink, to correct by its acidity the alcalescent, putrefying quality of bad, corrupted provisions. This cyder should be at least three months old before it is served in, and quite fine ; if it be too new, and foul, it is apt to give severe colics : it should be racked off (once at least) from its gross ley into good and sweet vessels, which will contribute to its becoming fine, and prevent it from growing ropy, in which state it is good for nothing : but if some of it should turn to vinegar, which may frequently happen, it will still be very serviceable ; but it is found, when well managed, to keep good and sound even to the Indies. Every sailor should have at least a pint of cyder a day, besides beer and water.

The prize wines, which are commonly low and thin, and very frequently spoil by keeping, might be distributed among the ship's company (especially in want of cyder) to very good purpose.

The ventilators should be constantly worked, once a day at least ; and the decks frequently washed or sprinkled with vinegar. In case of stinking water, lemon juice, elixir of vitriol, or vinegar should always be mixed with it, which will render it much

much less unwholesome. A small drachm of garlic brandy, or the tincture of bark, taken in the mornings fasting, and when going on the night watch, is a great preservation. See the next Chapter on the Preservation of Health, &c.

Cream of tartar, being the essential vegetable salt of wine, is a very proper succedaneum when fruit is wanting; and orange or lemon peel (or its essence) will greatly improve the flavour: besides cream of tartar is the most grateful of all acids, substituted in the room of the juice of lemons and oranges, and best adapted to the constitution of mariners: it is also the cheapest; for an allowance of the eighth part of an ounce a day will not cost the government much more than one shilling yearly for each man, or eighteen pence at most. Two pounds and a half of cream of tartar will be sufficient to acidulate an hogshead of water; this, with rum and sugar, will become a salutary composition of a cooling, strengthening, antiseptic, and diuretic nature; for there is nothing more represses the inflammatory and intoxicating power of spirits than acids. Such a liquor would prove infinitely more wholesome than the grog, wherewith the navy is commonly served

served when spirits are used, both in the East and West Indies, and elsewhere.

The officers and men (that can afford it) should always carry to sea a very considerable quantity of pickles of different kinds, particularly onions ; and preserves and extracts of all acid fruits, such as sloes, bullace, damsons, &c. They must all be properly preserved in glass bottles or stone jars well tied over ; glazed earthen vessels are very dangerous either for preserves or pickles.

Allowing cyder, &c. to the fleet, indeed, may be deemed a very expensive project ; but where the lives of so many brave and useful people are in the case, I think (as Dr. Huxham very humanely observed) the cost should by no means come into competition with the advantage that may be received from it. The Romans constantly carried with them vinegar and wine in their fleets and armies, and the common soldier and sailor daily partook of both ; nay, they were at many other considerable expences to preserve the health of their armies, &c. Now, if that glorious prudent people thought the life of a Roman soldier so valuable, and were at such expence to preserve it, why should not we have as much regard to that of a British

T

sailor,

sailor, who is altogether as brave, and as useful to the Common wealth?

It is necessary here also to remark, that the usual method of impressing seamen on their return from long and tedious voyages, void of necessities, chagrined at not seeing their friends and families, and most commonly in a bad state of health, and not allowed time and opportunity to recover it, hath been the bane of thousands: and I most heartily wish, for the honor of the nation and the good of the public, that a method of manning our fleet could be found out more consistent with common humanity and British liberty; and likewise to have it served with more wholesome provision, better beer, and a sufficient quantity of sound generous cyder on board every ship, to be used at discretion, and as necessity required; from the foregoing remarks it is evident what advantages would accrue from it.

RULES FOR PRESERVING HEALTH,
IN WARM, AND COLD CLIMATES, BY
DOCTOR LIND, and SURGEON NORTHCOTE.

HEAT itself is not so prejudicial to Health as is generally imagined ; but when joined to moisture it is remarked, that it occasions the most fatal distempers in all warm climates.

When a ship rides at anchor near marshy ground or swamps, and the wind blows directly from thence in hot weather, the gun ports ought to be kept shut ; and if she rides with her head to the wind, a thick smoke sail should be constantly kept up to the fore-mast, to carry up the smoke of the galley, and prevent its coming aft over the ship : at such times the men should be enjoined to smoke tobacco, and the ship should often be fumigated with it, as well as with pitch and tar ; the method of procuring tobacco to be so used, without any additional expence to the government, is, instead of burning the great quantities every year seized by the custom-house and excise-officers, to order it to be preserved, and sent to the dock yards to supply the ships destined for foreign voyages ; it may be either added to the boatswain's or carpenter's stores, in such large quantities as may be thought convenient for the above use of fumigating : to prevent

abuse, it should never be used without the captain's order, and always issued out by weight; it would likewise be proper that centinels should attend the burning it to prevent embezzlement, which precaution in my opinion would be of infinite advantage on many occasions, and a much more prudent way than the present method of consuming it, without the least benefit accruing to any individual.

Boats crews and men employed on shore, being most exposed to the open air, should be often relieved, and never suffered to sleep on shore, not even in tents or otherwise, if to be avoided; but should always be obliged to return and lie aboard at night: but when this cannot be complied with, and men are obliged to remain on shore, their tents should be very close, and erected on the dryest spot they can find, that is, upon dry sand, gravel, or chalk, near the sea shore. The negroes, and some of the Indians on the coast of Guinea, both of whom sleep on the ground, have constantly a fire producing a little smoke burning in the huts where they sleep, which corrects the moisture of the night, and renders the damp of the earth less noxious; therefore if your tent is made on the grass, and at a distance from the sea-shore, it will be necessary to observe the same rule: the door of the tent should be towards the sea, and the back part secured

by double canvas. All old forsaken houses, caves, and such like places, should be well purified with large fires; the men should never sleep on the ground, but in their hammocks, and be very well covered; every morning and evening they should take a dram of the spirituous tincture of the bark: likewise the officers and men, when on shore, should be allowed a more plentiful, but not immoderate use of vinous liquors.

Dr. L I N D says, that people coming first from a cold into a hot climate, are apt to have plethoric symptoms (which in general I have found to be the case in many southern voyages, with some few exceptions) a pain of the head, giddiness, a sense of the weight, and fulness of the breast, and some are apt to be seized with ardent fevers and diarrhœas.

All practitioners have observed, that new comers into warm climates are at first liable to fevers tending to the ardent kind, and are very subject to fevers of the remitting and intermitting kind, which are the endemics of all warm countries at certain seasons of the year; and after some time they are apt to fall into fluxes, the yellow-fever, and other diseases depending on a putrescent state of the juices.

Nothing has been found to be more productive of diseases in those warm climates, than indulging freely in the use of spirits and

other strong fermented liquors, lying on the ground, being exposed to damps and dews, and working hard, or using violent exercise in the heat of the day.

The most dangerous diseases in intemperate climates, and voyages to the southward, proceed from a continuance of hot, moist, close weather, or from heavy rains, common at some seasons of the year between the Tropics; at first a few of the men are seized with the bloody-flux, which is succeeded by a malignant fever of the remitting or intermitting kind, but most commonly it is like a double tertian: this is epidemic between the Tropics, and is the autumnal fever of all hot countries; the safety of the patient entirely depends on the fever's intermitting, or at least on its remitting so much as to allow an opportunity of throwing in the bark, which is the only sovereign remedy in these sort of malignant fevers, though they put on different appearances.

The bark might be made extremely palatable by infusing it in spirits with orange peel, and the billious fever and the bloody flux might be prevented by it: four ounces of bark and two ounces of dried orange peel will be sufficient for a gallon of spirits; and two ounces may be allowed each man a day when there is an apprehension of these malignant diseases: it will be best to

take half in the morning on an empty stomach, and the other half when they are called out to their night watch.

The bark is an excellent medicine for sailors on many accounts, it being the greatest antiseptic taken inwardly of any yet discovered ; but as it is a very expensive drug in England, it is not to be supposed that ships will carry such a quantity of it as to be of common benefit to the whole crew : though this may unhappily be the case for the poor seamen, yet they may be supplied at the cheapest rate with a medicine of nearly equal goodness and efficacy from our own soil, and if prudently employed, the scurvy, that maritime pestilence, will seldom or never make its alarming appearance among a ship's crew on long and dangerous voyages, proper care with regard to cleanliness and provisions being observed ; the medicine here recommended to their use is the fine bark of the English oak, which is easily preserved, and may be conveniently taken in the quantity of a drachm at a time, occasionally in powder, extract, decoction, or tincture. In intermittents (for poor people) it has been frequently used with success.

It is necessary to observe, that in sultry climates, or during hot weather in all places subject to great rains, where the country is over-run by thickets, shrubs, or

woods, especially if there are marshes or stagnating waters in the neighbourhood (which are exceedingly pernicious to the health of all Europeans) the malignant diseases above-mentioned may justly be dreaded: the fens and marshes even in England are bad for strangers.

The ship should never lie so near the shore, as that the mountains (if there be any) may intercept the sea breezes (or in the sea term, she should never be land lock'd); the same precautions are necessary in places, either during or soon after the rainy season: in hot climates wind-sails in the day-time should constantly be kept up, and at sea in the night likewise; the ventilators should be continually worked, and the lower deck ports kept open, when the weather will permit, from sun rising to sun-set; the decks must be kept clean scraped and washed, but the latter never after sun-set. When sickness begins on board a ship, the sick should immediately be removed as much as conveniently may be from the sound; the sick-birth should be as airy as possible, without exposing the sick to catch cold, and always kept as clean as may be; the centinels over the sick should constantly empty and wash the buckets which the sick make use of every watch.

The ship (particularly a new one) should

be every day fumigated with the steams of tar or pitch, and in wet, damp weather, fires often lighted between decks, with proper centinels over them to prevent any danger.

To boil vinegar between decks or in the hold fills the whole cavity of the hull with a vapour that is salutary and antiseptic to a very great degree; and this may perhaps be the best way of using vinegar to prevent a corruption of the air, or the spreading of diseases; fumes of tobacco (as already mentioned) may be employed to the same purpose with good success.

The cloaths of the sick and the sick birth ought particularly to be fumigated; their foul cloaths should always be instantly sprinkled with vinegar, or tied to a rope and plunged into the sea, to wash them from all seeds of contagion; vinegar should also be dispersed plentifully every where through the ship, cloths dipt in it hung up in all parts, and fresh vinegar frequently sprinkled upon them, to keep the vapour of it continually afloat, but especially the sick birth ought to be daily well washed with vinegar.

The use of cold bathing-tubs under the fore castle, and bathing in the sea early in the morning, have been found extremely beneficial in hot countries, for this practice

not only braces up the fibres, and contributes to health but cleanliness likewise, and promotes perspiration; but then the people should not stay too long in the water, nor go in when overheated with work or liquor, nor when the stomach is full, or there is an eruption with a prickly heat on the skin. Diarrhoeas and other complaints, the effects of great heat, have been cured by bathing, and their returns prevented.

Wine is the best of all cordials in the decline of fevers, (provided it is sound and good) and is a much better restorative than rum, or any other spirits however mixed or prepared; it is likewise an excellent means to prevent infection; some casks of Madeira Wine (which keeps good in all climates) should be preserved for the use of the sick in these voyages.

The swallowing large draughts of undiluted spirits has always the most fatal consequences in every climate; but when they are converted into punch, they become very salutary, preventing diseases which arise from hot and moist weather, and the tendency to corruption in the animal fluids, which is constantly induced thereby; as cleanliness alone greatly contributes to health, it may not be amiss to propose, that when at sea, the seamen and marines should be mustered when the separate watches are called every Sunday, and pass

in review by the officer of the watch, and those that are then dirty, having a foul shirt, trousers, &c. shall have their allowance of liquor, whether beer, wine, or grog, stopt for that day (by the captains order); for the second offence to stand in the pillory on the quarter-deck, and for the third, to receive a dozen lashes at the gangway: the same notice might be taken of their hammocks, when the captain thinks proper to have them examined; by this method the people would always be wholesome and clean, and consequently much healthier, for in every ship, there are a number of dirty lubbers, particularly among the waste guard and marines; and the cooks mates and his attendants are generally as bad as any.

I shall here only mention that when men are seized with inflammatory symptoms on entering into warm climates, they may be bled freely; afterwards they do not easily bear such copious evacuations, but rather require to have them made in smaller quantities, and very early and frequent, as inflammations make a rapid progress in warm countries.

Doctor Lind says, many practitioners disapprove of bleeding in those countries which lie under the torrid zone, on a supposition that the blood is too much dissolved, but he thinks (very justly) that this

rule will admit of many exceptions, and that sailors being strong and exposed to greater vicissitudes of heat and cold, and more excesses and other accidents, bear freer bleeding in general than any other set of people. After some time the diseases in these warm climates tend to the putrid kind, and then must be treated as such.

In warm climates the ships are generally most healthy at sea, where the air is dry and serene, and the heat moderated by refreshing breezes.

RULES FOR PRESERVING HEALTH, IN COLD CLIMATES.

IN northern climates and channel cruising, though the cold is intense, yet if the air is pure and dry and the men are well cloathed, there are few diseases; but when the weather is unsettled, cloudy, wet and rainy, the usual consequences are colds, attended with feverish and inflammatory symptoms, and especially rheumatic, pleuritic, and peripneumonic complaints; these last require plentiful evacuations, but chiefly bleeding, which, when timely and freely used, will prevent consumptions and chronic rheumatisms.

When the men are almost constantly wet and chill from bad weather, and undergo an uncommon degree of fatigue, it

will be proper to let them have the following mixture, viz. a pint of small beer, and a quartern of brandy sweetened with molasses, to which may be added as much vinegar as will render the mixture palatable; or, instead of the last, cream of tartar; this the Russians call *ashbetten*. Dry beds and cloathing are most necessary articles; for it is observable that the most naked ragged fellows are principally attacked with winter diseases.

The scurvy is a disease common in the winter and spring; the method to prevent which is already laid down in the preceding section, and to which the reader is referred.

Dr. Lind says, the most proper cordial dram a sailor can use in the winter is garlic brandy, for a small quantity of it, not only warms the stomach, but keeps the breast, kidneys, and skin free from obstructions; but neither this nor any other dram should be given to a man almost chilled to death with cold, having his limbs quite benumbed, and their extremities frost bit (as it is called); for, in this case, it has often proved fatal; but he should be immediately put into a warm bed, and have some warm gruel, sage tea, or some such diluting liquor, given him; after which a dram may be allowed, when it will prove less dangerous, and more beneficial.

A very remarkable case to this purpose is related by Hildanus, viz. a man was found quite stiff and frozen all over; he was put into cold water, and immediately the icy spicula were discharged from all parts of his body, so that he seemed covered with an icy crust; he was then put into a warm bed, took a cordial draught, and a plentiful sweat followed; after which he recovered with the loss of the last joints of his fingers and toes. *De Gangrena*, chap. XIII.

People who are benumbed with cold in frosty weather, ought never to be brought immediately near a fire; for that has been found either to cause immediate death, or gangrenes of the extremities. Any kind of fruit frozen, when put immediately to the fire, will turn soft and rot; but if put into cold water, it throws out the icy spicula, and recovers so as to be almost as good as before, which, proves the above method used with the man to be right.

In cold rainy weather, tea made with sage, saffras, or a few roasted juniper berries, with the addition of a little garlic brandy, will be very beneficial; likewise a man will never be so liable to catch cold when he is wet upon the deck, and uses exercise, as when he is below in his wet cloaths, or sleeps in them, or in a damp bed; when he goes upon deck he should

eat a bit of biscuit, and drink a little ashbatten, and then the weather will probably have but little power to alter his health for the worse.

When a sailor happens to be dead drunk, his head should be raised, and a sponge dipped in vinegar should be held to his nose; and if he can drink, he should have warm water mixed with vinegar; bleeding will likewise be proper, and a gentle emetic which operates speedily, such as the oxymel. scillitic. sal vitriol. &c.

Likewise dipping the feet in cold water will take off the pressure from the brain; and solutive clysters will abate the distension; it is but too well known how many people lose their lives by excessive drinking, and spirituous liquors; the same treatment will be useful after a large dose of opium.

These methods here laid down (chiefly taken from Doctor Lind) but partly from others, I have practised for many years in the royal navy; and with the blessing of God it has in general been attended with great success; for which reason I can the more strongly recommend it; if it be true, as was published in December 1760, taken as is supposed from returns made to the House of Commons, that of 185,000 men, raised for the sea-service during the late war, above 130,000 perished by diseases; and that two thirds of this number may be safely charged

to the account of diseases that take their rise from putrefaction; surely every motive of policy and humanity should excite men to endeavour at finding out somewhat to check that fatal and destructive diathesis; for if seamen could be preserved free from it other kinds of diseases would seldom endanger them.

F I N I S.

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