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which were most frequent in the British military hospitals in
Germany, by Donald Monro**

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*** START OF THE PROJECT GUTENBERG EBOOK AN ACCOUNT OF THE
DISEASES WHICH WERE MOST FREQUENT IN THE BRITISH MILITARY
HOSPITALS IN GERMANY ***

**AN
ACCOUNT
OF THE
DISEASES**

Which were most frequent in the

BRITISH MILITARY HOSPITALS

in Germany,

**From January 1761 to the Return of the Troops
to England in March 1763.**

To which is added,
An ESSAY on the Means of Preserving the Health
of Soldiers, and conducting Military Hospitals.

By DONALD MONRO, M.D.
PHYSICIAN to his MAJESTY'S ARMY, and to
ST. GEORGE'S Hospital.

LONDON:

MDCCLXIV.

TO THE KING.

[iii]

May it please Your MAJESTY,

TO permit me to lay at your Feet the following Sheets, published with a View to be useful to those, who hereafter may have the Care of the Health of your MAJESTY'S Troops.

[iv]

YOUR MAJESTY'S particular Inquiries into the State of Your Military Hospitals, in every Quarter of the World, in the Time of the late glorious and successful War; Your Concern for every Officer and Soldier who suffered either by Sickness or by Wounds in the Cause of their King and Country; and Your Solitude to procure them every possible Assistance and Relief, cannot fail to excite the highest Admiration of Your MAJESTY'S Goodness in the Breast of every Subject, and the warmest Gratitude in the Heart of every Soldier.

[v]

The Knowledge of these Circumstances induced me to flatter myself, that a Work of this Kind would be agreeable to Your MAJESTY; and should this Attempt towards pointing out the Means of alleviating those Miseries, which necessarily attend a Military Life in the Time of Service, be acceptable, I shall obtain the utmost of my Wishes; it being the greatest Ambition of my Heart ever so to act as to merit Your MAJESTY'S Approbation, and to subscribe myself,

[vi]

May it please Your MAJESTY,

Your MAJESTY'S most dutiful Subject,

And most faithful

and humble Servant,

DONALD MONRO.

THE PREFACE.

[vii]

AMONG the numerous Authors of Observations in the Art of Physick, there are but few who have expressly written on the Treatment of those Distempers, most generally incident to an Army in the Field: The following Work, therefore, seems to have a fair Claim to be acceptable to the Publick, having been compiled during the Author's Attendance on the *British* Military Hospitals in *Germany* in the late War; and in order to render it of still further Use, he has occasionally added, by Way of Note, the Practice of some of the most eminent Physicians in similar Diseases, as well as a few Histories of Cases which passed under his own Care at *St. George's* Hospital, *London*.

[viii]

To avoid the Repetition of the Composition of particular Medicines, and the Interruption that would be given by their being inserted in the Body of the Work, a small Pharmacopœia is added, to which his Practice in the Army Hospitals was chiefly confined.

[ix]

In a commercial Country like our own, where Numbers of Hands are constantly wanted for the carrying on our Manufactories, we have a strong political Argument to add to that drawn from the Dictates of Humanity, why the Life of every individual should be most carefully attended to.

The Preservation of the Lives of Soldiers is then with us a Matter of the highest Importance, in order to make as low as possible the Number of Recruits who must be perpetually drawn off for the Service of War. The Author has, therefore, in this

Treatise, endeavoured to point out the Means most likely to keep Men healthy when employed in different Services; and also the Manner in which Military Hospitals ought to be fitted up, and conducted.—As he was never in any of the warm Climates, nor ever at Sea along with Troops aboard of Transports, whatever is mentioned relative to such Situations, is to be understood as taken from printed Accounts of these Subjects, or collected from the Conversation of physical Gentlemen, who were employed on such Services during the two last Wars.

[x]

It is but Justice here to observe, that the Marquis of *Granby*, Commander in Chief of the *British* Troops in *Germany*, as well as the Rest of the General Officers employed on the *German* Service, always paid the greatest Attention to the Soldiers when sick in Hospitals; and were particularly ready in giving Orders for all such Things as were necessary or proper for them.

[xi]

JERMYN-STREET,
April 15, 1764.

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ERRATA CORRIGENDA.

Page 13,	line 11,	for <i>Pleuretic</i> , read <i>Pleuritic</i> .
18,	10,	of Notes, for <i>Acadamy</i> , read <i>Academy</i> .
28,	22,	for <i>Cinamon</i> , read <i>Cinnamon</i> .
35,	5,	of Notes, for <i>Calomile</i> , read <i>Calomel</i> .
51,	12,	dele <i>used in this Way</i> .
166,	12,	of Notes, for <i>which almost depend</i> , read <i>which almost always depend</i> .
207,	13,	of Notes, for <i>Vena postarum</i> , read <i>Vena portarum</i> .
259,	4,	for <i>appeared</i> , read <i>appear</i> .
261,	1,	of Notes, for <i>became</i> , read <i>become</i> .
280,	20,	for <i>Chamamel</i> , read <i>Chamæmel</i> .
290,	4,	for <i>3tis 4tiis</i> , read <i>3tiis 4tis</i> .
293,	13,	for <i>Mithridatum</i> , read <i>Mithridatium</i> .
336,	12	& 13, for <i>bathe themselves as often</i> , read <i>bathe early in the Morning as often</i> .
352,	7,	for <i>in Bilanders</i> , read <i>and were to go in Bilanders</i> .
353,	2,	for <i>the least Appearance of the Malignant Fever</i> , read <i>the Malignant Fever appearing</i> .

**OF THE
MALIGNANT and PETECHIAL
FEVER.**

Malignant Fever, and Fluxes, began to appear among the Soldiers in Autumn, 1760, while the Allied Army remained encamped about *Warbourg*, from the Beginning of *August* till the 13th of *December*, when they went into Cantonments. During that Time, there had been a continued Rain for some Months, and the Camp and neighbouring Fields, and Villages, were not only filled with the Excrements of such a numerous Army, but likewise with infinite Numbers of dead Horses, and other dead Animals, which had died in doing the necessary military Duties, and in bringing Forage, Provisions, and other Necessaries, to the Camp: besides this, the Field where there had been an Action on the 31st of *July*, and where many of the Dead were scarce covered with Earth, was in the Neighbourhood of the Camp.

[2]

Not only the Soldiers, but the Inhabitants of the Country, who were reduced to the greatest Misery and Want, were infected with the Malignant Fever, and whole Villages almost laid waste by it.

Such a Number of Soldiers was sent to *Paderborn* as crowded the Hospitals there, and increased the Malignancy of the Distempers so that a great many died.

When I arrived at *Paderborn*, in the Beginning of *January* 1761, the Fever was upon the Decline in the General Hospitals, though it was still rife; but by sending off a Party of Convalescents to *Hervorden*, which thinned the Hospitals, it became less frequent, and but few died. The Guards marched upon the Expedition into *Hesse*, on the eleventh of *February*, which gave us full Room for billeting all our Convalescents, and thinning the Wards; by which Means the Fever almost entirely ceased in all the Hospitals we had before they went away; though there still remained about four hundred sick.

[3]

When the Guards marched out of *Paderborn*, they left the Care of their Sick to us, who belonged to the General Hospital: the first Regiment of Guards left sixty sick; the second, twenty-nine; the third, twenty-eight; and the Granadiers, fifteen, in their regimental Infirmarys; who were mostly ill of the Malignant Fever: amongst whom the Infection was so very strong, that, although I procured the Sick new airy Houses for Hospitals, which were kept as clean and well-aired as possible, and procured clean Bedding, and clean Linen for every Man, and had the Sick laid thin, yet several died, and it was some Time before we got entirely free of the Infection. The first and third Regiments suffered most, owing to all the Sick of each Regiment being put into a particular Hospital by themselves, which kept up the Infection, so that they lost one-third of those left ill of this Fever; and many of the Nurses, and People who attended them, were seized with it. But not being able to procure particular Houses for the Sick of the *Coldstream* or Second Regiment, and for the Granadiers, I distributed them through the different Hospitals we had then in Town, where the Contagion had ceased; and by their being thus scattered, while they were kept very clean, and at as great a Distance as possible, from the other Patients in the Wards where they were put, they lost few in Proportion to the first and third Regiments, and the Disorder did not spread.

[4]

About the End of *May*, the Weather was very warm at *Osnabruck*; when this Fever began to make its Appearance in the Corner of a large Ward, which was next to one kept for salivating venereal Patients; and only divided from it by means of a few thin Deals. Perceiving a strong Smell in this Place, I suspected that the Fever arose from the foul Steams coming from the next Ward, and therefore ordered the salivating Ward to be thinned, and removed all the Sick from the Places near that Ward; and ordered those that had caught the Fever to be put into large airy Places; by which means the Infection spread no further, and only one, out of six or seven who had got the Fever, died.

[5]

At the End of *June*, the Weather was very hot at *Bilifield*, and the Fever began to shew itself by the Hospital being overcrowded, by a greater Number of Sick being sent from the Army than we had proper Places to put them in; but it was put a Stop to in a few Days, by the Removal of the Hospital. Seventy Sick were left behind to the Care of a Mate, most of them ill of the Fever, of whom twelve died.

In the Beginning of *August*, a few Men were taken ill of the same Fever at *Munster*, in one of the Hospitals which was too much crowded; but its further Progress was stopped by sending a Number of recovered Men to Billet.

In *November* and *December* 1761, and *January*, *February*, and *March* 1762, we had several Men sent from Quarters in the Town of *Bremen* to the Hospital, sick of the Petechial Fever: they were quartered on the Ground-floors of low damp Houses, and fresh Meat and Vegetables so dear that they could not afford to buy them; but were obliged to live mostly on salt Provisions. I was told likewise that the spotted Fever was frequent among the lower Class of the Inhabitants. Some few were seized with this Fever in the Hospital itself; yet as the House was not crowded, and we had a Number of small airy Wards, the Infection did not spread; and we had but one or two who died of this Fever during the Winter, in the Hospital I attended.

[6]

In Summer 1762, we had only ten or eleven ill of this Fever in the Hospital at

Natzungen, and only one died.

When the Troops marched from their Cantonments, in *December* 1762, towards the Borders of *Holland*, the twentieth and twenty-fifth Regiments of Foot left behind them, at *Osnabruck*, thirty sick; five of whom had Symptoms of the Hospital Fever, though no Petechiæ appeared; three recovered, and two died suddenly, being lodged in large open Wards (the only Places we had to put them in) with the Windows all broke, in very cold frosty Weather.

[7]

In *January* 1763, we had only three Patients in this Fever, with the Petechiæ upon them, who all recovered. After this we had none taken ill of it at *Osnabruck*, while I remained there, which was till the twenty-fifth of *March*.

This Malignant Fever begun variously in different Subjects; for the most part with Cold and Shivering, Pain in the Head, and other Symptoms, commonly described as peculiar to this Fever. In some, it begun with a sharp Pain of the Side, or other Parts, attended with acute inflammatory Symptoms; in others, it put on the Appearance of the common, low, or nervous Fever, for a Day or two. Blood drawn in the Beginning from some Patients did not seem much altered; from others it threw up a strong inflammatory Buff^[1]; but where the Fever had continued some time, it was commonly of a loose Texture, and of a livid Colour; unless when the Sick were accidentally seized with pleuritic Stitches, or other Disorders of this kind.

[8]

The Reason of this Difference of Symptoms in the Beginning, and of these different Appearances of the Blood, seemed to be, that such Patients as laboured under Pleurisies, low or other Fevers, being brought into Hospitals where the Malignant Fever was frequent, had their original Disorders changed into this Fever by breathing a foul infected Air, and by their Communication with those ill of the Fever, and of Fluxes; at other Times, a mere Acrimony of the Blood, set in Motion by a supervening Fever, determined the Disorder to be of this kind: and I always observed, that those Men were most apt to catch this Fever, whose Constitutions had been broke down by previous Disorders.

[9]

The Fever appeared in different Forms. Some had only a Quickness of the Pulse, attended with a slight Head-ach and Sickness, Whiteness of the Tongue and Thirst, and a Lowness and Languor; which continued for a Week or more, and then went off, either insensibly, or with a profuse Sweat, succeeded by a plentiful Sediment in the Urine. Most of those who fell into profuse kindly-warm Sweats recovered, the Sweat carrying off the Fever. These profuse Sweats continued for twelve or twenty-four Hours, and sometimes for two, three, or four Days. In those who had the Fever in this slight Degree, the Petechiæ seldom appeared; and it was only known to be this sort of Fever by the other Symptoms, and the Malignant Fever being frequent at that time in the Hospitals. Dr. *Pringle*^[2] very justly observes, "That these low Degrees of this Fever are hardly to be characterised, and are only to be discovered, in full Hospitals, by observing Men languish; though the Nature of the Illness, for which they come in, should seem to admit of a speedier Cure."

[10]

For the most Part the Fever appeared with more violent Symptoms, the Tongue became more parched and dry, more or less of a Delirium came on, attended with the other Symptoms commonly described as peculiar to this Fever.

When the Petechiæ appeared, they came out on the fourth, fifth, sixth, or seventh Day; seldom after the eleventh or twelfth^[3]. They appeared mostly on the Breast, Back, Arms, and Legs, and sometimes, tho' rarely, on the Face. They had exactly the Appearance described by Dr. *Pringle*, either like small distinct Spots of a reddish Colour, or the Skin looked sometimes as if it had been marbled, or variegated as in the Measles, but of a Colour more dull and lured. As they began to disappear, they inclined to a dun or brown Colour, and looked like so many dirty Spots. I never saw them rise above the Skin; nor did I once see any miliary Eruptions in this Fever; which agreed exactly with what Dr. *Pringle* had observed in the former War, and in the Beginning of this; however, we ought not to conclude from thence that miliary Eruptions are never observed in Fevers of this kind; for Dr. *Huxham*^[4], Dr. *Hasenohr*^[5] and Dr. *Lind*^[6], besides many other good Practitioners, mention their having seen them.

[11]

[12]

Many had no Petechiæ through the whole Course of the Disorder; but in all who were very bad, the Countenance looked bloated, and the Eyes reddish and somewhat inflamed; and though the Skin was commonly dry, yet the *Perspiration from the Lungs* was strong. By these Circumstances one might frequently discover that the Patient laboured under the malignant Fever, without asking any Questions.

When Men were taken ill of a Fever, which we suspected to be of the malignant kind, our first Care was to lay them in airy Places, separate as much as possible from the other Men, and to keep them extremely clean; and they were put on low Diet, and allowed as much Barley or Rice-water as they chose to drink, which was commonly ordered to be acidulated with the *Spiritus Vitrioli*.

For the first two or three Days we could seldom distinguish, with Certainty, that the Fever was of the malignant kind, though we had often Reason to suspect it. The Pain of the Head, the Fulness and Quickness of the Pulse, and other Symptoms, led us commonly to take away more or less Blood, which the Patient bore easily, and for the most part it gave Relief^[7]. We seldom repeated this Evacuation where we suspected the Fever to be of the malignant kind, unless a pleuritic Stitch, an acute Pain of the Bowels, or some other accidental Symptom, required it; or the Patient was strong, and there were evident Symptoms of Fullness immediately before we intended giving the Bark, as shall be mentioned afterwards; for under other Circumstances, if the Bleeding was repeated, and other Evacuations used freely, I always observed that it did Harm, and was apt to sink the Patient too much; as Dr. *Huxham*, Dr. *Pringle*, and other good Practitioners, have remarked.

After Bleeding, if the Patient was costive, or complained of Gripes, he had a Dose of Rhubarb, or Salts, or a laxative Clyster; but where there was much Sickness of the Stomach, we gave a gentle Emetic^[8] in the Evening, and the Purge next Morning. And if in the Course of the Disorder the Sickness and Nausea returned, attended with Griping and Costiveness, or very fetid loose Stools, these Medicines were repeated, and a gentle Opiate given in the Evening after their Operation.

After Evacuations, if the Pulse kept up, we commonly gave nothing but the saline Draughts, with the *Pulvis contrayervæ*, or some temperate Medicine, for the first Day or two. As soon as we could distinguish the Fever to be of the malignant kind, and that the Pulse rather sunk, we joined some of the Cordials to the saline Medicines, and allowed the Patient more or less Wine, according to the Degree of the Fever. Dr. *De Haen* has found Fault with Dr. *Pringle* and Dr. *Huxham*, for administering cordial Medicines and Wine in the low State of this Fever; but nothing answered so well with us as these Remedies under such Circumstances; and I have frequently seen every Symptom changed for the better by their Use; and even when I gave the Bark, in the Manner recommended by *De Haen*, I often found it necessary to join the free Use of Wine^[9], Cordials and Blisters^[10], in order to support the Patient's Strength.

After reading the Treatises of Dr. *De Haen* and Dr. *Hasenohrl*, on this Fever, I resolved on giving the Bark^[11] in large Quantities, and found it to answer the Recommendations given by these Gentlemen; and shall relate here two or three Cases, out of above a hundred and fifty, in which I gave it.

I. *Robert Wilson*, of the Second Regiment of Foot Guards, on the 19th of *February* 1761, was seized with a Shivering and Coldness, succeeded with Heat, Thirst, a short dry Cough, Difficulty of Breathing, Head-ach, and slight Stitches in his Breast; some Blood was taken away, which was sizzly, and he was ordered two Ounces of the *Sperma Ceti* Mixture, with the *spiritus mindereri*, every two or three Hours. He continued without any manifest Alteration in the Symptoms, till the 21st, when a Number of dun Petechiæ appeared all over his Body, particularly on his Breast. The Stitches and Cough were then much easier, and he had his Medicines as before. On the 22d, he was seized with a Delirium, and was somewhat comatose; when he was ordered a Drachm of the Bark every six Hours. The 23d, the comatose Symptoms had increased, and he had slight Twitchings of the Tendons, a dry brown-coloured Tongue, and a Faultering in his Speech. The Bark was continued, with the Addition of two Spoonfuls of Mountain Wine every two Hours. On the 24th, he had several loose Stools. The 25th, he was still loose, and went on as before, with the Addition of six Grains of the *Pilulæ saponaceæ* in the Evening. The 26th, the Petechiæ were not so apparent as before, but he had still the nervous Symptoms, and his Breathing grew more difficult; and therefore a Blister was applied between his Shoulders, and his Medicines continued; as they were likewise on the 27th, without any Alteration in the Symptoms. On the 28th, his Tongue became moister, and the Pulse, which had been low and quick the four preceding Days, became fuller and slower. On the 29th, he was much more sensible, his Tongue more moist, and the Twitchings of the Tendons much less; and in the Evening he fell into a profuse Sweat, which lasted all the 30th. On the 1st of *March*, his feverish Symptoms were much abated, his Pulse was calmer, his Skin moist, his Drought less, and his Urine dropt a plentiful Sediment. On the 2d, his Fever was almost entirely gone, but he had still a Cough, and spit up a viscid Matter. He was ordered to go on as before, with the Addition of two Spoonfuls of the *Sperma Ceti* Mixture, and the *Spiritus Mindereri*, when his Cough was troublesome. He followed this Course till the 7th, when, his Cough and Fever being gone, he was ordered a Dose of Tincture of Rhubarb; after which he recruited his Strength daily, without the Assistance of any more Medicines.

II. On the 5th of *March* 1761, *Thomas Stagg*, of the Second Regiment of Foot Guards, was seized with the same Symptoms as *Robert Wilson* had been in the Beginning of his Fever, but in a more violent Degree. He was bled to about twelve Ounces, and was ordered a saline Draught every six Hours. On the 6th, the Blood, which had been drawn the Day before, had thrown up a slight Buff; it appeared to contain but a small Proportion of Serum, and the Crassamentum was of a loose Texture. The feverish Symptoms had increased, with the Addition of a Delirium: pergat. On the 7th, the Delirium was grown more violent, so that he could scarce be

kept in Bed; his Breathing was difficult, his Eyes red and florid: A Blister was applied to his Back, and the saline Mixture continued. On the 8th, there was no Alteration in the Course of that Day; but being lower towards Night, Blisters were applied to his Legs, and he was ordered to have a Pint of Wine allowed him in twenty-four Hours. On the 9th, the Petechiæ appeared over his whole Body, of a broad dunnish kind; his Breathing became easier, and his Pulse stronger, though the Delirium was still as bad as before: He was ordered a Drachm of the Bark every fourth Hour in a saline Draught. On the 10th, the Bark gave him several loose Stools, but the Petechiæ were of a more florid Colour; the Delirium was less, and his Tongue moist, and therefore he was ordered to continue the same Medicines as the Day before, with the Addition of ten Grains of the *Pilulæ saponaceæ* in the Evening. The 11th Day, he fell into a fine breathing Sweat, his Pulse became fuller and slower, and the Delirium abated: p. The 12th, his Pulse was regular, and the Delirium gone, and he was much inclined to sleep. The 13th, after a calm Sleep, which had lasted twelve or fourteen Hours, he became quite free of Fever. After this he continued the Use of his Medicines for some Days, and recovered his Health and Strength daily.

[22]

[23]

III. On the 23d of *May* 1761, *Lionel Thompson*, of the First Regiment of Foot Guards, was seized with all the Symptoms of a Peripneumony, attended with a high Fever, for which he was ordered to be bled. After losing eight Ounces of Blood, he fell into a fainting Fit; on recovering out of which, his Breathing being still much affected, he had a Mixture made of four Ounces of the *Lac Ammoniacum*, and one of the *spiritus mindereri*, of which he was desired to take two Spoonfuls every four Hours. The 24th, the Symptoms the same: He complained of having had no Stool for some Days, and took half an Ounce of the *sal catharticum amarum*, which gave him two loose Stools. On the 25th, his Pulse was small and quick, his Breathing difficult; he was low, and had a slight Delirium: A large Blister was applied between his Shoulders, and the Medicines continued. On the 26th, in the Morning, the Petechiæ appeared, and his Breathing was freer: He was ordered a Drachm of the Bark, in a saline Draught, every four Hours. The 27th, the Pulse better: p. The 28th, was more sensible, and had a kindly warm Moisture all over the Skin. The 29th, the Fever was much abated, and his Tongue, which was before parched and dry, became moist and white: He continued the Use of the Cortex for three Days more, which removed the Fever; and being costive, he took a Dose of the Tincture of Rhubarb. After this he used the Bark for a few Days longer, and got perfectly well.

[24]

After giving the Bark^[12] with Success, in the two first of the Cases mentioned, and to two young Gentlemen, Mates of the Hospital, who had caught the Fever from their Attendance on the Sick, I gave it to above a hundred and fifty at *Paderborn*, and elsewhere, during my Attendance in the Military Hospitals in *Germany*; and although it did not answer in every Case, yet it was found to have a better Effect than any other Remedy that was tried. We joined different Medicines with it, according to the State of the Patient. We gave the *Confectio cardiaca*, *Rad. serpent. Virg.* and other cordial Medicines, and Wine, when the Pulse was low; *Oxymel scilliticum*, and other Pectorals, when the Breathing was difficult; Opiates, where the Patient was inclined to be too loose; the *spiritus mindereri*, and other Diaphoretics, when we wanted to promote a free Perspiration; and we applied Blisters as Occasion required.

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[26]

When the Patient was strong, the Pulse quick and full, the Eyes looked red, and the Breathing was difficult, after the Petechiæ appeared; I took away more or less Blood before giving the Bark. Most Practitioners of late Years have been against Bleeding in this Stage of the Disorder; but trusting to the Assurances given by Dr. *Hasenohrl* of its being safe, nay of Advantage to bleed at this Time, if the Symptoms required it, I ventured upon it, and found it to be of the greatest Service, in many Cases, in the Hospitals at *Paderborn* and elsewhere; and particularly in two Cases at *Bremen*, and one at *Osnabruck*, where it gave immediate Relief, and seemed to shorten the Disease much. One of the Patients at *Bremen*, *Robert Ellis*, belonged to an Independant Company; the other, *Francis Hamstan*, of the 24th Regiment, had formerly had his Skull fractured, and took the Fever, while he was in the Hospital, for violent Head-achs, which he had been subject to, at times, ever after his Skull had been fractured. The Case at *Osnabruck* was a Nurse of the Hospital, whose Name was — *Andrews*, a Woman about twenty-five Years of Age, who, after attending a Dragoon in the Small Pox, and suckling at the same time her own Child, then in the same Disorder, was, on the 18th of *January* 1763, attacked with a Fever. I saw her for the first time on the 20th, and found her Pulse quick, full, and strong. She complained of a violent Head-ach; for which she was bled, and took the saline Mixture, with Nitre and Contrayerva. Next Day, the 21st, her Blood appeared very sily, and she complained of having been costive for some Days. We gave her immediately an Ounce of the *sal catharticum amarum*, which operated well. She continued much in the same Way the 22d, and had some loose Stools that Day. Being still inclined to be loose the 23d, instead of her former Medicines, she was ordered the *spiritus mindereri* Mixture, with Mithridate. This checked the Purging, but did not stop it entirely. The Fever went on, without any remarkable Change, till the 27th; at which time the Petechiæ appeared all over her Body, attended with a Redness of the Eyes, and a violent Oppression and Pain of her Head, and a quick Pulse. I ordered six Ounces of Blood to be taken away immediately, and a large Blister to be

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applied to her Back, and, at the same time, ordered her a cordial Mixture, with half an Ounce of the Extract of the Bark in it, to be taken every twenty-four Hours. The 28th, her Pulse was not so hard, her Head was much easier, the Redness of her Eyes was much less, and the Petechiæ had begun to die away. The Blood which was taken away the Day before, had a thin Buff at the Top, but the *Crassamentum* underneath was of a dark Colour, and of a loose Texture: p. On the 29th, she told me that she had had two or three loose Stools, and she was lower than the Day before; and therefore a Drachm of Mithridate, and two Drachms of the Tincture of Cinnamon, were added to her cordial Mixture, with the Cortex; and she was allowed half a Pint of Red Wine, mulled with Cinnamon, *per Day*. 30th, Her Tongue rather moister than the Day before; and she not so low, but she was still inclined to be loose; and therefore was ordered the anodyne Draught at Nights, and to continue the other Medicines. 31st, She was still inclined to be loose; but her Pulse kept up, her Tongue was moister, and she found herself pretty easy: p. *Feb.* 1st, Her Pulse pretty strong, and she found herself much cooler, and freer from the Fever, and complained of a Dullness of Hearing. On the 2d, in the Morning, she felt a warm Moisture all over her Skin, which, about Noon, broke out into a profuse Sweat, and continued till the 4th; when it went off, and her Urine let fall a copious whitish Sediment. She had then little or no Fever. The Dullness of Hearing still continued, though it was much less than before. After this the Deafness went gradually away. She continued the Use of the cordial Mixture, with the Cortex, till the 12th, and recovered Strength daily. After this, she had no other Medicine, except two Doses of the Tincture of Rhubarb, and was soon in good Health, and able to discharge her Duty as a Nurse.

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However, it ought to be observed, that we must not bleed so freely, in this or any other Stage of the Malignant Fever, as in acute inflammatory Disorders, otherwise we shall sink the Patient, and hurry him to his Grave; and that Bleeding can only take place with Safety and Advantage, under the Circumstances above-mentioned, immediately before giving the Bark freely; or where some accidental sharp Pain in the Breast, or Bowels, or some other violent Symptom, may require it. They err equally, who recommend Bleeding freely in this Fever, with those who entirely forbid its Use.

Although we found the Bark to be in general the best Remedy in this malignant Petechial Fever, yet it did not answer in every Case; for in some we found other Remedies had a better Effect: And therefore, when we observed that, notwithstanding the Use of the Bark, the Patient sunk, and the Symptoms grew worse, we did not persist obstinately in its Use, but tried the Effect of other Medicines.

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Towards the End of *May* 1761, two Soldiers in the Hospital, at *Osnabruck*, were taken ill of this Fever; who, after using the Bark freely, and being allowed a Pint of Red Wine *per Day*, for some Days together, began to sink, and had a Delirium and other bad Symptoms hastening on: upon which I laid aside the Use of the Bark, and ordered each of them a Blister to the Back, and to take a cordial Draught, with fifteen Grains of Musk in it, every four Hours; and to have their Wine mulled with Cinnamon; and although at that Time they were both so low that I scarce imagined they would live twenty-four Hours, yet next Day I found them greatly mended; and they had a kindly warm Moisture all over their Skin, and the Pulse had rose considerably in both. By the Continuance of the same Medicine the feverish Symptoms gradually abated, and they both got well.

About the same time, having given the Bark freely for some Days, and applied a Blister, to another Patient, after the Petechiæ had appeared, I found him one Morning so low that his Pulse could scarce be felt. He could not speak; he had a Delirium, and rather a Tremor than a *subsultus tendinum*, and he had all the Appearance of a dying Man. However, as he still swallowed whatever was put in his Mouth, I changed the Bark Mixture for Draughts, which contained a Scruple of the *confectio cardiaca*, and seven Grains of the *sal vol. corn. cerv.*^[13] each, and ordered one to be given immediately, and afterwards to be repeated every four Hours; and, in the Intervals, to give him frequently a Tea-cup full of Red Wine, mulled with Cinnamon; and to apply two large Blisters to his Legs. Next Day, his Pulse had rose; and by the Continuance of the same Remedies it became gradually fuller and stronger, and the third Day after he recovered his Voice; and a warm kindly Moisture which ended in a profuse Sweat coming on, the feverish Symptoms went off soon after, and he recovered his Health.

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At *Bremen* there were two Men, one in *January*, and the other in *February* 1762, on whom the Cortex had but little Effect, who recovered by the free Use of Mixtures, with the *confectio cardiaca* and *rad. serpentariæ*, and of Wine, with the Application of large Blisters. Several Cases of this kind occurred in the Hospitals, where the Bark did not answer.

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There is one thing to be observed with respect to Malignant Fevers, which is, that if ever they appear in large crowded Hospitals, unless we can thin the Wards, and procure a free Circulation of Air, and keep the Hospital and Sick extremely clean, the Fevers will continue to spread, and great Numbers will die; and even the most

efficacious Remedies will have little or no Effect. And that when once the Infection is grown strong, it requires the greatest Care, and some Time, before it can be entirely got the better of. And that if a great number of Men, ill of this Fever, be kept in the same Ward, they will help to keep up the Infection; and therefore it is always proper, when it can possibly be done, to lay but a few of them in one Ward; not above one-third of the Number generally admitted.

Many of the Patients, towards the Height of this Fever, sooner or later, had a Purging, which seldom proved critical; and some were seized with the Flux. A gentle *diarrhœa*, such as did not sink the Patient, was commonly of Service; but when violent, or a Dysentery came on, the Case was always dangerous; for whatever stopped the Flux increased the Fever; and, if the Purging or Flux continued, it sunk the Patient. Such Fluxes we treated in the Manner to be mentioned afterwards, when we come to the History of the Dysentery.

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In this Fever, it was common for Patients to vomit Worms^[14], or to pass them by Stool, or, what was more frequent, to have them come up into their Throat and Mouth, or sometimes into their Nostrils, while they were asleep in Bed, and to pull them out with their Fingers. The same Thing happened to most of the *British* Soldiers, brought to the Hospitals for other feverish Disorders as well as this. Dr. *Pringle*^[15] when he mentions Worms being observed in this Fever, seems to embrace *Lancisius's* Opinion; and believes that these Worms are not the Cause of the Fever; but being lodged in the Intestines, before the Fever comes on, they are annoyed by the Increase of the Heat, and the Corruption of the Humours, in the Cavity of the Intestines of Persons labouring under Fevers, especially of the putrid Kind; and so they begin to move and struggle to get out. This seemed evidently to be the Case with many of the Patients we had; though in some the Worms seemed to have given Rise to the Fever, which the bad State of the Patient's Humours, or the infected Air of Hospitals, determined to be of this Kind. In many, the Fever lessened, or went off entirely, soon after; and they were no more affected with Symptoms of Worms. But some notwithstanding were subject to frequent Sickness, Pain of the Stomach, and Uneasiness in the Bowels, and discharged some Worms from Time to Time. Others had frequent Relapses into Fevers, which seemed to be owing to the Irritation of these Insects.

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It is no Wonder that Worms of the round Kind should be productive of troublesome Symptoms, and occasion these Relapses; since we know that they have sometimes perforated the Intestines, and been found in the Cavity of the Abdomen^[16].

As soon as we observed a Patient to be troubled with Worms, if his present Situation did not prevent it, we gave twenty-five or thirty Grains of Rhubarb, with five or six Grains of Calomel; and if there was much Sickness, we likewise gave an Emetic; which, in more than one Case, brought up two or three Worms of the round Kind, and gave great Relief. But where the Fever was violent, we were obliged to neglect this Symptom of Worms for the present; and when the Fever was over, if there still remained any Symptoms of Worms, we gave the purgative Medicine once or oftener, and in the Intervals gave the *pulvis stanni*, or an Infusion of Camomile Flowers; and in some Cases, oily Medicines. By these Means most of the Patients got well and recovered their Health, and seemed to be freed, at least for the present, from these troublesome Insects; though a few continued to complain of Sickness, and other Symptoms of Worms, for some Time afterwards.

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What was the Cause of the Army's being so much troubled with Worms of the round Kind, is not easy to ascertain; unless it was owing to the great Quantity of crude Vegetables, and Fruits, which the Soldiers eat in the Course of the Summer and Autumn, and to the bad Water they were often obliged to drink.

In the Malignant Fever at *Paderborn*, many complained of a Dysuria, and some of a Suppression of Urine, especially towards the Decline of the Fever; and others, of a Scalding and Pain in making Water, though they had no venereal Complaint. These Symptoms appeared in other Places, but not near so frequently as at *Paderborn*. Decoctions of Gum Arabic, with some of the *spiritus nitri dulcis*, and oily Mixtures, and Opiates, commonly gave immediate Relief, and soon removed this Complaint.

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One of the first salutary Symptoms which most generally appeared in those who recovered, was a Dullness of Hearing, or Deafness^[17]; which came on about the Height of the Fever, and continued a longer or shorter Time, generally till the Fever was entirely gone; and sometimes for a considerable Time afterwards. For the most Part we did nothing for this Complaint, and it went off as the Patient recovered his Strength. When it continued long, Blisters applied behind the Ears, or on the Neck, and washing the *meatus auditorius* with the emollient Decoction, in which a small Quantity of Soap was dissolved, proved of Service.

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Swellings of the parotid Glands appeared in many Subjects, towards the Decline of the Fever, which came to Suppuration, and proved critical. In two only, out of those I attended while in *Germany*, they came on early in the Fever, but did not suppurate. Both Patients died; all the rest recovered, except one old Man, an Invalid at *Bremen*; who, after having one Swelling appear on the right Side, which came to Suppuration,

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and seemed critical, relapsed into the Fever; and another formed on the other Side, which came likewise to Suppuration, and the Fever ceased, after having reduced him very low; but the great Discharge from the Sores wasted him gradually, and he died hectic in about a Month after the Fever had left him^[18].

As soon as these Swellings of the parotid Glands appeared, we endeavoured to bring them forward to Suppuration, by the Application of emollient Cataplasms, or of gummous Plaisters; and had them opened as soon as a Fluctuation of Matter was to be felt, and afterwards treated them as common Abscesses. *Riverius*^[19] very justly observes, that when such Tumours encrease in such a Manner as to endanger Suffocation, they ought to be opened before they come to Maturation; and Dr. *Pringle*^[20] desires us not to wait for a Fluctuation of Matter, but to open the Abscess as soon as it can be supposed to have formed.

In *February* 1761, three Patients in the Decline of this Fever had Buboes formed in the Groin, which proved critical. At first, on observing them, I suspected them to be venereal; but on examining the Patients, they obstinately denied their having any Reason to suspect any such Cause; and the favourable Manner in which they healed without the Appearance of any other venereal Symptom, made me believe what they asserted to be true; especially as such People are not shy in owning Complaints of that Kind. The first Patient I saw who had a Bubo in the Decline of one of these Malignant Fevers, was a Woman, Wife to a Soldier of the thirty-seventh Regiment of Foot; she had a Child at her Breast, and her Husband was living with her at the Time she was taken ill of the Fever, and neither of them had the least venereal Complaint. In a few Days afterwards, two Soldiers in other Hospitals, towards the Decline of very bad Petechial Fevers, had likewise Buboes formed in the Groin, without any Suspicion of a venereal Taint. Except in these three, I did not see any critical Buboes appear in this Fever while I was with the Troops in *Germany*; tho' Mr. *Lovet*, who served as a Mate to the Hospitals, and who was at *Hoxter*, where we had another Hospital established, while I was at *Paderborn*, told me, that, in the Beginning of the Year 1761, they had several Men in the Hospital ill of this Fever, who had critical Buboes formed in the Groins and Armpits^[21].

About the same Time that these Buboes appeared, severals towards the Decline of this Fever complained of a Pain all along the Spermatic Chord; and soon after a Swelling of the Testicle appeared^[22]. However, this Complaint was not peculiar to those who had the Fever; for others recovering from Fluxes, and other Disorders, were likewise affected with such Swellings. I did not observe any Symptom of this Kind in Fevers while I was with the Troops in *Germany*, except in *January*, *February*, *March*, and *April* 1761. By Bleeding, and applying emollient Fomentations and Cataplasms, and bathing the Parts with *spiritus mindereri* on the first Attack of the Pain, the Swelling of the Testicle was prevented; but where no Mention was made of this Pain till the Swelling had already begun, it commonly ended in a Suppuration of the Scrotum or Testicle, which healed very kindly. We had no Reason to suspect any venereal Taint in any of them.

Many, while recovering from this Fever, were seized with an Ophthalmia, or Inflammation of the Eye; for the most part of one Eye only, sometimes of both. When the Patients were strong, they were blooded, and had Blisters applied behind the Ears; and sometimes, where the Pain was great, had Poultices of Bread and Milk applied to the inflamed Eye; which, with the Assistance of some cooling Physick, commonly removed this Complaint; tho' in some obstinate Cases we were obliged to repeat the Evacuations, to apply Leeches to the Temples; and after the acute State of the Disorder was passed, to order the Eye to be washed frequently with the Collyrium vitriolicum, or Collyrium Saturninum, before we got the better of this Complaint. However, it ought to be observed, that if these astringent Collyria were used too soon, they did hurt. When these Ophthalmias were neglected in the Beginning, the Inflammation frequently rose to a great Height, and left an Obscurity or Philm over the Cornea, which remained an Impediment to the Sight not to be removed.

Towards the Decline of these Fevers, and very often during the Course of them, many complained of Pains in their Feet and Toes, which sometimes ended in Mortifications, especially where the Patients lay in very cold Wards. For the most Part, the Mortification extended no further than the Ends of the Toes, tho' in some it spread over the Feet, and in two or three advanced up the Leg. Several lost one or more Toes; and in *February* 1761, one Man lost Half of each Foot; another lost both Feet, and Part of each Leg. Both got the better of the Fever, tho' the Man who lost both Feet languished a long time afterwards. These Pains of the Feet and Toes, and the Mortifications which followed, were for the most part owing to the Patients being exposed to too much Cold while they were very weak, the Circulation languid, and the Juices vitiated by a putrid Distemper; by which means the Vessels were rendered incapable of carrying on the Circulation in their extreme Branches^[23].

As soon as the Sick began to complain of these Pains of the Toes and Feet, I found the best Remedy to be, the Bathing of the Feet in warm Water, or in warm aromatic Fomentations; and, after keeping the Feet for some time in these warm Liquors, to

dry them well, and then rub them with the *linimentum saponaceum*, or *linimentum volatile*, and wrap them up in Flannel. And if ever any Lividness or Redness appeared on the Parts, we gave plentifully of the Cortex and Cordials, if not contra-indicated by the other Symptoms. When Vesicles arose on the Part, and a Gangrene formed, we directed the Parts to be scarified, and proper Dressings to be applied, while warm aromatic Fomentations and Cataplasms were used.

In *January 1762*, one Patient, ill of the Petechial Fever at *Bremen*, had a Lividness and Blackness, threatening a Mortification, which appeared at the End of his Nose. I expected for some Days, that, if he recovered, he would lose Part of his Nose; but, by giving him large and repeated Doses of the *cortex* and *confectio cardiaca*, in a Mindereri Mixture, and allowing him the free Use of Wine, its further Progress was prevented; and as the Patient got clear of the Fever, the Nose recovered its natural Colour, and only the scarf Skin peeled off from the End of it.

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When the Fever continued long, and reduced the Patients low, it was very common for the Back, and Parts on which the Weight of the Body rested, to mortify. As soon as any thing of this Kind was observed, we ordered such Parts to be covered with proper Dressings, and gave the Bark and Cordials freely; and took care to make the Patient change his Posture; and by Pillows prevented as much as possible the Weight of the Body from resting on that Part. By this Treatment, many recovered, where the Fever was on the Decline, and the Strength not too much exhausted; even tho' a very large Surface of the Skin had mortified; but where the Patients were very low, and the Fever still continued, or where it was complicated with a Flux, which kept them perpetually nasty, and exhausted the Strength, it generally proved fatal.

Patients, who were reduced very low by this Fever, or by repeated Relapses, were subject to oedematous Swellings; especially of the Feet, towards the Evening, after sitting up all the Day. These Swellings generally went away as the Sick recovered their Strength; but in some Cases they continued obstinate, and ascended towards the Thighs; and in some spread all over the Body, and terminated in an universal Anasarca.

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When these Swellings were recent, and confined to the Feet and Legs, commonly the Bark joined to the lixivial Salts, or the Oxy-mel of Squills, or other Diuretics, and a Purgative once or twice a Week, removed them. In some, an Infusion of Horse-radish had a good Effect; in others, Sweats brought out by means of *Dover's Powder*, or of the *guttæ antimonialis anodynæ*.

Sometimes these Swellings were very obstinate, and resisted the Force of all internal Remedies. In such Cases, Punctures made in the Feet, or lower Part of the Legs, which furnished a Drain for the Water, had a good Effect. Blisters applied to the Legs were of Service to some. When the Punctures were made, or the Blisters applied, before the Patient's Strength was exhausted, provided that he laboured under no other Disorder but these oedematous Swellings, which proceeded from Weakness, I never observed any bad Effects from them; tho' I used them both repeatedly in a Variety of Cases. But if the Patient was very weak; or had a Hectic Fever or Purgings; or other Disorders, and the oedematous Swellings large; then oftentimes the great Discharge exhausted his Strength, and a Gangrene and Death were the Consequence.

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One of the most remarkable Instances of the good Effects of Blisters, was in the Case of a Soldier at *Paderborn*; *Thomas Hope*, of the Second Regiment of Foot Guards, after a Fever of this Kind, was swelled all over, especially about the Face and Neck, and had a Difficulty of Breathing: after having tried Variety of Medicines for this Complaint, without any Effect, he had a large Blister applied to his Back, and took the Cortex in a Mixture, with the Oxy-mel of Squills. As soon as the Blister began to discharge, the Swellings decreased; and were afterwards entirely removed by the Help of one or two Doses of Physic, and the continued Use of the Medicines before prescribed. Three other Men in the Hospital at *Osnabruck*, in *May 1761*, having oedematous Swellings of the Feet and Legs, which yielded to no internal Remedies, had Blisters applied to their Legs, used the Cortex, with the lixivial Salts, two or three Times a Day, and a Purge every fourth Day; which removed the Swellings in a short Time.

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Some of the Soldiers, who had repeated Hospital Fevers, had their Blood so much broke down, as to be subject to profuse Hæmorrhages from the Nose; and some of them passed Blood likewise by Stool; which reduced them to a very low State, sometimes attended with imminent Danger. In such Cases we found nothing to answer so well as to give freely of the Bark; to acidulate their Drinks with the *spiritus vitrioli*; to allow them as much Red Wine as the Strength and present Circumstances could bear; and at the same Time to support the Patient's Strength by a mild Diet, of light Digestion; as Water or Rice Gruel, Panado, weak Broth, and the like. When there was a Tendency to a Diarrhœa, we were obliged to add some of the *electuarium diascordii* to the Cortex, and frequently to give an Opiate in the Evening. One Case, where this Method of Cure had a very remarkable good Effect, I had under my Care at *Paderborn*. A Soldier who lay in one of the lower Wards of the Jesuits

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Hospital, after a Malignant Fever, attended with a Flux, used to bleed at the Nose, to four, five, or six Ounces at a Time; and once or twice lost near a Pint of Blood, of a dark Colour, very thin and watery, and of so loose a Texture, that the grumous Part scarcely coagulated. This Evacuation brought him so low, that he could scarce turn himself in Bed; and his Pulse might be said rather to flutter than beat: By the continued Use of the Bark, and of Cordials, and Drinks acidulated with *spiritus vitrioli*, and some Spoonfulls of mulled Red Wine every two or three Hours, he was restored to Health and Strength. The only Accident which happened during the Cure, was a Threatening of a Looseness, and the Return of his Flux; which however was stopt by a Dose of the *tinctura rhei*; by joining some of the *electuarium diascordii* with the Bark, and giving an Opiate in the Evening.

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Putrid Malignant Fevers, attended with Eruptions, are taken Notice of by *Hippocrates*^[24], and other antient Authors^[25]; but whether they meant that particular Sort of Eruption which we now call Petechiæ, is uncertain; as their Descriptions are not clear enough to distinguish it from the Miliary and other Kinds. But since the Year 1500, we have had many accurate Accounts of Fevers of this Kind, which have appeared in different Parts of the World: from all which it appears that such Fevers generally take their Rise either from some antecedent Acrimony of the Blood; or, what is more frequent, from some Source of Corruption or Contagion; from the Use of putrescent animal Food, and a Want of fresh Vegetables and acescent Liquors; from the putrid Steams of corrupted animal Substances; from the moist putrid Vapour of low marshy Places in Summer, where there is stagnating Water, which corrupts by the Heat; from the foul Air of crowded Hospitals, Jails, and Ships; and from such like Causes^[26].

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When once this Fever begins, it is observed to be of a contagious Nature, and (if proper Care is not taken) to affect those who attend the Sick, or who live in the same Room, and breathe the same Air with them.

Many Authors have reckoned the Malignant, Petechial, and Pestilential, to be distinct Species of Fevers; and have treated each of them under a particular Head. But *Riverius*^[27] has very justly observed, that they all belong to the same pestilential Tribe, and only differ from one another in the Degree of Infection, and the Violence of the Symptoms^[28]; and that they are to be cured by the same general Treatment, and the same Medicines.

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FOOTNOTES:

- [1] Dr. *Huxham*, in his *Treatise on the ulcerous sore Throat*, p. 36, says, "I have very often met with this buffy or sily Appearance of the Blood in the Beginning of Malignant Fevers; and yet, Blood drawn two or three Days afterwards, from the same Persons, hath been quite loose, dissolved, and sanious as it were." And in his *Essay on Fevers*, chap. viii. p. 108. says, "The first Blood frequently appears florid; what is drawn twenty four Hours after, is commonly livid, black, and too thin; a third quantity, livid, dissolved, and sanious. I have sometimes observed the Crasis of the Blood so broke as to deposite a black Powder, like Soot, at the Bottom, the superior Part being either a livid Gore, or a dark green, and exceedingly soft Jelly."
- [2] *Observations on the Diseases of the Army*, part III. chap. vii. sect. 3. third Edition, 1761.
- [3] *Ramazini*, in his *Treatise De Constitutionibus annorum*, 1692, 3, 4, in *Mutinensi civitate*, Sect. 19. mentions the Petechial Fever which had been frequent the three foregoing Years; in which the Petechiæ appeared commonly on the fourth or seventh Days, and almost all those died in whom they appeared on the first Day. These Spots came out first on the Neck, the Back and Breast; and it was observed that none escaped unless these Spots extended themselves as far as the Nails of the Toes, vanishing by Degrees on the upper Parts. He tells us likewise, that this Fever was attended with an Inflammation of the Throat, which, about the Height of this Disorder, terminated in a white ulcerous Crust. This sore Throat should seem to be the same which we now call *the malignant ulcerous sore Throat*, which I never once saw while I was with the Troops in *Germany*.
- [4] Dr. *Huxham*, in his *Essay on Fevers*, ch. viii. p. 97, tells us, that sometimes, about the eleventh or twelfth Day, on the coming on of profuse Sweats, the Petechiæ disappear, and vast Quantities of small white miliary pustules break out.
- [5] Dr. *Hasenohrl*, in his *Treatise De Febre Petechiali*, cap. i. p. 12. relates a very particular Case, where the Petechiæ appeared on the fourth, and the white miliary Eruptions on the seventeenth Day of the Fever.
- [6] Dr. *Lind*, in his *second Paper on Fevers*, p. 105. mentions Spots which rise above the Surface of the Skin, and are of the miliary kind, as common in contagious Fevers, as he observed among the *French Prisoners in Winchester Castle*, in the Beginning of the Year 1761.
- [7] Dr. *Huxham*, tho' he says "yet Bleeding to some Degree is most commonly

requisite, nay necessary, in the strong and plethoric;" yet he afterwards makes the following Remark: "Besides, the Pulse in these Cases sinks oftentimes surprisingly after a second Bleeding, nay sometimes after the first, and that even where I thought I had sufficient Indications from the Pulse to draw Blood a second time." See his *Essay on Fevers*, chap. viii. And Dr. *Pringle* observes, that in the second Stage of the Disorder large Bleedings have generally proved fatal, by sinking the Pulse, and bringing on a Delirium. *Observations on the Diseases of the Army*, part III. chap. vii. sect. V.

- [8] Dr. *Pringle* advises giving a Vomit, by way of Prevention, on the first Appearance of the Symptoms, and at Night to force a Sweat, by giving a Drachm of Theriac with ten Grains *Sal volat. Corn. cervi*, and some Draughts of Vinegar-whey, and to repeat the same the following Night; and says, he has often seen those Symptoms removed which he apprehended to be Forerunners of this Fever received by Contagion; but previous to Vomits, or Sweats, if the Person be plethoric, it will be necessary to take away some Blood. *Observ.* part III. ch. vii. sect. 5. Dr. *Lind*, in his *second Paper on Fevers*, p. 66. says, "To all who are supposed to be infected by Fevers, during this Stage of Rigours, a gentle Vomit is immediately to be exhibited before the Fever be formed, and before the Fulness or Hardness of the Pulse renders its Operation dangerous. If the Vomit be delayed too long, and especially if Bleeding must precede it, the most certain and favourable Opportunity of procuring Safety for the Patient is past.—That he has found it equally serviceable in preventing Relapses, when it is given at the Return of the Shiverings." A loose Stool, or two, should be procured by the Emetic or Clysters, and he advises Sweating immediately after, in the manner recommended by Dr. *Pringle*. At other times "he gave five Grains of Camphire every four Hours, with large Draughts of Vinegar-whey. Eight Persons in ten, he says, got quite well by this Treatment."

I have never had sufficient Opportunities of trying this Method of Prevention, to determine any thing certain about it; but it may be worth while to practise it.

- [9] *Petrus a Castro*, in his Account of a Petechial Fever, which was frequent at *Verona*, tells us, that the Sick had a great Thirst, and an Aversion to Meat, but all of them had the strongest Desire for Wine, and were perpetually asking for it, even those who at other Times used to be very temperate; and that this proceeded from an Instinct of Nature, which wanted something to support the Strength. *De Feb. Malig.* sect. iii. chap. 26. Dr. *Huxham*, in his *Essay on Fevers*, has the following very judicious Remark on the Use of Wine: "In this View, and in those above-mentioned, I cannot but recommend a generous red Wine as a most noble, natural sub-astringent Cordial, and perhaps Art can scarce supply a better. Of this I am confident, that sometimes at the State, and more frequently in the Decline of putrid Malignant Fevers, it is of the highest Service, especially when acidulated with Juice of *Seville* Orange or Lemon. It may be also impregnated with some Aromatics, as Cinnamon, *Seville* Orange Rhind, red Roses, or the like, as may be indicated, and a few Drops of *Elix. Vitrioli* may be added. Rhenish and French White Wines, diluted, make a most salutary Drink in several Kinds of Fevers, and generous Cyder is little inferior to either. The *Asiatics*, and other Nations, where pestilential Disorders are much more rife than with us, lay more Stress on the Juice of Lemons in these Fevers than on the most celebrated *Alexipharmac.*" Chap. viii. second Edit. p. 123, 4.

Acid and acescent Liquors have very justly been recommended and used by most late Practitioners, in this as well as in other malignant Diseases. Vinegar-whey, Barley-water acidulated with Lemon-juice, and such other Liquors, make good Drinks for the Sick; but we were obliged, for the most part, to use the vitriolic Acid for acidulating the Patient's Drink, as it was the easiest procured and carried about with the Flying Hospital.

- [10] If the preventive Method does not succeed, Dr. *Lind* advises to have recourse to Blisters; and says, that sixteen out of twenty will next Morning be free of the Fever. But adds, this is said, provided the Source of their Infection be not so highly poisonous as it was in the Garland Ship, or in other such violent Contagions. Dr. *Pringle* mentions his having applied Blisters early, but without relieving the Head, or preventing any of the usual Symptoms. I have often ordered Blisters pretty early in the Disorder; and though I have frequently found them of use in keeping up the Pulse, and relieving the Head, and other Symptoms, yet I never saw them have such an immediate Effect as Dr. *Lind* mentions.
- [11] It is long since the *Peruvian* Bark has been used by Practitioners in Malignant Disorders, though I do not know that any body gave it in this Fever to the Amount of an Ounce per Day, before Dr. *Haen* and Dr. *Hasenohrl*. Dr. *Ramazini* mentions its having been tried in the Petechial Fever, in the Years 1692, 3, 4. And in a Treatise on the Plague in the *Ukraine*, published at *Petersburgh*, in the Year 1750, we are told, that in the *French* Translation of the Philosophical Transactions for the Year 1732, there is a Note to p. 264, telling, that Mr. *Amyand* informed the Academy of Surgery at *Paris*, that Mr. *Rushworth*, Surgeon, had wrote to Sir *Hans Sloane*, on the 23d of *May* 1723, that when he was Surgeon to a Ship, in the Year 1694, he had cured some Men ill of the Malignant Fever, attended with pestilential Buboes, by means of the *Peruvian* Bark. Dr. *Huxham* has recommended a Tincture of the Bark; and Dr. *Pringle*, a strong Decoction of it, with some of the Tincture, in these Malignant Fevers.
- [12] The *Peruvian* Bark has not only been found useful in this Malignant Fever, but has likewise been recommended in the Plague. See *Morton Oper. Append. secund. Exercitat. Hist. Febr. Ann. 1658, ad. an. 1691. complexa*. In the Small Pox, see *Medical Essays*, vol. V. art. x. and has been found serviceable in the putrid

Disorders of the *West Indies*, as taken Notice of by Dr. *Hillary*; and in the malignant ulcerous sore Throat in this Country, as Dr. *Wall* and others have observed. And in thirty-five Cases of the malignant ulcerous sore Throat, in which I gave it, joined with Cordials, and the Use of Acids, I did not lose one Patient. Nine of them were strong People, and had plethoric Symptoms, and were blooded in the Beginning; and seven of them were costive, and took a Dose of gentle laxative Physic before taking the Bark. The rest had no Symptoms which seemed to require these Evacuations. However, it ought to be observed, that this is a Disorder of the malignant kind; and that although some well-timed gentle Evacuations may be serviceable in the Beginning, before giving the Bark; yet too free, or even gentle Evacuations, injudiciously made, will sink the Patient, and infallibly do Mischiefs.

The free Use of the Bark has long been found serviceable in Mortifications and foul Sores, where the Juices tend too much to the Putrescent; and has been strongly recommended by Mr. *Ranby*, Serjeant Surgeon to his Majesty, in the Cure of Gunshot Wounds. See his *Treatise on Gunshot Wounds*.

- [13] Dr. *Huxham*, in his *Treatise on the ulcerous sore Throat*, p. 54, &c. condemns the Use of the volatile alkaline Salts, in Fevers of the putrid, pestilential, or petechial kind, as being apt to heat too much, and to hasten the Dissolution and consequent Putrefaction of the Blood. However, I cannot help thinking that they are the best Remedies we can use on some particular Occasions, even in this Fever; for we have no Remedy which gives such a sudden and brisk *Stimulus* to the Fibres as they do. And I have known many Cases of Patients who were extremely low, and whose Pulse was scarce to be felt, and others who were apt to fall into fainting Fits, who have been preserved by large and repeated Doses of these Salts, and the free Use of Wine, and acescent Liquors, to correct their alkaline Acrimony in the Blood. Though as soon as such Patients had recovered from this low State, I laid these Medicines aside; because I cannot help agreeing with the Doctor in the Belief, that their continued Use will produce the Effects he mentions. For although it be true, that these Salts, when mixed with putrescent Liquors, or with dead animal Substances, resist Putrefaction, and, like ardent Spirits and Vinegar (the other Products of Fermentation) check and put a Stop to that very Process which produced them: Yet it is also true, that, when mixed with the Blood of living Animals, they stimulate the Vessels, and increase the Heat and *Momentum* of the Blood, and dissolve it; and therefore I cannot but disapprove the continuing their Use longer than is immediately necessary.
- [14] Some Men passed only one Worm; others, two or three; some, six or seven; and one Man, of the Guards, in *January* 1763, after passing three by Stools in the Course of a Fever of this Kind, discharged fourteen more upon taking a Dose of Rhubarb and Calomel after the Fever was over.
- [15] *Observations on the Diseases of the Army*, part iii. chap. iv. Note to p. 213. third Edition.
- [16] See *Hoffman's Works*, vol. III. chap. x. *River. Observ. commun.* Obs. 13. of *Observations found in a Library. Bonetus's Sepulchret. anatom.* tom. II. *Gualther van Doeveren's Inaugural Dissertation de Vermibus intestinalibus*, published at *Leyden*, 1753; and *Lancisi's Works*; for Cases where the internal Coats of the Stomach, and Intestines, have been eroded, and all the Coats perforated by Worms of the round Kind.
- [17] *Riverius* tells us, that, according to *Hippocrates's* Doctrine, Deafness is a very dangerous Symptom in the Beginning of acute Disorders, though it be a good Omen, and portends Health, when it does not appear till the Height of Fevers, especially those of a malignant Kind; and adds, that he himself has a thousand Times observed, that those labouring under this Fever have recovered, when this Symptom of Deafness came on at the Height (*in statu*) though the other Symptoms threatened much Danger. *Prax. Medic.* lib. XVII. sect. iii. cap. i. p. 451.

This Symptom of Deafness occurs in other Fevers as well as in this, and often proves a good Symptom in them likewise, as I have frequently observed. Two remarkable Examples of which I had under my Care in St. *George's* Hospital, in the Year 1759. On the 17th of *January* 1759, *James Donaldson*, a young Man of nineteen Years of Age, was admitted into the Hospital for a Fever, attended with a Stupor and a Delirium, a parched dry Tongue, and other Symptoms of a Fever of the inflammatory Kind, for which he had been blooded, and used other Evacuations. On the 19th, after the Application of a Blister, he was seized with almost an entire Deafness; after which, all his other Symptoms became milder, and he mended daily, and was entirely free from the Fever by the 30th. On the 10th of *April* 1759, a Youth, *John Young*, fifteen Years of Age, was admitted into the same Hospital for a Fever, which had already continued fourteen Days. His Speech was affected, and he had entirely lost the Use of his Limbs, was delirious, and had other bad Symptoms. On the 12th, his Hearing became exceedingly dull, and he recovered daily afterwards, and was discharged, cured, the 2d of *May*, having recovered the Use of his Legs as well as got free of the Fever.

- [18] But although these parotid Swellings were in general so favourable with us, we are not to imagine that this will always be the Case: for *Riverius*, though he speaks of these Swellings proving for the most part critical; yet he tells us, that, in the Year 1623, this Fever was epidemic at *Montpelier*, and that almost one half of the Sick died; and particularly, that most of those who had Swellings of the parotid Glands appearing about the 9th or 11th Day, were carried off within two Days of their Appearance. Having attended several who died from the Swellings not coming to Suppuration, he began to consider in his own Mind, what might be the Cause of their Death, and concluded, that it was owing to there being a greater Quantity of

morbid Matter in the Blood than the Part was able to contain, and that Evacuations by bleeding and purging were the only Remedies which were likely to give Relief; and therefore, in the first Case of this Kind, in which he was afterwards consulted, he ordered three Ounces of Blood to be taken away, notwithstanding the Patient was so low that the Surgeon was afraid he would have died in the Operation: The Pulse rose on bleeding, and he ordered four Ounces more to be taken in three or four Hours afterwards: The Pulse rose still more, and he ordered a Dose of Sena and Rhubarb to be taken next Day, and the Patient recovered. And he adds, that all those who were treated in this manner got well. *Prax. Med. Lib. XVII. sect. iii. cap. 1.*

[19] Ibid.

[20] *Pringle's Observations on the Diseases of the Army*, Part III. chap. vii.

[21] This Symptom of Buboës is taken Notice of by Authors, but does not seem to be so frequent as many of them would make us believe. Neither Dr. *Huxham* nor Dr. *Pringle* mention their having seen such Buboës; and Dr. *Lind* says, that he never saw them till the Beginning of the Year 1763.

[22] *Hippocrates* takes Notice of Swellings of the Testicles in Fevers. He tells us, that a Man from Alcibiades had his left Testicle swell before the Crisis of a Fever. See his *Second Book on Epidemics*, sect. ii. And he mentions this Symptom as a Crisis in the ardent Fever. See his *Book on Crises*, sect. xi.—And Dr. *Antonio Lizzari*, in a Treatise which he published on the *Acute Diseases which were frequent at Venice, and all over Italy, in the Years 1761, 62*, tells us, that Abscesses of the Scrotum and Testicles frequently followed the Measles.

[23] These Pains and Mortifications of the Feet and Toes were not confined to those who were brought low by malignant Fevers; for, during the very hard Frost in the Beginning of the Year 1763, many of the Patients who lay in very large open Wards in the Hospital at *Osnabruck*, were affected in the same Way. One Man had both Feet, and Part of each Leg, compleatly mortified, and died in about nine Days after the first Appearance of the Mortification. One lost half of one Foot, and some Toes of the other; and the third lost the first Joint of some of his Toes, and the Ends of others.

[24] *Hippocrat. lib. ii. popul. sect. iii. text. 2.*

[25] *Aetius Tetrab. ii. sect. i. cap. 129. Actuar. lib. i. cap. 23.*

[26] See these Causes mentioned by *Riverius*, and since more fully explained by Dr. *Pringle*, *Observations on the Diseases of the Army*, part iii. chap. vii.

[27] *River. Prax. Med. lib. xvi. sect. iii. Præfat.*

[28] The Malignant or Hospital Fever, and Petechial, seemed to me to be entirely the same Disorder, and the Petechial Spots to be only a Symptom which appeared sometimes, but not always. And *Riverius* says, the Petechiæ do not always appear; but when they do, it is a most certain Sign of a Pestilential Fever. See his *Prax. Med. cap. xvi. sect. iii.*

OF THE DYSENTERY.

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THE Dysentery generally began to appear soon after the Army took the Field; and became frequent about the End of *July*, and continued so till the Army went into Winter-Quarters; and through the Winter, many of those, who had this Disorder in Autumn, relapsed, upon returning to their Duty; or by drinking too freely of spirituous Liquors, and being irregular in their Living.

It is now generally agreed upon, that this Disorder is entirely produced by such Causes as make the Juices become too putrescent, and turn the Flow of Humours to the Bowels; and in the Camp it seemed to arise principally from an obstructed Perspiration caused by the Men's lying in the Field, and doing the necessary Military Duties in all Sorts of Weather; at the same Time being often exposed to the putrid Steams of dead Horses, of the Privies, and of other corrupted Animal or Vegetable Substances^[29], after their Juices had been highly exalted by the Heat of Summer.

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At the Time the Petechial Fever was frequent at *Paderborn* in *January, February*, and *March* 1761, the Flux frequently accompanied it; and we had in the Hospitals likewise a Number of old Cases of this Kind, the Remains of the preceding Campaign about *Warbourg*; besides some Men who had relapsed during the Winter, and were sent to us when the Troops marched, upon the Winter-Expedition, into the Country of *Hesse*. In *May* and *June*, what Fluxes we had at *Osnabruck*, were the remaining old Cases of the Hospitals of *Munster, Paderborn, Hoxter, and Niehms*. Some few recent

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ones were sent to *Bilifield* about the End of *June*, and above 300 to *Munster*, in *July* and *August*. Those sent to *Bremen*, in *November* and *December*, had continued for some time before they reached us; but a good many of the Soldiers in the Garrison were taken ill of this Disorder, and sent immediately to the Hospital. In the Beginning of *May* we had but four ill of this Complaint in the Hospital I attended; and there were not above six or seven, among the Sick sent down from the Army, in the Middle of this Month. In *June* there were but two sent to the Hospital at *Minden*; and not above ten among the Sick sent to *Natzungen* in the Beginning of *July*; tho' towards the Middle of this Month they began to be more frequent; and continued to be more so in *August* and *September*; and in the Hospital at *Osnabruck* we had not above five or six ill of this Disorder, in *December* 1762, and in *January*, *February* and *March* 1763.

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The Dysentery commonly begun with Sickness and Gripes, succeeded by a Purging, and attended with more or less Fever. Very soon the Gripes became more severe, attended with a Flatulency in the Bowels, and often with a Tenesmus. The Stools were chiefly composed of Mucus, mixed with Bile, and more or less Blood: tho' sometimes no Blood could be observed in them; and then the Soldiers used to say they had the White Flux.

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After eight, ten, or twelve, Days, if the Disorder was not complicated with any other, there remained little or no Fever, unless where some Accident supervened; tho' in Cases which terminated fatally, towards the latter End came on a Fever of a low malignant Kind, attended with black fetid Stools, Lientery, Hiccup, Stupor, and other bad Symptoms.

It often happened, that, after the Dysentery had continued for some Time, the Sick complained for a Day or two of severe Gripes; and then discharged along with the Stools little Pieces of hardened Excrements; at other Times, tho' more rarely, little Pieces of white Stuff like Tallow or Suet: Frequently small Filaments, and little Pieces of Membranes, were found floating in the Stools; and it was very common for the Sick to vomit up Worms of the round Kind, or discharge them by Stool^[30].

In the Course of the Disorder, the Men often complained of a violent Pain of the Rectum, near the Fundament, which was most excruciating when they went to Stool; it continued for some Days, sometimes for a Week or more; and then they passed more or less of a Yellow Pus with their Excrements, and the violent Pain ceased. Mr. *A. Tough*, one of the Apothecaries to the Military Hospital in *Germany*, was the first who told me that I should find Pus mixed with the Stools: on my mentioning a Case of this Kind, which had been relieved by Bleeding, and Clysters often repeated; he told me he had observed it frequently at *Gibraltar*; and was at a Loss to understand the Nature of the Symptom, till he observed the Matter in the Stools; which at once shewed him that it had been originally an acute Inflammation of the Part, and pointed out to him the proper Method of Cure.

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Oftentimes the Bilious and Malignant Fevers terminated in the Dysentery; or were accompanied with it, when it might be looked upon as a Symptom of these Fevers.

The Appearances we found after Death in the Bodies of some Patients, who died of old Fluxes at *Bremen*, were: In all of them the Rectum was inflamed, and partly gangrened, especially the internal Coat. In two the lower Part of the Colon was inflamed, and there were several livid Spots on its great Arcade. In one whose Body was much emaciated, and who had been seized with a violent Pain of the Bowels two Days before his Death, all the small Guts were red and inflamed; and in another there were livid gangrened Spots on the Stomach^[31].

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There was no Disorder we were more successful in the Cure of, than recent Fluxes; but after they had continued for Weeks, and were become in a manner chronic, they often foiled all our Endeavours, and a great Number died^[32].

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Upon my first being employed in the Military Hospitals in *Germany*, I was surprised to see so many of the old Dysenteric Cases end fatally; and imagined I had not fallen upon the Right Method of treating them: but upon consulting the other Physical People^[33] employed in the same Service, I found them as unsuccessful, as myself, after having tried a Variety of Remedies: And at last, I was convinced, that when once the Flux had continued long, and injured the Structure of the Intestines to a certain Length, a Gangrene will often form by slow Degrees; and the Disorder end fatally, notwithstanding the Use of what are esteemed the most efficacious Remedies; and that, when this Disorder is violent, the Cure principally depends upon an early and speedy Application of proper Remedies, before the Strength be exhausted, or the Structure of the Bowels too much hurt. The bad Success we had in treating these old Cases, may perhaps surprise those who have never practised except in healthful Cities, where the Disease is commonly mild, and People apply soon for Advice. But all those Gentlemen who have had the Care of Military Hospitals, where the Dysentery has been frequent, and where the Sick have been often sent a great Way, before they reached the Hospitals, must be convinced of the Truth of what is here asserted.

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In the Treatment of this Disorder, as well as of the Malignant Fever, nothing contributed more to the Cure, than keeping the Sick as clean as possible, and in large airy Wards.

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Most of the recent Fluxes, which I saw, were at first attended with a good deal of Fever, and Pain in the Bowels; and required more or less Blood to be taken away, according to the Strength of the Patient, and the Violence of the Symptoms.

When the Patients were strong, and complained of sharp Pain of the Bowels, attended with a Fever, we used the Lancet freely, nor were we discouraged from bleeding in the Beginning by the low quick Pulse which often attended the Disorder; and we frequently found the Pulse rise as the Blood flowed from the Vein. But when the Sick were low and weak, without much Pain or Fever, and the Pulse was soft, we were more sparing of the vital Fluid^[34].

As the Disorder was for the most part attended with Sickness in the Beginning, we gave a Vomit after bleeding; which not only discharged the Contents of the Stomach, and a Quantity of Bile, but relieved the Sickness, and frequently threw the Patient into a breathing Sweat; and made the Purgatives which were given next Day operate more freely, and with more evident good Effects than where no Vomit had been administered.—If in the Course of the Disease the Sickness returned, the Emetic was repeated; and we often observed, when the Flux was obstinate, that well-timed Vomits greatly promoted the Cure.—The Vomit we commonly employed was the Powder of Ipecacuana, which we gave from ten to twenty Grains; and where the Patient was strong, and we wanted to make a free Evacuation, we added one, two, or three Grains of the Tartar Emetic; which increased the Strength of the Vomit, and commonly operated likewise by Stool^[35], as Dr. *Pringle* has observed.

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Next Day we ordered a Purge to empty the other Parts of the alimentary Canal. The Purgative, that at first was most employed for this Purpose, was Rhubarb; but upon repeated Trials we did not find, that, in general, it answered so well, in this first Stage of the Disorder, as the *sal catharticum amarum*, with Manna and Oil; which operated without griping or disturbing the Patient, procured a freer Evacuation, and gave greater Relief than any other purgative Medicine we tried. Mr. *Francis Russel*, Surgeon to the *British Military Hospital in America*, who was formerly Surgeon to the Island of *Minorca*, was the first Person who informed me (in the Year 1757) of the Use of the *sal catharticum amarum* in the Dysentery; he told me, that the Year before (1756) the Dysentery had been very frequent and very fatal at *Gibraltar*; and, after trying Variety of Medicines, he had found nothing give more Relief, or contribute more to the Cure, than repeated Doses of these Salts.

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As a great Part of the Cure depended on the frequent Use of gentle Purges^[36] in the Beginning, to carry off the corrupted Humours; the Purgative was repeated every second, third, or fourth Day, as the Case required; the Operation of the former Purge, and the Symptoms, determining the Frequency of the Repetition. It was surprising with how little Loss of Strength the Sick bore the Operation of these Purges; I have sometimes given them to strong People every Day, for two, three, or four Days successively; and observed that the Patient, instead of being weakened, seemed stronger, and more brisk and lively, after the Operation of each, from the Relief it gave; by evacuating those putrid, corrupted Humours, which kept him perpetually sick and uneasy, while they remained within the Bowels.

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Though Rhubarb did not answer so well in the Beginning as the saline Purges; yet afterwards in the Course of the Distemper, when the Patient did not complain much of Gripes, half a Drachm of Rhubarb, either by itself or in a saline Draught, proved a good gentle Purge; and given with six or seven Grains of Calomel, was found to be a good Medicine, when the Disorder was attended with Worms.

In the Evening, after the Operation of the Purge, we gave an Opiate; and repeated it at Nights, in the Intervals between the Purges; but were obliged to be very sparing of the Dose, while the Disorder continued in its acute State; the Opiate was only given in a Quantity sufficient to mitigate the Pain, and to procure Rest, but never so as to stupify the Patient, or prevent a due Discharge by Stool; though we were often obliged to encrease the Dose, as Use made it familiar to the Patient.

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In the Intervals between the Purges, we gave in the Day, the Mindereri Draughts with the Mithridate; or the saline Draughts with the Addition of four Drops of the *tinctura thebaica*; or some such mild diaphoretic, every four or six Hours; which helped to keep up a free Perspiration, without any Danger of stopping the Purging; and for the most part answered much better than the Diascord, or Philonium, or other strong Astringents and Opiates commonly prescribed for this Purpose; which were always liable to check the Purging too much, and bring on severe Gripes attended with Heat and Fever^[37]; and therefore we seldom made Use of them in this first Stage of the Disorder.

If the Patient was attacked with severe Gripes^[38], and a Tenesmus, which the Purgatives and gentle Opiates did not relieve, we ordered the Abdomen to be fomented with warm Stupes; and the Patient to drink freely of warm Barley or Rice-

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water, or of weak Broth^[39], or an Infusion of Camomile Flowers, as recommended by Dr. *Pringle*; and ordered first Clysters of large Quantities of the plain emollient Decoction to be given; and if the Gripes still continued, to be repeated in small Quantities, with the Addition of a Drachm or two of the *tinctura thebaica*; for we observed that Opiate Clysters often gave more Relief, than Anodynes administered in any other Way; and sometimes, when a Tenesmus was very troublesome, the common oily Clyster, with a little Diascord, and *tinctura thebaica*, or the Starch Clyster, gave more Ease than any other.—In some Cases, where the Pain was sharp, attended with a Fever, we were obliged to take away more or less Blood; and sometimes also to apply a Blister to that Part of the Abdomen where the Patient felt most Pain.

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During this Course, the Patients used the common low Diet of the Hospital; when they loathed the Rice-Gruel, they had Panado with a little Red Wine and Sugar; or Water-gruel, when it could be got, in its Place.—Their common Drink was Barley or Rice-water; of which it was recommended to them to drink plentifully; as nothing contributed more to the Cure than the free Use of such Liquors, to dilute and blunt the Acrimony of the Fluids^[40]. In some Cases, when the Purging was violent, and not accompanied with the malignant Fever, the *decoctum album* was found to be a good Drink; and we added occasionally a few Drops of the *tinctura thebaica*.

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Such were the chief Remedies we used in the first Stage of this Disorder; but after some Weeks, when the Fever had abated, and free Evacuations had been made, and the Complaint become in a manner chronic, we were obliged to try other Methods; and found that the best Way of treating this Disorder, was, to endeavour to brace and restore the Tone of the Intestines, by means of the corroborating and gentle astringent Medicines, mixed with Opiates; while mild Purgatives were given at proper Intervals.

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The Patients were kept to the same low Diet as before, with the Addition of a little Wine or Brandy. They were allowed from a Gill to a Pint of red Wine *per Day*, which was commonly mulled before it was given them; when the Wine griped them, which it frequently did, they took in its Stead Half a Gill or a Gill of Brandy, mixed with a Pint or a Quart of Barley or Rice-water, or of the *decoctum album*.

In this Stage of the Disorder we found, that the same Medicines would not answer with all, and therefore we were obliged to try Variety^[41]; and indeed, unless where the Violence of the Disorder had abated by the Use of Evacuations, the Event was always very doubtful; for when the Complaint had continued long and become chronic, and the Structure of the Intestines was much hurt, before the Sick were sent to us; or when it continued obstinate, and yielded but little to Evacuations, and the other Methods used in the first Stage, even Remedies esteemed the most efficacious oftentimes proved unsuccessful, and at length the Patient died.

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A Spoonful of the *mixtura fracastorii*, taken after every loose Stool; and an anodyne Draught at Night, had a good Effect with some—Repeated Doses of the *philonium Londinense* answered better with others, who were low, and required a Remedy that was warm and cordial—And others found more Benefit from the Mindereri Draughts, with Mithridate, or the *confectio cardiaca*, or the Theriac anodyne Boluses.

The *mixtura Campechensis*, both alone and with *tinctura thebaica*, checked the Purging, and gave Relief sometimes; and the Addition of some of the Extract of Bark and Tincture of Cinnamon, seemed to encrease its Efficacy in one or two old Cases, at *Bremen*; but it afterwards occasioned such Sickness, that we did not continue its Use.

In other inveterate Dysenteries, where we thought that a strong Astringent was wanted, we added a small Proportion of Allum to the *Campechense* Julep, which on first using seemed to be serviceable; but at other Times it occasioned a Tenesmus and Gripes; and therefore we were obliged to be very cautious how we used it.

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Equal Parts of the *electuarium diascordii* and *electuarium corticis*, taken in the Quantity of a Drachm twice or thrice a Day, was of Use in many old Fluxes^[42], though it made other Patients so sick, that they were obliged to lay it aside.

We tried likewise in this Stage of the Disorder, repeated small Doses of the Ipecacuana; but it occasioned such Sickness, that we did not persist in its Use.

In other Cases, we gave from two to five Grains of the Ipecacuana, mixed with Opium, in different Proportions (from three Grains to ten of the Ipecacuana to one of the Opium), every four or six Hours; it gave sometimes a little present Ease, at other Times it occasioned Sickness; we often continued its Use for ten, twelve, or fourteen Days; but it seldom produced any remarkable Change for the better, and we were obliged to have Recourse to other Remedies.

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Dover's Powder was given in large Doses, from one Scruple to two; and proved a good Sudorific and Anodyne in some Cases; though in others it made the Patients sick, without producing any good Effect.—It commonly answered better, when used occasionally as a Sudorific, than when constantly continued.

During the Use of these Remedies, it was necessary to repeat the Purgatives from Time to Time; or to mix them occasionally with the other Medicines, in order to carry off any corrupted Humours, or Excrements that might be lodged In the Cavity of the Intestines; for when this was neglected, the Patients were often seized with Sickness and Gripes, and a more violent Purging than before:—And if at any Time they complained of Gripes, and passed little Pieces of hardened Excrements, it was mostly a certain Sign that a Purge was indicated; and, on such Occasions, it generally gave Relief; and when attended with Sickness, a Vomit was given before the Purge.—Clysters were used as in recent Cases, where the Sick were low, or had much Pain of the Bowels^[43], or complained of a Tenesmus.

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In some old Dysenteries, where the villous Coat of the Intestines was much injured, I gave the Cordial Draughts, with the Addition of Half a Drachm of the *balsamum copaivi*, a Scruple of the Extract of the Bark, and five Drops of the *tinctora thebaica*, three Times a Day. At first, this Medicine seemed to promise much, particularly in the Case of an old Invalid, *William Brookes*; who had been long ill of a Flux, attended with Gripes and a Tenesmus. He had used Variety of Remedies, without receiving any Benefit. For the first Fortnight, after he began the Use of this Medicine, he rested well, and found great Relief; and seemed to be in a fair Way of doing well. But the Disorder being too far advanced before he began to use it, he relapsed, and died. On opening his Body, the inner Coats of the Rectum and the lower Part of the Colon seemed to be reduced almost to a gelatinous Substance, and the other Coats were black, approaching to a Gangrene.—The same Medicine gave Relief in other Cases, but they were too far advanced before it was administered. In these Cases, when the villous Coat of the Intestines was inflamed and very irritable, the mucilaginous Medicines, the *pulvis e tragacantha*, and such others, were of Service; and frequently Starch Clysters and Anodynes gave Relief, when other Remedies had little Effect. Flower, boiled with Milk, and sweetened with Sugar, and given for Breakfast, as mentioned by Dr. *Pringle*, proved a good Palliative to some; and the Starch and Gum Arabic, dissolved in Water, a good Drink to others.—Lime Water and Milk, drank to the Quantity of a Pint or a Quart a Day, was of use to a few, though it did not agree with all.

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It was very common for Patients bad in the malignant Fever to be seized likewise with the Flux. Such Cases were always extremely dangerous; and when the Fever was bad, we were often obliged to neglect the Flux, and only attend to the Fever.—When the Purging was violent, and appeared very early in the Fever, it often sunk the Patients, and soon carried them off: but where it was moderate, and did not appear till towards the Height or the Decline of the Fever, it often proved a Crisis to the Disorder.

When such Fluxes appeared early attended with sharp Pain of the Bowels, and Signs of Inflammation; if the Patient was strong, we began the Cure with opening a Vein, which the Patient bore easily, and it gave Relief; but when the Symptoms were mild, without any acute Pain, the Bleeding was omitted.—Commonly the Bowels were loaded with corrupted Humours, when this Symptom appeared; and, therefore, we found it of Advantage to give a Dose of the Salts with Manna and Oil, or some other gentle Purge, to carry them off; and in the Evening an Opiate to ease the Pain and procure the Patient Rest.

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After this we gave the Mindereri Draughts with Mithridate; and as soon as the Petechiæ appeared, or we observed any Remissions in the Fever, the Patient took every four or six Hours, a Drachm of an Electuary, composed of equal Parts of the *electuarium corticis* and the *electuarium diascordii*^[44]; or Half a Drachm of the Powder of the Bark, or a Scruple of the Extract, in the Mindereri Draughts, with four or five Drops of the *tinctora thebaica*; and we repeated the Opiate in the Evening, always proportioning the Quantity of it to the Effects of the former Dose, and the Violence of the Purging.

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On the second or third Day, we repeated the Purge; or, if the Patient was weak, ordered a Clyster to be administered in its Place; in order to prevent the putrid Fluids and Excrements from being accumulated in the Bowels:—In other respects we treated it as when the Disorder was not complicated with the malignant Fever.

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This Method, though it did not succeed with all, yet it answered better than any other I tried;—and it ought to be remarked, that although it had such a good Effect in Cases attended with the malignant Fever, or where the Fever inclined to the intermittent Kind, it did not answer so well in other recent Cases, but often made the Patient sick.

In military Hospitals, Fluxes are liable to be complicated with other Disorders, as well as with the malignant Fever; especially with Coughs, and pleuritic and peripneumonic Symptoms, when the Weather begins to be cold, in *October* and *November*.—In such Cases, when the Patients were strong, we were often obliged to bleed freely, to apply Blisters, and in the Beginning treat the Disorder as inflammatory; having at the same Time an Eye towards the Flux, in the other Medicines we prescribed.

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Patients, who have had the Flux long, are apt to have their Legs swell at Nights; or to swell all over as soon as the Flux has stopped. Such oedematous or anasarca Swellings, we treated nearly in the same Manner as those which followed the petechial Fever; only that we durst not at first be so free with the Use of Purgatives; for as the Bowels remained weak and easily irritated, such Medicines were apt to bring back the Flux; and therefore, in the Beginning, we were for the most part obliged to attempt the Cure by Diuretics and Diaphoretics; and to be sparing of the Use of Purgatives, especially of those of the hydragogue Kind; though if the Swellings continued for some Time after the Flux was gone off, and the Patients were strong, we then ventured to give Purges at proper Intervals.—And Blisters and Scarifications removed them in several Instances both at *Paderborn* and *Osnabruck*.

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In *December*, 1761, we had a Case of this Kind where the *oxymel scilliticum* was of remarkable Service. A Soldier, belonging to the Guards, after a Flux, swelled all over, and made but a very small Quantity of Water. He took Medicines of different Sorts for some Weeks, but received no Benefit till we gave him the Oxymel Mixture; after taking a few Doses he made Water very freely, and in large Quantities, and the Swellings of his Body and Scrotum began immediately to subside; and by continuing its Use for a Fortnight, the Swellings entirely disappeared, and he recovered his Health and Strength.—The Oxymel, at the same Time that it promoted a Flow of Urine, kept his Body gently open, but did not occasion any Return of the Flux.

At the Beginning of *January*, 1762, one *Carter*, a Soldier of the Eleventh Regiment of Foot, laboured under an universal Anasarca; which about two Months before had succeeded a Flux. He made but very little Water, and that of a high red Colour. He took Variety of Medicines, as Purges, Vomits, *Dover's* Powder, lixivial and neutral Salts with Opiates, Infusions of Horse-Radish, all without Effect; till he was ordered small Doses of Calomel, three Grains Morning and Evening. After the third Dose he began to make Water freely; and by the 24th of *January* the Swellings were all gone, and he was shipped off for *England* the 8th of *February*; having been discharged from his Regiment. The Ship, he went aboard of, was detained in the River *Weser* for above six Weeks, and the malignant Fever broke out aboard the Transport: He took the Distemper, and got well of it; but towards the Decline was seized with a Return of the Flux, which carried him off.

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When these oedematous Swellings came after the Purging was stopt, if the Patient's Strength was not much exhausted, and he laboured under no other Disorder, he commonly got the better of it:—But when the Strength was gone before the Swellings appeared, the Disorder often ended in a confirmed Dropsy, and at last in Death; and when the Swellings were universal over the Body, while the Flux yet continued, it was a Sign of great Weakness, and they did not survive it long^[45].

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FOOTNOTES:

[29] The Dysentery has been long alledged to arise from a putrescent Cause in Camps; from the Smell of corrupted dead Animals, and of Excrements, during the Heat of Summer. *Ramazini*, in his Chapter on Camp-Diseases, informs us, that Dr. G. *Erric Barnstorff*, Physician to the Duke of *Brunswick*, who served five Campaigns with the *Brunswick* and *Lunenburg* Troops in *Hungary*, told him, that the Camp Diseases, particularly the Malignant Fever and Dysentery, took their Rise from the Troops remaining long encamped on the same Ground, and being exposed to the corrupted Steams of the Bodies of dead Men, Horses, and other Animals, which lay unburied; and of Excrements, which were not covered with Earth. And these Causes have since been particularly taken notice of by Dr. *Pringle*, in his *Observation on the Diseases of the Army*.

Many have imputed the Cause of this Disorder to the eating of Fruit in excess, because it generally appears about the Middle of Summer, the Time the Fruit begins to be in Season, and continues through the Autumn. But from later Observations this should seem to be a vulgar Error. Dr. *Pringle* (part i. ch. iii. p. 20.) tells us, that, in the Year 1743, this Sickness began and raged before any Fruit was in Season, except Strawberries, (which from their high Price the Men never tasted) and ended about the Time the Grapes were ripe; which growing in open Vineyards were freely eat by every body. And Dr. *Tissot*, in a Treatise which he published, called *Avis au Peuple sur la Santé*, in his Chapter on the *Dysentery*, § 320, says, that ripe Fruit, especially the Summer-Fruits, are so far from being the Cause of the Disorder, that they are the great Preservatives against it: he says, that, in the Years which the Fruit is most plentiful, the Dysentery is least frequent; and he relates several Instances where the Use of ripe Grapes proved a Cure for the Disorder. Eleven People were attacked by the Dysentery, nine eat Fruit, and all recovered; the other two, a Grandmother and Child, from Prejudice, eat none, and both died. A Regiment of *Swiss* Soldiers, in Garrison in the South of *France*, had the Dysentery very frequent among them. The Captains purchased some Acres of a Vineyard, and carried the sick Soldiers to the Field, and gave them the Grapes to eat; and ordered the Men in Health to live upon them chiefly. After this not one Person died, nor was any one seized with the Distemper.—In an Account of a Treatise on the Dysentery, published at *Hamburg* in 1753, which was epidemical

the Year before, in *August* and *September*, we are told, that it did not proceed, as is commonly believed, from the eating of Fruit; for it was observed, that those who eat Fruit freely escaped better than those who abstained from it altogether. *Vide Comment. de Rebus in Hist. Nat. & Medecin. Gestis*, vol. II. par. iv. sect. v.

Generally in *August* and *September* we have People admitted into *St. George's* Hospital for the Dysentery; who have certainly not caught the Disorder from eating of Fruit, but from working in the Fields, and being exposed to Causes similar to those which produce the Dysentery in Camps.

[30] Most Authors, who treat of the Dysentery, mention this Symptom of Worms; and Dr. *Huxham* tells us, that, in some Seasons, he has seen round Worms in the Stools of most of the Dysenteric Patients. *De Aere*, vol. II. p. 98.

[31] From the Accounts we have in Authors, of the Dissection of the Bodies of Persons who died of the Dysentery, it would appear; that there is no Part of the alimentary Canal which has not some time or other been found inflamed, or in a state of Suppuration or Gangrene; and the Liver, Spleen, and other Viscera, have likewise been found diseased, but the Rectum and Colon have almost in all been more or less affected. The following Account I had, in the Year 1748, from the late Dr. *L. Fraser*, who afterwards practised in the Island of *Nevis*, two Days after the Patient died. *Mary Reid*, a Woman thirty Years of Age, was taken ill of a Dysentery, which in Three Weeks Time killed her. In her Life-time she complained, more than ordinary, of Gripes in her Belly, especially in her Left Side. Her Body was opened in Presence of Dr. *Dundas*, who had attended her, during her Illness. All the Intestines and Mesentery were inflamed, especially the Colon and Rectum; the internal Side of which was quite in a mortified State, and contained little Vesicles full of a putrid fetid Liquor, Numbers of which she had evacuated by Stool some Days before her Death.

[32] While this Sheet was in the Press, I received Dr. *Pringle's* 4th Edition of his *Observations on the Diseases of the Army*, and Dr. *Baker's* Treatise on the *Dysentery which was epidemic in London in the Year 1762*. Both these Gentlemen give an Account of the Dissection of the Bodies of some People who died of the Dysentery; where, besides the common Appearances of the inner Surface of the Rectum and Colon being covered with a bloody Slime, and their internal Coats being inflamed, gangrened, or in a putrid State, there were observed on the Inside of the lower Part of the Colon, and upper Part of the Rectum, a Number of little Tubercles, or Excrescences, which resembled the Small Pox, of a flat Sort at the Height of the Disorder; but differed from them in this, that they were of a firm Consistence, without any Cavity: they were believed to take their Rise from the cellular Membrane, which lies immediately above the villous Coat. Perhaps such Tubercles might have been found in the Colon and Rectum of those Bodies we opened; but not looking for them, they may have passed unobserved.

Morgagni, in his Book lately published, *de Sede & Causis Morborum*, epist. xxxi. is of Opinion, that the Filaments, and Pieces of Membranes, which are frequently observed in the Stools, are often formed of inspissated Mucus and Lymph, and other Liquors; and not the Fibres, or Pieces of the villous Coat of the Intestines, as alledged by many Authors.

[33] Mr. *Cleghorn*, in his *Account of the Diseases of the Island of Minorca*, says, "That almost all the Dysenteries which fell under my Observation, unless they were speedily cured in the Beginning, at best proved obstinate, and too frequently fatal, in spite of the many boasted Specificks for this Distemper." chap. v. p. 228.—The physical Gentlemen employed on the *American* Service have told me, that the old Flux Cases were as fatal in *America*, as we found them in *Germany*. I would not from thence have it believed, that every old Flux was to be looked on as a lost Case; and for that Reason given up, and no Attempts be made to cure it; for many, by great Care, and Strength of Constitution, have gradually surmounted the Disorder, and recovered their Health; especially when they got over the Winter, and lived till the warm Weather began.

[34] Although Bleeding, in the Beginning, has been recommended by *Sydenham*, *Huxham*, *Pringle*, and other Practitioners; yet it has been reckoned unnecessary in this Disorder by some late Authors. But in most of the recent Cases I saw, it was extremely necessary, and contributed greatly to the Relief as well as the Cure of the Patient; indeed where the Disorder had already continued some time, and the Fever was gone off before the Patient was sent to us; and the Disorder had become in a manner chronic, and the Patient low, then bleeding was unnecessary, and would have probably done Hurt. Mr. *Francis Russel* told me, that when the Dysentery was epidemical at *Gibraltar*, in Summer 1756, he found that by bleeding such Patients as he met with at the first coming on of the Symptoms, and by giving them immediately a Vomit, and afterwards a sudorific Draught, the Disorder was rendered mild, and few of those died.

[35] Mr. *W. Russel*, who was with the Hospital at *Martinico*, told me, that, when he was there, he found the Vomit with the Tartar Emetic to be far preferable to any other, in all Cases where there was much putrid Bile lodged in the alimentary Canal; as it speedily carried off those corrupt Humours, which were often productive of the greatest Mischiefs, if they remained, but for a short Time, pent up within the Bowels.

[36] Variety of Medicines have been recommended to answer this Purpose.

The *vitrum ceratum antimonii* proved often too rough a Medicine, and therefore we laid it almost entirely aside.

Repeated small Doses of the Ipecacuana, from four to six Grains, operated both as an Emetic, and kept up a Purging; but they made the Men so sick, that we could not prevail upon them to continue their Use. Mr. *Francis Russel* told me, that, in the Year 1756, he found a few Grains of Rhubarb added to each Dose, made it operate more as a Purgative, and did not make the Men so sick.—Dr. *Akenside* proposes giving the Ipecacuana in so small Doses as one or two Grains every six Hours, in a Draught made of Mint-water, and Half a Drachm of *confectio cardiaca*; and, after bleeding and vomiting once, seems to depend almost entirely on the Use of this Medicine for the Cure of the Dysentery. See his *Comment. de Dysenteria*, cap. 2.

The watery Tincture of Rhubarb, recommended by *Degnerus*, we tried in some Cases at Bremen; and found it to be a good mild Purge, but not to answer so well as the Salts and Manna in recent Cases. Mr. *William Russel* told me that they found this watery Tincture of Rhubarb to answer better in *America* than any other of the Preparations of Rhubarb.

Calomel has been recommended by many as a Purge in Dysenteries; and Dr. *Huxham* (*de Aere*, Vol. II. P. 100) assures us, that he has often experienced the good Effects of it, especially when the Patient at the same time had Worms; in such Cases we joined it to Rhubarb as mentioned in the Text, or gave a Calomel Bolus over Night, and a Purge next Morning. Dr. *Duncan*, Physician to his Majesty, told me, that he found the following Method of Cure always successful in the Dysentery, which was epidemic in *London* in the Year 1762.

If the Patient was Plethoric, or had much Fever, he ordered more or less Blood to be taken away; and then gave four Ounces of the following Julep, every Half Hour, till it both vomited and purged. $\text{R Tartar. emetic. gr. iij Mannæ elect. Unc. ij solve in Aq. hordeat. Lib. 1.}$ —The next Day, and for five or six Days more, the Patient took so much of a Decoction, of Manna, Tamarinds, and soluble Tartar, as kept up a free Discharge by Stool.—If the Irritation and Gripping were severe, he found that a Solution of Manna, in the common Almond Emulsion, was sufficient.

When the Pain, or Tenesmus, was violent, a Clyster, of Chicken Broth, or of an Infusion of Linseed, with an Ounce or two of Oil of sweet Almonds dissolved in the Yolk of an Egg, injected once or twice a Day, was of great Use.

Upon the whole, he was always pleased when he saw large excrementitious Stools come away; and when that could be procured by a gentle Method, he was the more pleased.

This Disorder was very often cured in a few Days, and in that Case he dropt the further Use of Medicines; but when it exceeded the Period of six or seven Days, he then added thirty or forty Drops of the *tinctura thebaica* to the Clysters; and ordered a Scruple of the Extract of the Logwood to be taken thrice a Day in some proper Vehicle.

The Patient's Diet was Rice-Gruel, Sago, Panado, and such like; no Animal Food, not so much as Chicken-Broth, was allowed in the Beginning of the Distemper, nor even Oil, Butter, or Fat of any Kind. The common Drink was Almond Emulsion, Rice-Water, or Barley-Water with Gum Arabic.

Dr. *Duncan* lost but one Patient out of Eighty, whom he had under his Care that Season; and he was delirious, had a high Fever, and a *subsultus tendinum* before the Doctor was called to him, and he died the next Day.

The late Dr. *Young*, of *Edinburgh*, seems to have had a very just Notion of this Disorder, and of the proper Method of treating it; for, in his Treatise on Opium, sect. vii. he says, "I am convinced from Experience, that most of the Dysenteries I have hitherto met with, might have been cured by purging mildly, but constantly; and at the same time abating the Acrimony in the great Guts by emollient Clysters, and in the small ones by Plenty of Absorbents, and a Diet of Chicken Broth: But it must be observed with regard to Purgatives, that Manna agrees best with some, Rhubarb with others, Jalap, Mercury, and toasted Rhubarb with others; while others are sooner cured by emollient Clysters. I use Opium only when the Disease is mild, or after its Violence is abated by Evacuants and Emollients."

Scammony, Aloes, and the other strong resinous and hydragogue Purges, are hurtful, and occasion Pain. I always observed, that those Purges answered best which made the freest Evacuation, and acted with the greatest Ease to the Patient; of which the Salts and Manna answered best of any I have hitherto used.

[37] *Sydenham*, *Huxham*, and all good Practitioners, have taken Notice of the bad Effects of the too free Use of Astringents, and given Cautions against it.

[38] If the Patient was suddenly attacked with sharp Pain of the Bowels and Gripes, on a Day in which he had not Physic, a Dose of the Salts and Manna was commonly given immediately, to empty thoroughly the first Passages.

[39] Mr. *W. Russel* told me, that he and Dr. *Huck* found the free Use of the following Emulsion, made of Bees Wax, to be of great Use after Evacuations, where there was much Pain of the Bowels, in recent Cases of Fluxes in the Hospitals in *America*. $\text{R. Ceræ alb. vel flavæ drachmes tres. Sapon. alb. Hispan. drachmam unam. Aquæ fontanæ, unciam unam, liquefiant super ignem in vase ferreo, agitando spatula, & dein infunde in mortarium marmoreum, & adde paulatim aq. fontanæ, libras duas syrupi sacchari. spiritus vini gallici tenuis, vel aquæ alicujus spirituosæ ana unciam unam, terendo optime ut fiat emulsio.}$

This Method of dissolving Bees Wax, in a Watery Liquor, is entirely new; for

before this we knew of no Way of making it miscible with Water.

- [40] Dr. *Huxham* (*de Aere*, Vol. II. p. 107.) says, there is no Disorder in which a diluting, sweetening Drink is more necessary than in this; that he has done great Service among the Poor by luke-warm Water; that, after emptying the Bowels thoroughly, he has sometimes cured this Disorder by the Use of pure Water, and a small Quantity of Opium. And *Baglivi* (*Prax. Med. lib. i.*) tells us, that the drinking of common Whey, and throwing up frequent Clysters of it, had cured many, and that this was looked upon as a Specific, and kept a Secret by some.

- [41] Dr. *Pringle*, in the *fourth Edition of his Observations*, just published, in treating of the third or last Stage of the Dysentery, remarks, that this is the Time for Astringents, which ought not to be given sooner, or at least very sparingly. And he tells us, that, in the former Editions of his Work, he mentioned those Compositions which he had most frequently used, but that he had now laid most of them aside; and at present trusts to Vomits, and to a Milk Diet, for the perfect Cure.

He says, "Whenever therefore the Patient is in this State, and especially when his Pulse is quick, and he complains of inward Heat, I began with giving him a Scruple of Ipecacuana; and the next Day I put him upon the Milk-Diet; which I continue till all the hectic Symptoms are gone, and till the Bowels have recovered their Tone. During this Course I have seldom had Occasion for any other Medicine, excepting the Chalk Julep mentioned before, which I use for correcting that strong Acid so incident to relaxed Stomachs. Sometimes also I add an Opiate to procure Rest at Night; but after a few Days these are likewise laid aside. All that I require (which indeed is often hard to obtain) is a strict Perseverance in the low Diet: and now and then a Repetition of the Vomit, upon any new Disorder of the Stomach, or great Laxity of the Bowels.

"Whilst the Patient continues in this Course, I forbid all animal Food and fermented Liquors; and besides Milk, I allow only the Preparations of Grain, Sago and Salop." See Part iii. ch. vi. p. 289, 290.

- [42] I had lately a very remarkable Instance of the Effects of this Medicine, in the Case of one *Gilchrist*, a middle-aged Man, by Trade a Taylor; who was admitted into *St. George's Hospital* the 20th of *July*, 1763, for an old Flux, which had continued above six Months, and reduced him very low: He had taken a great many Medicines without any Effect. After giving him a Vomit and two Doses of Tincture of Rhubarb, I gave him four Grains of the Powder of Ipecacuana with Opium three Times a Day; but that having no Effect, after using it for above a Fortnight, I ordered him the Electuary of Diascord and Cortex; from the Time he began to use this Medicine, he mended daily; and was dismissed in good Health the 26th of *September*.

- [43] On the 21st of *November*, 1759, *Hannah Meredith*, a middle-aged Woman, was admitted into *St. George's Hospital* for a Flux, which she had six or seven Weeks; she had no Fever, but complained much of Sickness and Gripes, and her Disorder had reduced her very low. During the two first Weeks of her being in the Hospital, she had two Vomits of Ipecacuana and four Doses of Rhubarb; and in the Intervals anodyne and astringent Medicines, which made no Alteration in her Complaints. On the 2d of *December*, she told me, that two Years before she had had a Flux for above three Months, which had yielded to no Remedies till she was ordered repeated Clysters, and that they had made a Cure in a short Time. I then ordered an emollient Clyster with a drachm of the *electuarium diascordii*, and a Scruple of the *tinctura thebaica*, to be given twice a Day, which gave her almost immediate Relief; and with the Assistance of some Doses of Rhubarb, and one or two Vomits and occasional Opiates, removed her Disorder by the Middle of *January*; though she remained long weak, and troubled at Times with Gripes; but these Complaints were at last got the better of by her taking some Doses of Rhubarb, and drinking daily a Pint of Lime Water mixed with Half a Pint of Milk.

Sarah Spencer, a middle-aged Woman, was admitted into *St. George's Hospital* the 9th of *November*, 1763, for a Flux, which had continued for two Months, and reduced her very low. She complained much of Sickness and Gripes; her Stools were mostly composed of Mucus and Blood; her Pulse was low, and she had no Fever, but a Whiteness of the Tongue, and complained of Thirst.—The first Day she had a Vomit, and next Day a Dose of the purging saline oily Draught.—She was ordered to have an emollient Clyster, with a Drachm of Diascord, and as much *tinctura thebaica*, given her every Evening; and to have a Dose of the saline oily Purge twice a Week, and Opiates occasionally; by following this Course, and drinking at Times the Chalk Julep, her Disorder was removed, and she was discharged the Hospital on the 30th of the same Month.

- [44] This Practice of giving the Cortex with Opiates in the Dysentery is not new; for Dr. R. *Morton*, in his Appendix to his second Exercise on the Fevers, which appeared from 1658 to 1691, observes, that after the Plague of 1666 had ceased, a Fever from a milder Poison, attended with Gripes and Dysentery, began to make its Appearance. As the common Methods of Cure proved unsuccessful, and Dr. *Morton* observed Exacerbations and Remissions, he resolved to give the Bark mixed with Laudanum; and found it answer his Expectation. The first Patient to whom he gave it, was a man in *Long Lane*, who laboured under a Tertian Dysentery; upon observing a Remission, he ordered a Drachm of the Bark, mixed with a Grain of Opium, to be given every four Hours for six Times; and this removed both the Fever and Dysentery.—He says, he afterwards gave it, with equal Success, in the Quotidian Dysenteries, where he observed Exacerbations or Remissions; and he adds, that he does not doubt but that it will answer as well in Epidemical Diarrhoea's, and Camp Fevers attended with such Symptoms.

Dr. *Whytt* of *Edinburgh* has given with Success a strong Decoction of the Bark, mixed with the *confectio japonica* of the *Edinburgh* Dispensatory, in the bad State of the Dysentery, when the Mouth and alimentary Canal were threatened with Aphthæ, and even sometimes after they had appeared. And Dr. *Pringle* mentions his having given the Decoction of the Bark, with Snake-Root and some Drops of Laudanum, in the Dysentery complicated with the malignant Fever. See *Note to Page 245 of his third Edition on the Diseases of the Army.*

[45] Many other Medicines have been used for the Cure of old Dysenteries,—The *Conessi Bark*, recommended as a Specific in Diarrhœas, cured a Dysentery which had yielded nothing to a Variety of Medicines. *Edinburgh Medical Essays, Vol. III. Art. iv.*—The *cortex eleutheriæ vel cascarillæ* is much recommended for the Cure of Dysenteries in the *Memoir. de L'Academie des Sciences a Paris 1719*, and is still in great Repute among the *Germans*.—The Decoction of the *semiruba* Bark was found to have a good Effect in the Dysentery, where the Patient continued to void Blood with his Stools; and when the Stools were only liquid, without a Mixture of Blood, some of the *Cascarilla* added to the Decoction increased its Efficacy. See *Degnerus's Treatise de Dysentria, cap. iii. sect. 55.* These and many other Remedies have been tried in obstinate Dysenteries.

From what I have observed myself, and from the Accounts of others, I am now convinced, that such Cases as are not already too far gone, are most likely to be cured,

1. By keeping the Patients on a low Diet, composed principally of Milk, Sago, Rice, Salop, and such other Things as are recommended by Dr. *Pringle*; allowing weak Broths, and a small Quantity of white Meat, as they recover their Strength. The common Drink to be Barley or Rice-Water, Toast and Water, *Bristol* Water, Almond Emulsion, and such like.—By making them wear some additional Cloathing, and guarding carefully against catching cold.—Errors of Diet and Exposure to Cold being the most frequent Causes of Relapses into this Disorder.

2. By giving from Time to Time a Dose of some mild Purge; such as a little Manna and Salts; a Solution of Manna in Almond Emulsion; twenty or thirty Grains of Rhubarb, in a saline Draught, or such like; and occasionally gentle Emetics.

3. By the Use of some of the mild Astringents and Corroborants.—The Bark, with Astringents and Opiates, agreeing best with some—Decoctions of the *Semiruba* with others—Chalk in Electuaries, or Juleps, with others—anodyne and astringent Clysters with others—while others receive more Benefit from other Remedies—and severals find themselves better when they use no Medicines of this Kind.

4. And by the occasional Use of Opiates, and a free Air: And by moderate Exercise on Horseback, or in a Machine in the convalescent State.

I ought not to omit mentioning, that I have seen some Cases where Evacuations had been used in the Beginning, which, after they had continued for some Time, were cured by a regular Diet of Broths, and white Meats; riding daily on Horseback; and drinking a generous good Claret Wine. However, it ought to be remarked, that this Method only succeeded where the Disorder was mild, and its Violence had abated by previous Evacuations.

OF THE CHOLERA MORBUS.

[97]

THE Cholera Morbus, or a sudden and violent Vomiting and Purging, was very frequent in *July* and *August 1701*; and several were attacked with it at *Munster*.

—It was attended with great Sickness, with Pain, and Inflation of the Abdomen, Thirst, and a small quick Pulse: Some had it in a pretty violent Degree, but in general it was mild; and although the Sickness, Vomiting, and Purging, continued, in one or two Cases, for above a Day; yet none of those died whom I saw.

This Disorder weakens the Patient much, in a short Space of Time; and sometimes, when violent, kills in less than twenty-four Hours. It is always most frequent in Summer and the Beginning of Autumn; and is taken Notice of by *Hippocrates*, *Aretæus*, *Celsus*, and other antient Authors; and is very accurately described by many of them.—It is of the bilious Kind; and the Cure principally depends upon the free Use of warm mild Liquors in the Beginning; to dilute and blunt the Acrimony of the Bile, and other Fluids, and to promote their Discharge; and afterwards of gentle Cordials to support the Strength; and warm Fomentations to allay the Pain when violent; and mild Opiates to procure Rest; and if the Sickness or Gripping remains next Day after the Cholera is stopt, to give a Dose of Physic and an Opiate in the Evening.

[98]

An Officer, who had been wounded on the 15th of *July*, at the Battle of

Fillinghausen, began afterwards to live very freely, and was on the 4th of *August* seized in the Night with the Cholera.—About ten o’Clock next Day I was sent for; and found him in violent Agony, with sharp Pain in the Bowels, Reachings, and Strainings to Vomit, and Spasms and Cramps in the Bowels, Legs, and Arms.—He had large red Blotches on his Extremities, and no Pulse was to be felt at the Wrist, and rather a Fluttering than a Beating at the Heart.—He had vomited and purged much in the Night before I saw him, but the Purging had begun to abate.—I immediately ordered him an emollient Clyster, and a saline Draught, with the *confectio cardiaca*, and five Drops of liquid Laudanum; which, if he vomited up, was to be repeated soon after; if not, only once in four Hours: And he was directed to drink freely of weak Chicken Broth, warm.—Two Hours afterwards we found him in the same Situation; still no Pulse to be felt, which prevented us from bleeding him; and the violent Pain of the Stomach and Bowels, and the Cramps, continued. We then ordered Flannels, dipped in a warm emollient Decoction, to be kept constantly applied to his Belly, dipping them in the warm Decoction as soon as they began to grow cool; his Clyster to be repeated with the Addition of a Drachm of the *electuarium e baccis lauri*, and Half a Drachm of the *tinctura thebaica*; a Scruple of Castor, and Half a Drachm of Spirit of Lavender, to be added to each of his Draughts; and a Blister to be prepared, in case these Medicines gave no Relief.—Soon after, beginning to use the Fomentations, the Cramps and Pains began to abate; about four o’Clock in the Afternoon we could perceive a Fluttering of the Pulse at the Wrist, and all the Pains and Cramps were much easier; so that there was no occasion for the Blister.—Next Morning he was very easy, but low, and inclined to be sick; for which his Cordial Draughts were repeated every six Hours.—The third Day, as he complained of a little Gripping in the Bowels, we ordered him a Dose of Tincture of Rhubarb, and an Opiate in the Evening, which entirely removed these Complaints, and he was abroad and well next Day.

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[100]

One Soldier, who had a good deal of Fever, and complained of acute Pain in the Bowels, along with the Vomiting and Purging, was blooded; and drank freely of warm Barley-Water while the Vomiting continued.—After throwing up a Quantity of green bilious Matter, the Vomiting ceased; and the Gripes and Purging became less violent.—In an Hour after, being able to retain some very weak Broth in his Stomach, he drank plentifully of it through the Day; and the Purging being abated towards Night, he took an anodyne Draught; and next Day, having still a little Sickness remaining, had a Dose of Physic and an Opiate at Night, which removed all his Complaints.

[101]

The Rest, who were attacked with the Cholera at *Munster*, were treated much in the same Way; only as they had not such acute Pain and Fever as this Man, it was thought unnecessary to bleed them.

The Antients^[46] recommended drinking freely of warm Water in the Beginning, and the Use of both cold and hot Fomentations of the Stomach and Belly;—and in the low State, the Use of Wine, mixed with Water, and Polenta^[47]; and to apply Rue, with Vinegar, and other strong smelling Things, to the Nostrils; besides Variety of other Remedies.—When Convulsions happen, *Celsus*^[48] advises to anoint the Belly with warm Oil; and if that does not remove them, to apply Cupping-Glasses or Mustard to the Stomach; and, after sleeping, to abstain the second Day from Drink; and the third, to go into the Bath; and if any thing of a Fever remains after the Cholera is suppressed, to give a Purge.

[102]

Dr. *Sydenham*^[49] trusts principally to drinking freely of Chicken Broth, and throwing up Clysters of the same, and afterwards giving Opiates.

Dr. *Ayton Douglas*, in the sixth Volume of the *Edinburgh Medical Essays*^[50], recommends a Decoction of Oat Bread, baked without Leaven or Yest, and carefully toasted as brown as Coffee, but not burnt; as a Remedy very grateful to the Stomach, and useful in stopping the Vomiting, and sometimes the Purging too: And he relates several Cases where it had a good Effect. After the Vomiting was stopped, he added the Use of mild Opiates; and, where the Patient was low, Wine and other Cordials.

[103]

FOOTNOTES:

[46] See *Aretæus*, Lib. ii. Cap. 4. and *Celsus*, Lib. iv. Cap. 11.

[47] The Polenta seems to have been nothing but toasted Barley Meal. See *Plinii Hist. Natural.* Lib. xxii. Cap. 25.

[48] *Celsus loco citato.*

[49] *Processus integ. de Cholera.*

[50] Art. 65.

OF THE INFLAMMATORY FEVER.

[104]

ON the Return of the Troops from the Winter Expedition into the Country of *Hesse*, in the Year 1761, we had several Men seized with Inflammatory Fevers without any topical Inflammation; and at the Opening of each Campaign had always Numbers sent to the Hospitals ill of this Disorder. Towards the End of the Campaigns, and throughout the Winter, many were seized with Inflammatory Fevers; but these were mostly complicated, with pleuritic, or peripneumonic Symptoms, or other topical Inflammations, or with rheumatic Complaints.

In the Inflammatory Fever, the Sick were seized at first with cold and hot Fits, succeeded by Pain in the Head and all over the Body. The Pulse was strong and quick, and the Blood sily; attended with other Appearances commonly observed in such Fevers.

[105]

As the Summer advanced, this Fever was often accompanied with bilious Symptoms, with Sickness, and vomiting of bilious Matter, and very frequently with a Purging: Towards the End of Summer it ceased, and was succeeded by the bilious remittent Fever.—And it was no uncommon Thing to see those Fevers, which originally were entirely of an inflammatory Nature, after the sick had been some Days in a crowded Hospital, partake a good deal of the Nature of the Malignant Fever, or be changed entirely into it.

We treated these Fevers in the common antiphlogistic Method.—We bled freely in the Beginning; gave the saline Draughts with Nitre and other cooling Medicines; and made the Patients drink plentifully of small Liquors:—And when they were inclined to be costive, gave mild Purges, or emollient laxative Clysters. We afterwards applied Blisters; and if the Pulse began to sink, gave Cordials, Wine, and other Remedies commonly employed in such Cases;—and towards the Decline of the Fever endeavoured to promote such Evacuations as were pointed out by Nature, and likely to prove critical.

[106]

When the Case was complicated with bilious Symptoms in the Beginning, we were obliged to have particular Regard to the first Passages. If the Patient complained much of Sickness, we gave a gentle Vomit in the Evening, after bleeding; and a Purge next Day, to carry off any bilious or corrupted Humours that might be lodged in the Stomach or Intestines; and we found that these Evacuations gave Relief, and generally mitigated all the Symptoms.

If at any Time during the Fever a Looseness came on, especially when attended with Gripes, we gave a Dose of some gentle Physic, which made a free Evacuation; and an Opiate in the Evening after its Operation; and afterwards we found it answer better to attempt rather to moderate, than wholly stop the Purging by strong Astringents, and Opiates; unless where the Evacuation by Stool was so great as to be in Danger of sinking the Patient.

[107]

The *pulvis antimonalis*, composed of ten Parts of the *pulvis e chelis*, and one Part of the Tartar emetic, given in small Doses, was serviceable in many of these Fevers, after free Evacuations had been made.

Two Patients, one a Soldier of the Twentieth Regiment, the other a *German* Waggoner, were taken ill of this Fever about the 25th of *December*, 1762: They were both bled freely, and had a Dose of Physic in the Beginning; and the saline Draughts with Nitre and other cooling Remedies; and had Blisters applied without producing any considerable Change in their Disorder.—On the 5th of *January*, 1763, they both complained much of Thirst, and were inclined to be costive; their Tongues were parched, their Pulses quick and small, and their Skins dry; they were restless at Nights, and the Soldier had a slight Delirium.—I ordered each of them four Grains of the *pulvis antimonalis* every four Hours.

[108]

6th. Next Day the Soldier told me, he had had four loose Stools; his Senses were much clearer, the Pulse calmer and slower, and he said he found himself lighter and easier, and less feverish, than he had been since he was first taken ill. The Medicine was continued, with the Addition of an anodyne Draught at Night.—7th. I found him in a fine breathing Sweat, and he told me he had slept well in the Night: p.—8th. The Sweat continued till this Morning, and on going off his Urine let fall a copious white Sediment, and left him free from the Fever; after which he mended daily.

The Waggoner, after taking the third Dose of the Powders, had a warm Moisture upon the Skin.—On the 6th was cooler and without much Fever, and had had one Stool.—7th. The warm Moisture ended in a profuse Sweat, which carried off the

OF THE ANGINA; OR, SORE THROAT.

[109]

MANY of the Soldiers during the Campaign were seized with Inflammations of the Throat, especially when the Nights were cold and moist after warm Days; and when they did Duty in cold wet Nights in the Winter Season.—All of them I saw in *Germany* were of the inflammatory Kind; I did not observe any that were malignant.

They were treated in the antiphlogistic Method.—The Patients were bled liberally in the Beginning—took the cooling nitrous and saline Medicines—gentle Diaphoretics and Purgatives—and used frequent Gargarisms.

[110]

Sometimes a Flannel rubbed with camphorated Oil, or the *linimentum volatile*, and applied round the Neck, was of Service.—And frequently after bleeding sufficiently, where the Breathing or Swallowing was difficult, the Application of a large Blister to the Neck gave speedy Relief.

OF THE PLEURISY.

[111]

THE Pleurisy, or an acute Inflammation of the Side, was most frequent among the Soldiers towards the latter End of the Campaigns; though some were attacked with it at all Times of the Year, from doing Duty in all Sorts of Weather.

We followed the antiphlogistic Method of Cure; and ordered plentiful Bleeding in the Beginning, till the Violence of the Pain began to abate, or the Patient grew faint;—and the Side to be fomented with Flannels dipped in warm emollient Decoctions, and afterwards rubbed with volatile Liniments: At the same Time the Patient drank freely of warm diluting Liquors, as Barley Water, the pectoral Decoction, and such like; and took the saline and other cooling Medicines, mixed occasionally with Sperma Ceti, or some other soft Pectorals, if there was a tickling Cough.—When the Patient was costive, we gave a Dose of Salts, or some other mild Physic, or laxative Clysters.

[112]

If the Pain continued very acute, we repeated the Bleeding as often as Necessity seemed to require, and the Pulse could bear; and immediately after the second Bleeding ordered a large Blister to be applied to the Part affected.

Physicians formerly used to forbid Bleeding after the fourth Day, if it had been omitted so long; but when no Symptoms of Suppuration had already appeared, on whatever Day of the Disorder it happened, I ordered plentiful Bleeding, the same as in recent Cases; and never found any Disadvantage, but often great Service from this Practice.

When the Sharpness of the Pain was gone, and the Pulse became soft, very often a dull Pain remained for some Time in the Part.—In some Cases a brisk Purge removed it;—in others, cupping above the Part, and afterwards rubbing it with the volatile Liniments, did Service;—in others, gentle Opiates at Night, especially where there was a tickling Cough;—and in one or two Cases, this Pain did not go away, till the Patient was ordered to drink every Day for some Time, a Quart of the Decoction of Sarsaparilla with the antimonial Wine.

[113]

In the Course of this Disorder, if a kindly Moisture broke out on the Skin, which gave Relief, this was encouraged by the Use of mild warm Liquors; or if the Patient began to spit up a viscid or yellowish Mucus, we endeavoured to keep up the Expectoration by the Use of mild Pectorals; and if a Purging came on, we were

careful not to check it too soon, unless it was so violent as to be in Danger of sinking the Patient.

When an Inflammation of the Side came to Suppuration, which happened in one or two Cases at *Osnabruck*, in *May* 1761; as soon as a Fluctuation of Matter was to be felt, an Incision was made in the Part, and the Matter discharged; after which the Sore healed kindly, and the Patients recovered^[51]. I am persuaded, was this Operation oftener performed, many would recover who die consumptive.

[114]

FOOTNOTES:

[51] Dr. *Mead* advises, where the Lungs and Pleura grow together, and an Abscess forms, to open it with Caustic; and afterwards to keep the Ulcer open during the Patient's Life: For he says, he has often seen, where such Sores were healed up, that the Patient died soon after by an Efflux of Matter upon the Breast. *Monita Medica*, Cap. i. Sect. 7.

OF THE PERIPNEUMONY.

[115]

THE Soldiers were subject at all Times to the Peripneumony, or Inflammation of the Lungs, from doing Duty in cold wet Weather, and from their irregular Way of living; but more particularly towards the End of the Campaigns, and in Winter.

This Disorder was much more dangerous and fatal than the Pleurisy, especially when neglected in the Beginning; for then Bleeding had seldom any Effect; the Difficulty of Breathing encreased, the Patient was seized with an Orthopnea, and such an Anxiety and Sense of Suffocation, that he could not sleep; and the Pulse sunk; and in these Cases Death only afforded Relief. This we experienced in many Men who had lain neglected in Quarters, for two, three, four, or five Days, before they were brought to the Hospital.

[116]

In most of the Bodies of those who died of this Disorder, and were opened after Death; we found the Lungs violently inflamed, with livid or gangrenous Spots on their Surface; and more or less of a watery Serum extravasated into the Cavity of the Chest.

Three had Suppurations in the Lungs. In one, who had lain sick in Quarters for ten Days or upwards, before he was sent to the Hospital, the right Cavity of the Thorax was found full of a watery Serum; and the Lobes of the Lungs on the same Side almost entirely wasted; and what remained seemed as it were composed of thickened Membranes, resembling those formed by the coagulable Lymph, or what is called by some (though improperly) the fibrous Part of the Blood. The Lobes in the left Side seemed to be in a sound State, or at most but slightly inflamed. From the right Lobes of the Lungs being so much wasted, I suspected that the Patient had probably laboured long under some Disorder of the Breast; but I could not from Enquiry obtain any Information in this Particular; nor did he ever mention such a Thing during the few Days he lived after being brought into the Hospital; he said, he had only been ill for eight or ten Days before; but Soldiers afflicted with chronic Distempers, when they are seized with violent Symptoms, or acute Diseases, are apt to reckon the Beginning of their Disorder, only from the Time they are taken ill in a violent Manner; and never to take any Notice of their former Complaints.

[117]

Another Soldier, about the Middle of *February*, 1762, remained in Quarters five Days after being taken ill with a Pain of the Breast, and a Difficulty of Breathing; the sixth Day he was brought to the Hospital in the Morning, and I saw him about eleven o'Clock; he then had all the Symptoms of the true Peripneumony, attended with a strong hard Pulse. He was immediately bled as freely as his Pulse would bear, had Blisters applied, and other Remedies used; notwithstanding which, on the eighth Day from that Time, he began to throw up a purulent Matter in great Quantity, attended with a constant hectic Heat, and Fever; which sunk him so fast, that he died the tenth Day, after he first began to expectorate.

[118]

On the 2d of *March*, a Soldier, of the Fifty-first Regiment of Foot, was brought to the Hospital, with a violent Pain in the left Side, and a great Difficulty of Breathing. Upon examining him, he told me, that about two Years before he had had a violent

Stitch in his left Side, towards the lower Part of the Thorax; that ever since he had been subject to a Difficulty of Breathing; and at Times to a Pain in the Side; but that he had only been seized with the violent Pain and Difficulty of Breathing he then complained of, about five Days before, occasioned by catching Cold, on being billeted in a low, cold, and damp House.—His Pulse was quick, the Pain of his Side and Difficulty of Breathing so great, that he could not sleep, nor lie down, but was obliged to sit constantly in an erect Posture; his Tongue was white and furred, and he had had no Stools for three Days: He was ordered to be bled immediately; and to take a Dose of Salts; and his Side to be rubbed with the *linimentum volatile*. 3d. His Breathing and Pain of the Side were easier; he had slept a little in the Night, and could lie on his right side, but not on his left. He was ordered the Squill Mixture. 4th. His Breathing was worse; he was bled a second Time; had a large Blister applied to his Side, and was ordered to continue the Use of the Squill Mixture. On the 5th, 6th, and 7th, he seemed easier, though the Breathing was still much affected, and his Pulse quick and low, attended with a hectic Heat. On the 8th, he told me that his left Side was swelled: On examining, I observed a Fullness in that Side of the Thorax; and on pressing with my Fingers between the Ribs, I thought I felt an obscure Fluctuation of a deep-seated Fluid. From these Appearances, and the History of the Case, I judged that there was a Collection of some Fluid within the Cavity of the Chest; and that the only Means left to give Relief, was to make an Opening into the Cavity, and so evacuate the Fluid. I therefore proposed to him the Operation of the Empyema, to be performed immediately; which he several Times obstinately refused to submit to: He allowed a Seton to be put in his Side, but that did not answer the End proposed: He languished six Days longer; and died the 14th of *March*. Next Day an Opening was made in the Thorax, in the Part where the Operation was proposed to have been performed; as soon as the Pleura was cut through, some Quarts of Water rushed out. We then opened the Thorax, and found still some Water in the left Cavity. The Pericardium was thickened, and slightly inflamed, and adhered to the Diaphragm; which was likewise a little thickened and inflamed in the adhering Part; the Lungs on that Side were much compressed, and contracted by the Pressure of the Water; but on being inflated and cut, seemed in a sound State, except that they were slightly inflamed. The Lungs of the left Side adhered every-where firmly to the Thorax, but seemed otherwise sound; having no Tubercles, Suppuration, or other Disorder, that we could observe in cutting them. The Heart and Blood Vessels were sound, and no other polypous Concretions were observed within their Cavities, but such as we find in most dead Bodies; which seem to be formed of the coagulable Lymph in *articulo mortis*. The Viscera of the Abdomen were in a sound State.

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[121]

We treated the Peripneumony nearly as the Pleurisy. We bled freely in the Beginning, till the Breathing became easier, or the Pulse began to sink; taking Care not to be deceived by a low oppressive Pulse, which generally rose upon Bleeding. We applied large Blisters; gave the mild Pectorals freely, and plenty of warm diluting Liquors, Barley Water, the pectoral Decoction, and such like; which afforded more Relief than any other Medicines. We gave too saline Purges, and laxative Clysters occasionally; and in some Cases ordered the Steams of warm emollient Decoctions with Vinegar to be drawn into the Lungs.

[122]

By this Treatment most of them, who applied early for Relief, got the better of the Disorder.

When the Expectoration began, the Patient continued the free Use of the mild Pectorals, and diluting Liquors; and no Medicines were given that might in the least tend to stop it; other Evacuations were omitted, unless where the Pain of the Breast, or the Difficulty of Breathing increased; in which Case, if the Pulse kept up, I ordered a Vein to be opened, and a suitable Quantity of Blood to be taken away; no other Remedy affording any Relief, till this Evacuation was made. Where the Patient was costive, we frequently ordered laxative Clysters, or a mild Purge, and found them beneficial: But where no such Symptoms occurred, it was best, for the most part, to omit all Evacuations of this Kind, after a free Expectoration had begun, and to trust to it for carrying off the Disorder.

[123]

In some Cases, where the Expectoration stopt suddenly after bleeding, we gave with Advantage a gentle Vomit, as recommended by Dr. *Huxham*^[52].

FOOTNOTES:

- [52] Some late Authors seem to look upon the *Pleurisy* and *Peripneumony* as the same Disorder: However, though it be true, that when the *Pleura* is inflamed, the Surface of the contiguous Lungs is generally in the same State; and that, when the *Lungs* are inflamed, the *Pleura* is often affected; yet as I have frequently seen the true Peripneumony without that sharp Pain of the Side which characterizes the Pleurisy; and upon opening the Bodies of People who have died of the Peripneumony, have found the Lungs violently inflamed and livid, and so filled with Blood as to sink in Water, without the *Pleura* being much diseased; and upon opening the Thorax of

others who died of the Pleurisy, have found the intercostal Muscles and Pleura violently inflamed with livid Spots, and only a small Portion of the Surface of the contiguous Lungs affected; I cannot help still looking upon them as distinct Disorders; though they require nearly the same Treatment, and are often complicated together.

OF THE COUGH and CONSUMPTION.

[124]

COUGHS were very frequent during the Winter, and when the Weather was wet and cold. They were often accompanied with Pains of the Breast; and, when neglected, Obstructions, Tubercles, and Suppurations, were apt to form in the Lungs, and the Disease to end in a Consumption, or *Phthisis Pulmonalis*.

When Coughs were slight, guarding against further Cold, and the Use of mild Pectorals and warm Drinks, removed them. But when the Patient complained of a Pain and Tightness about the Breast, it was always necessary to take away more or less Blood; and after Bleeding to give some of the mild Pectorals, such as the Sperma Ceti or oily Mixtures; and, if a Fever attended, to join the Use of Nitre, or of the saline or mindereri Draughts; and, if a tickling Cough was troublesome, to give frequently a Tea Spoonful of the oily Linctus, acidulated either with the Spirit of Vitriol, or the *oxymel scilliticum*. The mild Diaphoretics, such as the mindereri Draughts, given along with warm Drinks, to promote a free Perspiration, or Sweat, were used with Advantage; when the Patients kept in Bed, and lay in Wards which had Stoves in them.

[125]

If the Cough and Pain of the Breast were not relieved by these Means, the Patient was bled a second Time, and a Blister applied to the Side immediately after; which often removed most of the Complaints. When it did not, we gave the pectoral Decoction for common Drink; and if there was a Shortness or Difficulty of Breathing, the squill Mixture, or *lac ammoniacum*, with Oxymel; and occasionally gentle Purges: And if at any Time of the Disorder the Tightness and Pain of the Breast returned violent, we took away some Blood, no other Remedy affording Relief.

[126]

When there was little or no Fever, and a thin Rheum kept up a tickling Cough, nothing had a better Effect than to add some Drops of the *tinctura thebaica*, or some of the *elixir paregoricum*, to the oleagenous or squill Mixtures; or to give an Opiate Draught or Pill at Bed-Time, which eased the Cough, and procured the Patient Rest.

At all Times it was necessary, when the Cough was violent, attended with Pains of the Breast, to keep the Patients on low Diet; and in as free and pure Air as the Nature of the Hospitals would admit of; for we often found that those Men who had laboured long under obstinate Coughs, which threatened Consumptions in small crowded Wards, recovered surprisingly on being removed to a freer Air; of which we had a remarkable Instance in the Hospital at *Bremen*, in *January* 1762; upon removing some Men, afflicted with very bad Coughs, out of small Wards, which were damp, into one large one, which was dry and airy.

[127]

When the Weather was good, we made the Patients walk out a little in the Day-Time; for we observed, that remaining always in the Hospital, and breathing nothing but a foul Air, helped to encrease the Disorder.—When we knew the Men to be sober, and not apt to commit Irregularities, we used to procure them good Billets, and make them come daily to the Hospital for their Medicines.

Equal Parts of Lime-Water and Milk, drank to the Quantity of a Quart a Day, was of Use to some; and the *infusum amarum*, and other gentle Bitters, taken to the Quantity of an Ounce or two, Morning and Evening, to others^[53].

[128]

A Decoction of the Cortex removed some Coughs which had continued for a considerable Time. In one or two of these Cases, slight hectic Symptoms had already appeared^[54]. However, for the most part, where-ever Obstructions of the Lungs were confirmed, or there were evident hectic Symptoms without a free Discharge of purulent Matter, the Bark did no Service; but rather heated and increased the Fever, and made the Sick more restless and uneasy.—It was of most Use where there seemed to be no confirmed Obstructions, but the Vessels much relaxed; which we judged to be the Case from the Patients having no fixed Pain, nor the Breathing much affected. If the Sick were plethoric, or in the least feverish, we ordered a little Blood to be taken away, before we began the Use of this Medicine.

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In similar Cases, I have sometimes observed good Effects from the Use of the

Balsam *Copaivy*, or *Peru*; given either in Juleps or made up into an Electuary, as in the *electuarium e spermate ceti cum balsamo*; but in whatever Form they were given, if there were confirmed Obstructions of the Lungs, they rather heated and inflamed, than did any real Service.

When Coughs continued long, attended with Pain in the Side, Difficulty of Breathing, and Hectic Fever and Night Sweats, we always had Reason to suspect, that the Disorder would terminate in a confirmed Consumption. When this was threatened, we found, that the principal Thing to be done, was to keep the Patients cool; and to endeavour to allay the hectic Heat and Fever; and to retard, as much as possible, the Progress of the Disorder. When the Case was recent, we were sometimes so lucky as to make a Cure; but after it was confirmed, it for the most part ended fatally.

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We kept the Patients upon a low Diet; and where-ever Milk was to be got easily, we allowed them a Pint a Day^[55]; which was either mixed with Water and given for Drink, or they took it to Breakfast or Supper.—Their common Drink was either Barley Water or the pectoral Decoction; which was occasionally acidulated with a few Drops of Spirit of Vitriol; and we gave at the same Time the cooling Medicines, such as Nitre, the saline or milder Draughts, mixed at Times with *Sperma Ceti*, or some other of the mild Pectorals.

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The opening a Vein, and taking away from four to eight Ounces of Blood^[56], whenever the Pain of the Breast was troublesome, or the Patient was hot and restless at Nights from the Hectic Fever, gave the greatest Relief of any Thing we tried; and these repeated small Bleedings were so far from wasting the Patient's Strength, that they rather seemed to prevent its being exhausted so fast as otherwise it would have been, by allaying the Force of the Hectic Fever.

At this Stage of the Disorder, we put in Setons, or ordered Issues, to serve as a Drain to carry off the Matter, and found them of Advantage in some Cases. When the Patients complained of any fixed Pain, we always made the Issues as near the Part affected as possible^[57]. On the 5th of *May*, 1762, a Man, belonging to the Eighty-eighth Regiment of Foot, was sent to the Hospital at *Bremen* for an *Hæmoptoe*, attended with a constant hectic Heat and Fever.—After being bled, and using the cooling Remedies without Success, he had four Pea Issues made in his Back; and had a slight Decoction of the Cortex, acidulated with Spirit of Vitriol. As soon as the Issues began to discharge freely, the hectic Heat, Fever, and Spitting of Blood, diminished daily; and he recovered his Health and Strength in a short Time. However, it ought to be observed, that although these Drains are sometimes efficacious, yet, when the Disease is far advanced, the Mischief is generally too deep rooted for them to be of any Service.

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The Bark, and natural Balsams, for the most part were prejudicial, and increased the Hectic Heat and Fever; except in one or two Cases, where the Disorder seemed to depend on a *Vomica* of the Lungs, and the Patient coughed up the Matter freely.—In one Case they were of considerable Service; the Patient was very low, and had the Night Sweats, but coughed up the Matter freely: On using the Decoction of the Bark, and the *electuarium e spermate ceti cum balsamo*, the Matter expectorated became thicker, and of a more balmy Consistence, without any Increase of Heat or Fever; after which the Symptoms became gradually milder, and the Patient recovered.

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In the Course of this Disorder the Patients often became very hot and restless, and were troubled with Gripes, succeeded by a Purging: These Symptoms were most readily removed by a Dose of Rhubarb, or of some other mild Purge; for they generally proceeded from corrupted Humours lodged in the Intestines. In the Evening, after the Operation of the Purge, we gave an Opiate to procure the Patient Rest.—When the first Dose of Physic did not stop the Purging, we repeated the Opiates at Nights, and in a Day or two gave another Purge; and if there was much Sickness, or Load at the Stomach, gave likewise a gentle Emetic.

If the Purging still continued, we were obliged to join the Use of Astringents along with the Opiates. In some Cases, I found good Effects from equal Parts of Milk and Water boiled with Rose Leaves, Pomegranate Bark, Balaustine Flowers, and Cinnamon, as recommended by Dr. *Mead* in his *Monita Medica*^[58]; it served both for Food and Medicine.—When Opiates and Astringents were given to stop the Purging at its first Appearance, before the Bowels were emptied, they always did Mischief; and increased the Heat and Fever: And although they stopt the Purging for a few Hours, it always broke out with greater Violence afterwards.

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When the Sick were attacked with a Shortness and Difficulty of Breathing, which was not relieved by Evacuations, and the Use of cooling Medicines, and Pectorals, and Blisters, nothing gave so much Ease, or had such a good Effect, as a gentle Vomit; for it often removed the immediate Oppression from the Breast, and helped to pump up the Matter from the Lungs.

In the advanced State of the Consumption, the Cough was always very troublesome; and the Sick found no Relief but from Opiate Medicines, which, in such

Cases, cannot be expected to do more than give a little present Ease.—As they were apt to obstruct the free Expectoration, we generally mixed them with some *oxymel scilliticum*, or *tinctura foetida*, which took off a good deal of their suffocating Quality.

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Dr. Barry^[59] advises for the Cure of a Consumption, to make an Incision or Aperture into the Side; where-ever there is a fixed Pain attended with a Weight, a Hectic Fever, and other Symptoms of an evident Suppuration: He says the Pleura is thickened, and the Lungs adhere at the Part where they are exulcerated; and that by the Operation the Pus may be evacuated, and a Cure made; and he gives several Instances of the Success of the Operation, when performed in Time.

FOOTNOTES:

[53] Asses Milk, and *Bristol* and *Seltzer* Waters, which are found so serviceable in pulmonic Disorders, could not be had in the military Hospitals; and riding on Horseback was too expensive a Remedy for a Soldier.

In chronic Cases, where we suspect Obstructions and Tubercles to be formed in the Lungs, which have not already come to Suppuration, Dr. *Russel* recommends the Use of Sea Water for resolving them; but we were at too great a Distance from the Sea to try this Remedy. See his *Treatise on Sea Water*, Page 17.

[54] *Mary Shepperd*, a Woman twenty-six Years of Age, was admitted into *St. George's* Hospital the 6th of *June*, 1759, for a Cough; attended with a constant hectic Fever and Night Sweats, which had begun in the Month of *April*, after the Measles. She complained likewise of having the *fluor albus*, and she had been blooded more than once before she came to the Hospital.—I at first gave her some of the mild Pectorals; and a Solution of White Vitriol in Water, *utenda pro inject. uterina*. After a Week, finding no Alteration in her Complaints, I advised her to become an Out-patient; and to go down to her Friends in the Country, to live upon a Milk Diet; to take gentle Exercise, and continue the Use of her Medicines; which she did, but without any Alteration in her Disorder, till the 6th of *July*, when I ordered her to take thrice a Day two Ounces of the Decoction of the Cortex, along with a saline Draught. Immediately, on beginning to use this Medicine, her Disorder began to take a favourable Turn; her Fever and Night Sweats left her, her Cough became easier, and she recovered Health and Strength daily. She came to the Hospital the 15th of *August*, seemingly in good Health, to return Thanks for her Cure.

[55] In private Practice, at this Stage of the Disorder, the Use of Asses Milk, and drinking the *Bristol* Water at the *Bristol* Wells, and riding on Horseback daily, are justly ranked amongst the most efficacious Remedies; and going into the more southern Climates, as the South of *France*, *Portugal*, or *Italy*, where the Air is warmer, more constant, and dry, than in *England*, has often been found to produce good Effects.

[56] This Practice has been strongly recommended by Dr. *Mead*, in his *Monita Medica*, Sect. x. and by an anonymous Author in the *Edinburgh Medical Essays*, Vol. IV. Art. 28. and Dr. *Mead* says, when Things have not been quite desperate, he has seen good Success from it.

[57] In *June*, 1748, a Servant Girl came to ask my Advice for a Cough, attended with a constant Hectic Fever and Night Sweats, which had begun some Months before, on catching Cold. The Matter she spit up was yellow, and had the Appearance of Pus; and she complained of a Pain in the left Side of the Thorax. I ordered her the saline Mixture with Sperma Ceti to be taken thrice a Day, to lose a little Blood, to drink an Infusion of Linseed sweetened with Honey, and to have a Seton put in her Side at the Part where she complained of Pain; advising her to go home to her Father, who was a Farmer in the Country, and to live upon a Milk and Vegetable Diet, and ride on Horseback whenever she could conveniently. She seemed so far gone in a Consumption, that I scarce expected to see her again; but, in the Month of *December*, she came to return me Thanks for her Cure, seeming then to be in good Health. She told me, that, as soon as the Seton began to discharge freely, she found Relief; and mended afterwards daily, by following the Directions I had given her.

[58] *Sect. x. de Febr. lentis sive Hecticis.*

[59] *Treatise on the Digestions*, p. 410.

OF THE Epidemical CATARRHAL FEVER Of APRIL, 1762;

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CALLED, THE INFLUENZA.

AFTER a very cold severe Winter at *Bremen*, the Weather, from being very cold, became of a sudden extremely hot, about the 10th of *April*. In a few Days after, many People were seized with a violent Catarrhal Disorder. It often began with such a Cold and Shivering, that many imagined at first that they were going to have Agues; but soon after they were attacked with a Cough, and a Difficulty of Breathing, and Pain of the Breast, with a Head-Ach, and Pains all over the Body, especially in the Limbs.—The first Nights they commonly had profuse Sweats.—In several, it had the Appearance of a remitting Fever, for the two or three first Days.—Many had a slight Inflammation of the Throat, and a Hoarseness. In all it was attended with an acute Fever in the Beginning, and the Urine was of a high Colour; and when the Disorder had put on the Appearance of a Remittent Fever in the Beginning, it dropt a Sediment towards Morning after the second Day; and did the same in all, when the Disorder was going off.—Some had a Purging, but the greater Number were rather inclined to be costive.—The Cough in many was very violent; and the Patients, after each Fit of Coughing, had Reachings, or Strainings to vomit, exactly resembling those which come after violent Fits of the Hooping Cough.—At first the Patients spit up only a little Phlegm; but in the Decline of the Disorder, they expectorated freely.—The violent Cough and Feverishness generally continued for four, five, or six Days; with others it continued longer; and some had a Cough for two or three Weeks after the Fever left them.

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This Catarrhal Fever seized most of the People of the Town of *Bremen*; and there were very few of the *British* who escaped it; at the same Time, it was epidemical in most Countries in *Europe*.

We treated it entirely as an inflammatory Disorder, and none died who applied early for Relief.—Most People recovered by one plentiful Bleeding, and taking the mild cooling Medicines, such as the *mixtura e spermate ceti cum nitro*, the saline or mindereri Draughts, or such like. When the Fever and Difficulty of Breathing continued after the first Bleeding, in a Day or two a Vein was opened a second Time; and immediately after a Blister was applied to the Back, which commonly removed the Fever, and relieved the Breathing.—When the Patients were inclined to be costive, a Dose of Physic was of Service.

None of the *British* died, except one or two of the Soldiers, who remained in Quarters after being taken ill; and, instead of bleeding and living low, indulged in the Use of spirituous Liquors; and were not brought to the Hospital, till they were in the last Stage of a Peripneumony.—Many of the Inhabitants of the Town died of this Disorder, which was probably owing to Want of Care.

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OF THE RHEUMATISM.

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THE Rheumatism is one of the Disorders most generally to be met with in military Hospitals. There were at all Times some Men in our Hospitals labouring under Rheumatic Fevers, or other rheumatic Complaints; though we never had at any one Time a great Number; owing probably to the Weather being very favourable in both the Campaigns of 1761 and 1762.—It was always most frequent when the Weather was wet and cold; both during the Campaign, and when we were in Winter Quarters.

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It commonly began either, 1. With an acute Fever, and Pains all over their Body: or, 2. With Pains in particular Parts, as the Shoulders, Legs, Arms, Knees, and sometimes of the Side, attended with some Degree of a Fever.—The first was the most common Form it assumed, when Men were attacked with it in the Field or in Garrison; owing to their doing Duty in cold wet Weather.—The other Causes generally took place when they had been formerly subject to rheumatic Complaints, and had caught Cold; or after they had been weakened and reduced low by Fevers, Fluxes, or other Disorders.

We had but very few Rheumatisms accompanied with Swelling, Pain, and Inflammation of the Joints of the Knees and Wrists, &c. which are so common in our Hospitals about *London*. I did not meet with above a Dozen Cases, of this Kind, whilst

in *Germany* with the Army.

When the Rheumatism began with Pains all over the Body, attended with a High Fever, we treated it at first entirely as an Inflammatory Fever^[60]. We bled freely, and repeated this Evacuation often^[61], if the Blood continued sily, and the Pains violent; provided the Pulse was strong. When the Pleura, the Lungs, or any other of the Viscera were affected, we bled as freely as we should have done in acute Inflammations of these Parts: We gave the saline Draughts with Nitre^[62]; and Plenty of Barley Water and other weak diluting Liquors; and gentle Physic once or twice a Week; and afterwards applied Blisters, which often relieved both the Pains and Fever.

After some Days, if the Pains still remained, we continued the saline Draughts with Nitre throughout the Day; and in the Evening endeavoured to promote a free Perspiration by Means of the mild Diaphoretics, such as the milder Draughts with Mithridate, in Doses frequently repeated; at the same Time, the Patient kept in Bed, and drank freely of mild diluting Liquors. Sometimes we gave twenty, thirty, or forty Drops of Spirits of Hartshorn, in repeated Draughts of warm Barley Water: or a like Quantity of the Antimonial Wine, used in the same Manner: or from sixty to a hundred Drops of the Antimonial Wine, mixed with one-fourth Part of the *tinctura thebaica*, in a large Draught of some warm Liquor; which I have observed, in many Cases, to have a better Effect, than most other Medicines used for this Purpose; as it acts both as an Opiate in easing the Pain, and procuring Rest; at the same Time that it promotes a free Perspiration, or gentle Sweat, to carry off the Distemper.

But it should be observed, that, in the Beginning of Rheumatic Fevers, forced Sweats generally did Hurt, and often increased both the Pain and Fever; and that in general we had greater Success, and made speedier Cures, when we did not attempt to promote Sweating, till after other Evacuations had been sufficiently made, and the Fever had begun to abate; and that in this Fever, when we did attempt to procure Sweats, the milder Diaphoretics, with Plenty of weak diluting Liquors, answered better than those of a more heating Nature; though after the Fever was gone, and the Pains still continued, sometimes the stronger Sudorifics, such as G. Guaiac, and its volatile Tincture, *Dover's* Powder, and the like, best answered the Purpose, and carried off the Distemper, when the milder ones had little Effect.

I have often observed, where Sweating made no Change in the Distemper, that keeping up a free Perspiration by Means of the Decoction of the Sarsaparilla with the Antimonial Wine, or small Doses of the *pulvis antimonialis* (*gr. v.*), given twice or thrice a Day, removed Rheumatisms, which had resisted the Force of other Remedies.

Sometimes the cold Bath^[63] removed Pains which had not yielded to internal Medicines; but it ought to be observed, that when Patients went into the cold Bath while the Feverishness still remained, and the Blood continued sily, or before free Evacuations had been made, oftentimes, instead of giving Relief, it made the Disorder worse, and more obstinate^[64].

When the Rheumatism was confined to a particular Part, attended with Fever, we treated it as the acute Rheumatism. Fomenting the Part with warm emollient Decoctions, and rubbing it afterwards with the volatile, or saponaceous Liniments, often gave Ease; and the Application of Cupping-Glasses and Blisters frequently removed the Disorder. In some Cases, where the first Blister did not relieve, the Application of a second, and afterwards keeping up a Discharge from the Part by Means of the Epispastic Ointment, carried off the Pain. In others, where the mild Diaphoretics were ineffectual, Sweating, with the G. Guaiac, or *Dover's* Powder, and such other Medicines, after the Fever was gone, removed the Complaints^[65].

When the Rheumatism was attended with Inflammation and Swelling of the Joints, we bled freely, gave cooling Purges, and the saline Draughts with Nitre, along with Plenty of weak diluting Liquors, and prescribed a cool low Diet.

After the Violence of the Fever and Inflammation was abated, fomenting the Parts, and rubbing them with the saponaceous or volatile Liniments, sometimes hastened the Discussion of the Swelling; as did likewise the Application of Blisters^[66], after the Inflammation was entirely gone; but it ought to be noticed, that if volatile Liniments or Blisters are used too soon, they will sometimes occasion violent Inflammation and Pain^[67].

Rheumatic Cases of this Kind are often very obstinate, and require a considerable Length of Time before they are got the better of; and frequently more or less of the Swelling, especially of the Wrists and Joints of the Fingers, remains ever after; and Patients, who have once had the Rheumatism in this violent Degree, are always subject to Relapses; as are even those who have had the Rheumatism but slightly.

Mercury^[68] has been recommended in the Cure of Rheumatisms; but I never found it do any Service by itself, except in Cases complicated with venereal Symptoms; though I have often given it, and even sometimes gone so far as to raise a Salivation,

where the Pains were most severe in the Night; and the Patient, at the same Time, thought he had some Reason to suspect a venereal Taint, though no external Symptom appeared. However, many good Practitioners have recommended small Doses of Calomel to be given at Nights, and next Morning a Purge; in which Way, I think, I have observed good Effects from its Use.

The Bark was frequently of Use in restoring the Strength, and removing those rheumatic Pains which remained after Fevers, and other Disorders; but, in other Cases, it had little Effect.

When the Rheumatism continues long, and has taken deep Root, *Sydenham*^[69] advises to bleed from Time to Time, at some Weeks Distance; which, he says, will either entirely remove the Disease, or bring it to that Condition, that the Remains of it will be easily extirpated by an Issue; and giving some of the volatile Salts in *Canary Wine*, Morning and Evening. I have always observed in rheumatic Cases, which continued long, that, after free Evacuations, the Patients received more Benefit from a mild low Diet, continued for some Time, and the Use of diluting Decoctions with mild Diaphoretics, while they took gentle Purges once or twice a Week, than from any other Remedies.

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I have given Half an Ounce of Soap a Day, for a considerable Time, in some old rheumatic Cases, in the Manner recommended by the late Dr. *John Clerk of Edinburgh*, as mentioned by Dr. *Pringle*; and, I think, with Advantage; but have not had sufficient Trials to ascertain the Merits of this Medicine.

Dr. *Sydenham*, in treating of the Rheumatism, which he calls scorbutic, says; that after it had resisted Bleeding, Purging, low Diet, and other Remedies, he has cured it by giving thrice a Day two Drachms of an Electuary made of *conserv. cochlear. horten. recent. unc. ij. lujul. unc. i. pulv. ar. comp. drachm vi. cum syrup. aurant. q. s.* drinking after it three Ounces of a Water drawn from *Brunswick Beer*, and some of the antiscorbutic Plants.

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There is no Disorder which Soldiers are so apt to counterfeit as the Rheumatism, when ever the Duty in the Field is severe; but while there is no Fever or Size in the Blood, or other evident Marks of the Distemper, and the Men look healthy, there is always Reason to suspect Imposture.

FOOTNOTES:

[60] *Sydenham*, in treating of this Disease, orders Bleeding, and that to be repeated next Day; and afterwards every other Day, two, three, or four Times, or more, as the Patients Strength can bear it; and on the intermediate Days to give a purgative Clyster. But in young People, and those who have lived regularly, he says, that a very low Diet will cure as effectually as Bleeding and Medicines; That the Patients must live four Days on Whey alone, but after this may eat Bread for Dinner; and on the last Days for Supper also; and when the Symptoms begin to abate, he allows them to eat boiled Chicken, or other light Food; but says they must live every third Day on Whey, till their Strength returns. *Process. Integr. de Rheumatismo*.

[61] A Remark of Dr. *Huxham's* deserves to be taken Notice of here: He tells us, that there are some Kinds of Rheumatisms, *viz.* those which come from a sharp serous Rheum, which do not bear the free Use of the Lancet; that plentiful Bleeding does more Hurt than Good; and that, in such Cases, the Medicines which bring out breathing Sweats, and at the same Time correct the Acrimony of the Blood, joined with gentle Opiates, have a much better Effect. *De Aere*, Vol. II. p. 185.

[62] Dr. *Brocklesby*, in his *Observations on military Diseases*, recommends the Use of large Quantities of Nitre dissolved in Water Gruel, or Sage Tea, (in the Proportion of two Drachms of the Nitre to a Quart of the Liquor) in acute Rheumatisms. He says, "I am assured from numberless Instances, that in stout young Men, by taking six hundred Grains (ten Drachms) daily, for four or five Days successively, and diluting plentifully, as before recommended, plain Nitre proves the most powerful and best Sudorific, in such Complaints, that I have ever tried; and this Quantity, and even more, may be retained in the Stomach, and pass through the Course of the Circulation, by only diluting properly with those thin attenuating Beverages as before recommended. Such Quantities, in three or four Days, seldom failed wonderfully to relieve the Patient, and very often to cure him entirely, by the most plentiful and profuse Sweats." *See from p. 116, to p. 124*.

I have never hitherto given Nitre in such large Quantities as here recommended by Dr. *Brocklesby*.

[63] I have frequently ordered the warm Bath with Advantage in Rheumatic Cases in *St. George's Hospital*; but we had no Convenience of this Kind with the flying Hospital in *Germany*.

[64] This I have seen many Instances of, particularly in the Case of *Ann Walker*, a Woman of twenty three Years of Age, who was under my Care in *St. George's Hospital*, in *May*, 1759. Before she came to the Hospital, she had been blooded, and had gone into the cold Bath four Times, which, she told me, had increased her Pains

to a violent Degree; in which State she had continued for some Weeks before she came to the Hospital; but by being blooded, and taking the cooling saline Medicines, with gentle Purges, and mild Diaphoretics, she got well in a Month's Time.

- [65] Warm Water, pumped upon the Part, often removes such rheumatic Pains as have resisted the Force of internal and other Remedies. On the 29th of *August*, 1759, *Mary Ward* was admitted into *St. George's* Hospital for rheumatic Pains of the Arms, Legs, and Knees, attended with Fever, which all yielded to Evacuations, and the Use of cooling Medicines, mild Diaphoretics, and of the warm Bath, except the Pain of the Knee; which, after it had resisted the Course above-mentioned, was at last removed by pumping warm Water on the Part, three Times a Week; joined to the Use of Fomentations and volatile Liniments.
- [66] *Ann Ragen*, a Woman about thirty-three Years of Age, was admitted into *St. George's* Hospital the 17th of *January*, 1759, for rheumatic Pains of her Legs and Arms, and a Swelling of her right Knee. Free Evacuations, and the Use of cooling Medicines, and mild Diaphoretics, removed all her other Complaints, except the Swelling of the Knee, by the Middle of *February*, when I ordered a Blister to be applied to it; after which the Swelling gradually decreased, and she was discharged, cured, the 20th of *March*.—*Rachael Hyde*, a Woman twenty-four Years of Age, was admitted into *St. George's* Hospital the 9th of *May*, 1759, for similar Complaints, which were removed by the same Means, all except the Swelling of the Knee. A Blister was applied, and most of the Swelling went away, but returned soon after: It was at last removed by the Use of the warm Pump three Times a Week, and drinking a Pint of the Guaiac Decoction daily.
- [67] I have sometimes ordered Leeches to be applied to such Swellings (as recommended by Dr. *Pringle*), and found them to be of Service; and, at other Times, I have applied emollient Fomentations and Poultices, which have given great Ease to the Patient.—I have seen Setons or Issues, made near the Part affected, afford considerable Relief.
- [68] Dr. *Musgrave*, in his Treatise *de Arthritide Symptomat.* p. 30, cap. ii. sect. 10, says, he has known a Salivation, raised by Mercury, cure the Rheumatism.
- [69] Vide *Sydenham. Opera.* sect. vi. cap. 5.

OF THE Autumnal Remitting Fever.

[154]

THE Remitting Autumnal Fever, called by the Antients $\sigma\nu\nu\epsilon\chi\eta\varsigma$, was also one of the most frequent Disorders during the Campaign.

This Fever is observed in most Countries, after the Juices have been highly exalted by the Heat of Summer; and People are exposed to the Heats of Mid-Day, and to the cold Damps of the Night. We observe it every Year in the Neighbourhood of *London*, especially among the labouring People, who work in the Fields, towards the End of Summer, and in Autumn; but it is generally in a milder Degree than in Armies, where Men are more exposed to the Vicissitudes of the Weather.

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As we go further towards the South, this, as well as other bilious Disorders, becomes more frequent.

This Fever is reckoned the endemic Distemper of the *West Indies*, of the Coast of *Guinea*, and other Places in the Torrid Zone; but in those warm Countries it appears in a more violent Degree; makes a much more rapid Progress; and proves far more fatal than in our cooler and more temperate Climate. And it is observed to be always most frequent and most fatal where a Country is covered with Wood, or is marshy; and where there are frequent Fogs, and much stagnating Water, which corrupts by the Heat of Summer.

In *January*, *February*, and *March* 1761, we had none of those Remitting Fevers at *Paderborn*. In *April*, some few of the Soldiers, on their Return from the Winter-Expedition into *Hesse-Cassel*, had Fevers attended with bilious Symptoms; but they were rather of the continued, inflammatory Kind, and tending to malignant, than such as could be called remitting.

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The first Time that I saw much of this Fever, was among the Sick sent to *Bilifield* in the End of *June* 1761; soon after the Army took the Field. The Remissions were short, and it partook much of the Nature of the common Inflammatory Fever; and most of them were cured by the antiphlogistic Method. A Day or two before we left this Place, it began to change into the Malignant Hospital Fever, from the Sick being too much crowded.

In the Middle of *July*, about Twelve Hundred Sick were sent to the Hospital at *Munster*; and about one-third Part were ill of this Remitting Fever. It did not partake near so much of the inflammatory Nature as at *Bilifield*; the Remissions became much more evident; and it was attended much oftener in the Beginning with bilious Vomiting and Purging; and in some few the Disorder turned to a Dysentery. About eight or nine had it changed into the Hospital Fever, from the Wards in one of the Hospitals being too much crowded; and in some few the Disorder terminated in regular Agues. In *November* severals were taken ill of it in the Garrison of *Bremen*, which mostly ended in a regular Intermittent, the endemic Distemper of the Place. Towards the End of *December* we had none of these Remitting Fevers, the Disorders turning more to the inflammatory Kind.

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In *June* 1762, this Fever began to appear again among the Sick, sent from the Army, to the Hospital at *Natzungen*; and it continued to be frequent through the Summer and Autumn; and the greatest Part of these Fevers this Year terminated in regular Agues, mostly in Tertians, and were cured by the Bark; whereas the Year before very few terminated this Way.

This Disorder in the Beginning had commonly the Appearance of a continued Fever; and many had a Sickness and Vomiting, and threw up a Quantity of yellow Bile, mixed with the Contents of the Stomach. In a few Days, especially after Bleeding, the Remissions became clear; tho' on its first Appearance in *June* 1761 they were short, and rather obscure; and it seemed still to partake a good deal of the Nature of the common Inflammatory Fever, the Blood being very sizy; but as the Season advanced, the Remissions became more evident, and the Paroxysms more like those of an Ague; and the Blood less sizy, tho' at all Seasons of the Year it had some Appearance of an inflammatory Buff in this Disorder. The Sick were restless and uneasy at Night; but commonly felt themselves cooler and lighter in the Day-Time: and although they had no cold Fit, as the Fever came on at Nights, and many of them no Breathing Sweat, as they became cooler and freer from the Fever in the Morning; yet the Fits were so remarkable, that many of the Patients used to say they had a regular Fit of an Ague every Night, or towards the Morning; and some few, that they had the Fit every second Night. As the Season advanced, the Remissions appeared more distinct. However, there was always a good Number in whom the Fever went on in a continued Form, through its whole Course, without any Signs of Remission; tho' they had all the other Symptoms of this Fever. In a few Instances the Fever, after it came to remit, changed again into a continued Form.

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The Heat in the Time of the Paroxysms rose high, and several were delirious during its Continuance^[70]; but were quite sensible in the Intervals, though never wholly without the Fever.

At the End of *July* 1761, four or five were attacked with a Bleeding at the Nose, in the Time of the Paroxysms, and became cooler afterwards; but it did not prove a Crisis in any of them.

The Urine in the Beginning was commonly of a high Colour, though sometimes it was pale and limpid: At first it deposited no Sediment; but when the Fever came to remit, there was often a small Sediment after each Paroxysm; and as the Fever was going off, it let fall a Sediment in all^[71].

Some at first were inclined to be costive; others had a Sickness and Purging; and several of those who were costive in the Beginning, were in the Course of the Disorder attacked with a Purging; and others, after some previous Complaint of the Stomach, were seized with both Vomiting and Purging. In general, after the Sick continued some Days in the Hospital, they were inclined to be loose; which was a favourable Circumstance, when this Evacuation was not so great as to be in Danger of sinking the Patient. Some were attacked with a Dysentery.

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In this, as well as in most other Fevers, the Sick frequently passed by Stool Worms of the round Kind; and sometimes they vomited them up, or the Worms came up into their Mouth or Nostrils while they lay asleep in Bed; and some towards the Height were afflicted with Deafness, which was commonly a favourable Symptom.

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Most of those ill of this Disorder had a yellowish Colour of the Countenance, which went off with the Fever. It was more observable in some than in others; in general, it was slight; some few became yellow all over^[72]; particularly one Man, in the Hospital at *Munster*, who, after being seized with violent Vomiting and Purging, Convulsions, and Twitchings of the Tendons, and Hiccup, became yellow, as in the deepest Jaundice. This Symptom of Yellowness arises from a Redundancy and Absorption of Bile; and is sometimes observed in other Fevers as well as this^[73]; for while we were at *Paderborn* in *February* 1761, two Men were brought to the Hospital in Fevers, attended with this Symptom. They were both delirious, with parched dry Tongues, slight Twitchings of the Tendons, and other bad Symptoms; and one of them had a continual Vomiting and Purging. They both died, and the Body of him who had the Purging was opened. All the Bowels, especially the Colon, were tinged with a yellow Bile, and had a slight Degree of Inflammation all over their Surface; the Gall-Bladder was distended with a very dark-coloured Bile; but no Concretions were found in its

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Cavity, or in the bilious Ducts; nor Mucus, or any other Thing obstructing these Passages. The Surface of the Lungs seemed slightly inflamed; and there was a small Quantity of greenish Serum in the Cavities of the Thorax. I could not learn the Histories of these two Mens Disorders, before they were brought to the Hospital; but, from the Symptoms, was inclined to believe, that the Fevers had been of the malignant or petechial Kind; and that the yellow Colour was only an accidental Symptom of it; for on one of the Men we could perceive obscure Traces of dun petechial Spots on his Breast and Arms; and the malignant Fever was frequent at this Time among the Troops, and the bilious autumnal Fevers had ceased long before.

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I could not observe any certain critical Days, or Periods, when this Disorder terminated.—Some, who had it slightly, got well in a few Days; with others, it continued longer: Some continued long feverish, and would seem cooler and freer from Fever for a Day or two, and then grow worse again; and many had repeated Relapses.

Neither could I observe any regular Crisis in this Fever. Sweat was the Discharge which oftenest proved critical. Many seemed to be relieved by a Purging; but as the greater Part had a Looseness after some Days, which continued often through the Disorder, without producing any very sudden Change in the Symptoms, it seemed to be a favourable Circumstance; though it seldom carried off the Fever so suddenly as to be manifestly critical. The Urine broke, and dropt a Sediment, for the most part, as the Fever took a favourable Turn.

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When this Fever proved mortal, it commonly assumed a continued Form; the Tongue became parched and dry, the Patient delirious, with Twitchings of the Tendons, Hiccup, and other fatal Presages; while others were seized with a violent Diarrhœa, or Dysentery, which sunk them irrecoverably.

In the Beginning, it was absolutely necessary to bleed the Patients freely; and frequently to repeat the Evacuation, where the Symptoms required it. The Blood was of a florid Colour, and commonly threw up more or less of an inflammatory Buff.

In these Fevers, we were obliged to have particular Regard to the first Passages, especially in the Beginning of the Disorder; for they were generally loaded with bilious Humours^[74]; which, if suffered to remain in the Bowels; were either absorbed, and increased the Heat and Fever, or brought on a violent Diarrhœa; and therefore, after Bleeding, we gave a Vomit in the Evening, and next Day a Dose of some gentle Purge, as Rhubarb or Salts; to carry off these putrid, bilious Humours: And afterwards, in the Course of the Disorder, if the Patient was costive, and grew hot, restless, and uneasy, we either repeated the Purge, or gave laxative Clysters, which generally removed these Symptoms.—Frequently after the Operation of the Emetic, the Patient had some loose Stools, from the Gall Bladder's being emptied in the Strainings to vomit. Such Stools were always bilious, as were commonly those procured by purgative Medicines.

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After emptying the Bowels, we gave the cooling, and mild Diaphoretics, such as the saline and mindereri Draughts, joined occasionally with Nitre, or the Contrayerva Powders; while we made the Patient drink plentifully of warm diluting Liquors; which we found to answer in general better than any other Remedies: They brought the Remissions to be more evident, and the Paroxysms to be milder, at the same Time that they kept up a free Perspiration, as a Means to carry off the Distemper.

In some Cases we gave the Antimonial Powder, made of one Part of Tartar Emetic, and ten of the *pulvis e chelis*, in small Doses, from two to four Grains every four or six Hours. The first Doses of this Powder sometimes made the Patient sick, and acted as a Purgative, and kept up a free Perspiration; at other Times, it produced no visible Effect. In some Cases, where it was given early, it operated both by Stool, and as a Diaphoretic, and removed the Fever^[75]; and it was of Use in others, towards the Decline of the Fever; but we were often obliged to lay it aside; for it either acted too roughly, or produced no visible Effect or Alteration in the Disorder.

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When the Fever came to remit, we were obliged, for the most part, to continue the Use of the mild Diaphoretics, as before; for, although the Disorder put on a remitting Form, the Bark had very little Effect in stopping it^[76], unless where the Fever changed into a regular Quotidian or Tertian Ague.—In the Year 1761, very few of these Fevers turned to regular Intermittents; but, in the Year 1762, the greater Part of them terminated in regular Agues, and were cured by the Bark^[77].

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In the Year 1761, we tried the Bark in various Forms in many Cases, where the Patient had been blooded and purged in the Beginning, and used the cooling Medicines; and where the Remissions were very clear: Yet it had no Effect in removing the Disorder, except in two or three Cases at *Munster*, where the Paroxysms assumed a tertian Form; for the most part, it made the Patients more hot and feverish, and we were obliged to leave off using it, as it was in Danger of changing the remittent into a continued Fever. However, it was of Service after the Fever came to a Crisis, and was going off; and Dr. *Pringle* has very justly observed, that it hastened the Recovery, and that those who used it were less subject to

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Relapses than such as did not; and therefore we commonly gave it in a convalescent State.—Before giving the Bark, I always found it of Advantage to give a Dose of Rhubarb, or of some other Purgative, or to mix some Rhubarb with the first Doses, so as to procure the Patient some loose Stools.

When either the Fever went on without Intermission, or changed into a continued Form, or the Patient continued hot and feverish through the Day, with a Head-Ach, and other feverish Symptoms, nothing answered better, after free Evacuations had been made, than to apply a large Blister to the Back; and to make the Patient drink freely of cooling diluting Liquors; which generally relieved the Head, and abated the Violence of the other Symptoms.

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When a Purging came on in the Course of this Disorder, if there was much Fever, with a strong throbbing Pulse, Gripes and Pain of the Bowels, some Blood was taken away; and immediately after the Patient took a Dose of Salts and Manna, or of Rhubarb; and an Opiate in the Evening after its Operation: But if there was little or no Fever, or sharp Pain, Bleeding was omitted; and if the Patient complained of Sickness, a few Grains of Ipecacuana were given previous to the Purge.

After this, if the Purging was moderate, and did not sink the Patient, we did nothing to stop it; but if it was violent, we gave the mindereri Draughts with Mithridate, and the Chalk Julep in the Day, and an Opiate at going to Rest; and occasionally used the emollient and anodyne Clyster; and, if necessary, repeated the Emetic and Purge.

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The Hiccup seldom appeared in this Fever till the Patient was reduced very low, and was commonly the Forerunner of Death. Some few, who had a Purging and Vomiting, were taken with a Hiccup, attended with Sickness, and Load at the Stomach, which seemed to depend on bilious Humours lodged in the Stomach and Bowels. This induced me to give a few Grains of the Ipecacuana; and to make the Patients drink an Infusion of Camomile Flowers till they vomited freely, and afterwards to take some mild Purge, or use laxative Clysters; after which they found themselves easier, and an anodyne Draught, with twenty or twenty-five Drops of the *tinctura thebaica*, put an End to the Hiccup. Others required the Use of Cordial Draughts, mixed with Opiates; and repeated Clysters and Fomentations, before they found Relief.—The Application of a Blister removed the Hiccup in one, after the above Remedies had proved ineffectual; as did the Musk Julep with Opium, and the Application of an aromatic Plaister to the Stomach, in another Patient.

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Several of them complained of a burning Heat and Pain in making Water; which commonly went off by drinking freely of the Gum Arabic Decoction, with the dulcified Spirit of Nitre, and the Use of oily Draughts; though in some it required the Assistance of Opiates, and of Fomentations and Clysters, before it was got the better of.

The Symptom of Worms we were often obliged to neglect till the Fever was over, and then we treated it as formerly mentioned.

The Deafness, though not near so frequent in this as the Malignant Fever, was rather a favourable Symptom, and mostly went away of itself; though in a few Cases, where it continued long, we applied Blisters behind the Ears, or to the Neck, with Advantage.

Many, especially those who were brought low, complained, after the Crisis of the Fever, of Restlessness, and Want of Sleep; which, however, went off as their Strength returned: Where it fatigued them much, and kept them low, we gave a Cordial anodyne Draught at Night; and if that did not answer, commonly the Addition of a few Glasses of Wine in the Afternoon had the desired Effect.

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Others, in their convalescent State, complained of such a Giddiness, and Lightness of the Head, that they could neither walk nor stand; others, of a Dimness of the Eyes. These Symptoms, for the most part, went off as the Patients gathered Strength: The Use of the Bark, with now and then a Glass of Wine, hastened the Cure; and in two or three Cases we were obliged to give a Dose or two of some gentle Physic, and to apply a Blister, before the Patient got the better of them.

As the Sick were recovering, it was common for them to complain of Pains of the Shoulders, Arms, and Legs, which also left them as they recovered their Strength; where they did not, the saline Draughts, and a low Diet, generally had a good Effect; and where it had not, we treated them as rheumatic Complaints.

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When the yellowish Colour of the Countenance remained after the Fever, we kept the Patient on a low Diet; and his Body open by Means of the saline Draughts, with a few Grains of Rhubarb, or by giving Half a Drachm, or two Scruples of the Soap Pills with Rhubarb daily; which, for the most part, removed the Yellowness soon. Two only had a Jaundice remain after the Fever, and both were cured in a short Time.

In other Respects, the Treatment of this Fever, when it degenerated into a continued Form, had nothing particular in it; nor differed from the common Practice

of giving cooling Medicines when the Fever was high, and supporting Nature by the Use of Cordials and Wine, and the Application of Blisters, &c. when low; and promoting such Evacuations as Nature pointed out for a Crisis.

FOOTNOTES:

- [70] I did not see the Delirium rise so high, nor the Paroxysms so severe, as in the Marsh Fever described by Dr. *Pringle*.
- [71] Dr. *Hillary* says the Symptoms of this Fever in *Barbadoes* were much the same as those of the *συνεχης*, or continued Remitting Fever in England; except only that the Urine in this hot Climate never deposits any lateritious Sediment, nor very rarely in any intermitting or any other Fever, except when a Crisis happens that Way. *Observations on the Diseases of Barbadoes*, p. 23.
- [72] Dr. *Pringle* takes Notice of this yellow Colour or Jaundice. He says, "some grow yellow, as in the Jaundice. This was found more frequent during the first Campaign than afterwards; it was an unfavourable, but not a mortal Symptom." *Observ.* part iii. ch. 4.—*Hippocrates* mentions the Jaundice occurring in Fevers, *Aphor.* iv. § 62 & 64; and he reckons it a favourable Symptom in ardent Fevers, where it happens on the seventh Day. See *Book on Crises's*, sect. 3.
- [73] Does this Fever, when accompanied with this universal Yellowness of the Skin, approach to the Nature of the yellow Fever of the *West Indies*? As I had so few Cases of this Kind under my Care, I cannot determine any thing about it from my own Experience; but, from the Accounts of others, I should believe them to be very different Disorders.—In the yellow Fever of the *West Indies*, the Blood appears quite loose and dissolved, without the least Appearance of Size, even on the first Day; and the general Yellowness appears on the third or fourth, with Signs of a total Dissolution, and gangrenous Diathesis of the Blood: Whereas, in the Remitting Fever of *Jamaica*, Mr. *Nasmith* tells us, (See Dr. *Lind's* first Paper on Fevers), there is always an inflammatory Diathesis of the Blood. The Yellowness in both depends on a Redundancy and Absorption of Bile; but in the yellow Fever of the *West Indies*, the Bile is in a much more putrescent State, and a great Part of the Cure depends on the early and speedy Evacuation of it.—In the yellow Fevers which appeared in *Haslar* Hospital, which are taken Notice of by Dr. *Lind*, in his *Two Papers on Fevers*, the Blood was in quite a different State from what it is in the Yellow Fever of the *West Indies*; the Blood drawn from two of these Patients became covered with a thick yellow Gluten, and the Serum was of the Consistence of a thin Syrup, and of a deep yellow Tinge, and tasted bitter; and in another who was bled two Days before his Death, it threw up the same thick yellow Gluten, tho' the red Part below was quite loose.
- [74] According to Dr. *Hillary's* Account of the Yellow Fever in the *West Indies*, which is attended with bilious Vomiting, it bears bleeding once or twice, but not a third Time, before the third Day, but not at all after that Time; and after Bleeding a great Part of the Cure depends on carrying off as much of the putrid Bile as expeditiously and safely as possible, which he says is to be done by making the Patients drink freely of warm Water (sometimes mixed with a little simple Oxymel or Green Tea) so as to vomit seven or eight Times; and then to give a grain, or a Grain and a half of Opium, to procure Rest, and to settle the Stomach; to make the Patient take nothing for two Hours after; and then, if he has not had a Stool, to give a laxative Clyster; after six Hours Rest, to give a gentle Purge, to carry off as much as possible of the bilious corrupted Humours; and in the Course of the Disorder to repeat the Purge, as often as the Patient is attacked with an Anxiety, and a painful burning Heat about the Præcordia; which almost always depend on bilious corrupted Humours pent up within the Bowels; and to endeavour to support the Patient's Strength, and stop the putrescent Diathesis of the Fluids by suitable Antiseptics, of which he found a watery Infusion of Snake Root, mixed with *Madeira* Wine and Syrup of Poppies, to answer the best of any Thing he tried, and to sit easiest on the Stomach; and to this he added the Use of Cordials, and of strong Wine Whey as the Patient became lower.

Dr. *Hillary's* Purge was: R. Mannæ sescunc. vel unc. ij. Tamarind. cond. unc. i. Tartar vitriolat. gr. x. solve in seri lactis præparat. cum Vin. Maderiens. unc. vi. Colaturæ adde Tinct. Senæ unciam dimidiam. Divide in Partes quatuor, & capt. æger unam omni hora donec laxetur alvus.

His Infusion of Snake-Root was prepared in the following Manner:

R. Rad. Serpent. Virgin. drachm. ij. Croci Angl. drachmam dimidiam, infunde per horam vase clauso in aq. bull. q. s. & dein unc. vi. Colaturæ, adde aq. Menth. simp. unc. ij. Vin. Maderiensis, unc. iv. Syrup. Croci vel Syr. e Mecon. unc. i. Elix. Vitriol. acid. q. s. ad gratum saporem M. capiat æger cochlear. ij. vel iij. omni hora vel secunda quaq; hora vel sæpius pro re nata.

The Stomach is so irritable in the Beginning of this Disorder, as to reject the saline Draughts, Nitre, and such other Medicines. Nor will the Bark, which might be judged a very proper Medicine in the second Stage of the Disorder, lie upon the Stomach, but is thrown up immediately, in whatever Form it is given. However, a Gentleman who had practised long in the *West Indies* told me, that although the Patient could not retain it in his Stomach, yet that he had found great Service, after the Bowels were emptied, from the Bark used freely in Clysters.

Dr. *Hillary* disapproves of the Use of Blisters in the advanced State of these Fevers.

[75] Dr. *Millar*, one of the Physicians to the Army, told me in *Germany*, that he had given this antimonial Powder with great Success in the Remitting Fever, while the Eighth Regiment of Foot (to which he was formerly Surgeon) lay in *England*.—Dr. *Pringle*, in his fourth Edition of his *Observations*, Part iii. ch. iv. tells us, that having given a mild Purge immediately after Bleeding, he next Morning, when there was almost always a Remission, gave a Grain of the Tartar Emetic, with twelve Grains of Crabs-Eyes, and repeated the Dose in two Hours, if the first had little or no Effect; at any Rate, in four Hours. This Medicine not only vomited, but generally opened the Body, and raised a Sweat. By these Evacuations, the Fever was sometimes quite removed, but always became easier.—This Medicine he usually repeated the second or third Day; if not, he opened the Body with some mild Laxative, or a Clyster; and continued this Medicine, till the Fever went gradually off, or intermitted.—Dr. *Pringle* says, that Dr. *Huck* treated this Fever in a Method similar to this, both in *North America* and in the *West Indies*. In the Beginning he let Blood; and in the first Remission, gave four or five Grains of Ipecacuana, with Half a Grain of Tartar Emetic: This Medicine he repeated in two Hours, taking Care that the Patient should not drink before the second Dose; for by that Means the Medicine passed more readily into the Bowels, before it operated by vomiting. If, after two Hours more, the Operation either Way was small, he gave a third Dose; which commonly had a good Effect in carrying off the Bile; and then the Fever either went quite off, or intermitted so far as to admit the Bark. On the Continent he found no Difficulty after the Intermission; but in the Islands, unless he gave the Bark upon the first Intermission, though imperfect, the Fever was apt to assume a continual and dangerous Form. Dr. *Huck* never varied this Method, but upon a stronger Indication to purge, than to vomit. In which Case he made an eight Ounce Decoction, with Half an Ounce of *Tamarinds*, two Ounces of *Manna*, and two Grains of *Emetic Tartar*; and dividing this into four Parts, he gave one every Hour, till the Medicine operated by Stool.

[76] Dr. *Hillary*, in mentioning the Remitting Fever of the Island of *Barbadoes*, says: In those who were blooded, and took an Emetic afterwards, and then the saline Draughts, the Fever was generally carried quite off by a critical Sweat on the seventh or ninth Day; in some few it came to intermit regularly after that Time; and was soon cured by the *cortex Peruviana*, given with the saline Draughts, and seldom effectually without them; though these irregular ingeminated Fevers often remitted, and sometimes seemed to intermit; yet if the *cortex Peruviana* was given too soon in the Disease, before it intermitted regularly (as I have more than once seen, where it had been injudiciously given), it generally caused the Fever to become continual and malignant. *Observat. on the epidemic Diseases of Barbadoes*, p. 22.

[77] Mr. *Cleghorn*, after giving a very accurate Account of Tertian Fevers, as they appeared in their various Forms of true, of double, and triple Tertians, and of Semi-Tertians, in the Island of *Minorca*, tells us, that he first attempted the Cure by profuse Evacuations; but afterwards learnt from Experience, that they were unnecessary; and that Bleeding and Purging once or twice in the Beginning, was all that was in general requisite; and if on the fifth Day the third Revolution was not attended with more threatening Symptoms than the second, and the Patient bore it easily, he frequently trusted the whole Business to Nature; which commonly terminated the Fever about the fourth or fifth Revolution; and for the most part with an Increase of some natural Evacuation.—But if the Paroxysm on the fifth Day was the longest and most severe that happened, attended with any doubtful or dangerous Symptom, he ordered two Scruples of the Cortex to be given every two or three Hours; so that five or six Drachms may be taken before next Day at Noon; lest, if this Interval escaped, he should not have found a favourable Opportunity of giving a sufficient Quantity of the Medicine afterwards; as the Fits about this Period are wont to become double, subintrant, or continual.—This did not always put an immediate Stop to the Fever, but it invigorated the Powers of the Body, and prevented or removed the dangerous Symptoms. Having given the Bark on the fifth Day, if a Fit came on the sixth, and declined the same Evening, he gave some more Doses of the Bark to mitigate the Fit on the seventh; yet sometimes this Fit of the sixth united with that of the seventh, and the Patient had the Heat, Restlessness, Raving, and other Complaints, greatly augmented, and the Case seemed more desperate than ever; which, however, were more dangerous in Appearance than Reality, and went off with a profuse Sweat next Morning; after which he gave the Bark freely as before; and this either stopt the Fits, or made them so moderate, as that they yielded quickly to the same Sort of Management.—By this Method, when Assistance is called timely, Mr. *Cleghorn* says, the most formidable Intermitting and Remitting Tertians, may be certainly and speedily brought to a happy Conclusion about the End of the first Week, or Beginning of the second. See *Observ. on the epidemic Diseases in Minorca*, chap. iii. p. 187, &c.

OF THE Intermitting Fever, or Ague.

THIS Disorder belongs to the same Tribe of Diseases as the Remitting Fever. We call it an Intermitting Fever, or Ague, when the Paroxysms are distinct, begin with a cold and hot Fit, and go off with a Sweat; and the Patient is cool, and free from the Fever in the Intervals between the Fits.

Many have been the Causes alledged to produce this Disorder. The great Quantity of Bile that is often thrown up in the Fit, has caused it to be ranked among the bilious Diseases; and the Seasons of the Year in which it is most frequent, and the low moist Situation of the Places where it is endemic, have made Practitioners suspect, that an obstructed Perspiration, and a Tendency in the Juices to the Putrescent, are the Cause of it.

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But whatever Cause we may suppose to give Rise to the first feverish Fit, it is difficult from hence to account for the regular Returns of the Paroxysms and Intermissions: For my own Part, after considering Intermitments, which observed a regular *Type* in the Course of a Salivation^[78]; their being so easily stopt by the Bark without any sensible Evacuation; their being sometimes put away by a Stimulus externally applied^[79], or by a Fright, or sudden Plunge into cold Water^[80]; their returning after slight Errors in Diet, and sometimes by the Operation of a Purge, or of Bleeding; their attacking sometimes only particular Parts, and many such Accidents in these Fevers, I must confess, that I am unable to form any Idea, either of their Origin, Seat, or Cause^[81].

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The Soldiers were subject to this Disorder, particularly in Spring, if they took the Field soon, and in Autumn: The Frequency of it was in a great Measure determined by the Nature of the Ground on which they were encamped, or the Situation of the Garrison or Town in which they were quartered; for the lower and moister the Camp or Garrison, and the more moist the Season, the more subject an Army is to Agues; and the drier the Situation of the Camp or Garrison, and the finer and drier the Weather is, the freer they are from Disorders of this Kind.

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In Winter 1761, we had but very few Agues in the Hospitals; but on the Return of the Troops from the Expedition into *Hesse-Cassel*, and during the Spring, some (though not many) were attacked with Quotidian and Tertian Agues, and but very few with Quartans.—In *July* and *August* they were more frequent, and accompanied with more bilious Symptoms. At *Bremen*, during the latter End of Autumn, and throughout the Winter and Spring 1762, we had Agues of all Sorts, and many inveterate Cases; and all this Spring, and during the Summer and Autumn, the Ague was the epidemic Disorder all over *Westphalia*, as well as among the Troops.

In Spring 1761, what Agues we had were mostly Tertian, some Quotidian, and but two or three of the Quartan Kind. They were, for the most part, mild, and yielded to the Bark.—Some of them began in the Form of a continued Fever; but after Bleeding, and the Use of the cooling Medicines for a few Days, they began to remit, and at last ended in regular Quotidian or Tertian Agues: Others, at first, appeared in Form of Remittent Fevers, attended with a strong throbbing Pulse; but changed to regular Intermitments by pursuing the antiphlogistic Method of Cure; and some from the Beginning assumed the Type of Quotidian or Tertian Agues, but often attended with a good deal of Fever, for the first two or three Days; and some had a slight Delirium in the Time of the Paroxysms, and the Pulse was not quite settled in the Intervals. In such Cases, where the Patient was strong, nothing answered so well as to take away some Blood; and to give the saline Draughts with Nitre till the Fever was moderated, before we gave the Bark.

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In general, there is a Prejudice against bleeding in Agues, after they become regular; but I have always observed, both in *England* and in *Germany*, that where Patients are strong and plethoric, and the Fever in the Paroxysms rises high, or the Pulse remains quick in the Intervals, that taking away more or less Blood, and giving the antiphlogistic Medicines in the Beginning, eased the Patient, moderated the Fever, and made it safer to give the Bark soon; and I never saw the least Inconvenience from the Practice; but, on the contrary, have seen several Intermitting Fevers change into continued ones from the Neglect of this Evacuation; and have seen Cases where the Bark, instead of stopping the Ague, rather increased the Fever, till the Patient was blooded, and had pursued the antiphlogistic Method for some Time; after which the Bark had its proper Effect, and put an End to the Disorder.

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As soon as these Agues became regular, and the Patient was quite cool, and free from any Fever in the Intervals, we gave the Bark; which soon put a Stop to the Paroxysms, without the least bad Consequences; but, before giving the Bark, we always took Care to empty the first Passages by the Use of Emetics and Purgatives, where there was no Symptom to forbid their Use: In Cases where the Patient was weak, and the Fits so violent as to make it necessary to stop the Ague, before we had Time to administer Emetics or Purgatives, we added so much Rhubarb to the first Doses of the Bark as procured the Patient some loose Stools, as recommended by Dr. Mead^[82]; which did not prevent its stopping the Ague, at the same Time that it

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answered the End proposed of carrying off any putrid Humours that might be lodged in the Intestines.

In *England*, Vernal, Quotidian, and Tertian Agues, frequently go off after Bleeding, and taking some Emetics and Purges, and the saline Draughts, and cooling Medicines, for some Time, without the Use of the Bark; but in *Germany* very few yielded to this Treatment, and we were obliged to give the Bark^[83] before we could put a Stop to them.

In the End of *July*, and Beginning of *August*, the aguish Cases we had at *Munster* continued to be of the Quotidian or Tertian Kind. The greatest Part of them began in the Form of continued Fevers, tending more to the bilious Kind than the preceding Months, and many of the Sick had bilious Vomiting in the cold Fits; and the Agues we had in Spring, and during the Campaign 1762, were of the same Nature, and required the same Treatment. [187]

Those Cases, which began in the Form of continued Fevers, were treated as such till they began to have regular Intermissions; they then yielded to the Bark. [188]

Some were attended with the Dysentery; and the Purging and Gripes were most severe on the Days of the aguish Paroxysms. In such Cases, we were frequently obliged at first to neglect the Ague, and to treat the Disorder entirely as a Flux. Where there was much Fever, the Patient strong, and the Pains in the Bowels acute, we ordered Bleeding; and after it a gentle Emetic, and some Doses of the saline oily Purge, or of Rhubarb; and gentle Opiates in the Evening, and other Medicines proper in the Dysentery, till its Violence was abated, before we gave the Bark: though in some Cases, where the aguish Paroxysms were very severe, and helped to increase the Purging, and the Patient was in Danger of sinking, we gave the Bark, notwithstanding the Flux still continued; and the Method we followed was the same as that I formerly mentioned, where it was complicated with the Malignant Fever; which was to give the Bark, mixed with Diascord, and Opiates, or other Medicines proper for the Dysentery, in the Intervals between the Purges. [189]

By this Treatment, very often both the Flux and Ague went off. However, it ought to be observed, that unless the aguish Paroxysms were severe, and in Danger of sinking the Patient, or that the Disorder had continued for some Time, and the Paroxysms were distinct, we seldom gave the Bark till the Violence of the Flux was abated: And where-ever much Griping and Pain in the Bowels attended the Flux and Ague, there Bleeding as well as Purgatives were necessary, before exhibiting the Bark; which seldom or ever agreed with them, till there was an evident *Apurexia*, or Absence of Fever in the Intervals between the Fits. Where these Cautions were neglected, the Bark generally made the Patients worse; and we were obliged to omit it, till the Violence of the Purging was over.

Some Agues were accompanied with the Jaundice, though not in such a high Degree as in the confirmed State of that Disorder; and commonly in the Beginning the Pulse continued rather quick, in the Intervals between the Paroxysms; and the Patients complained of some Degree of Sickness for the first two or three Days. With those the Bark always disagreed, till the Feverishness between the aguish Paroxysms was gone; and we found, that the best Method of treating them, was to bleed in the Beginning, if there was much Fever; and then to give a Vomit and Purge, and to repeat them, if necessary; and where there was no Purging, to give the saline Draughts, and other cooling Medicines; and to add a few Grains of Rhubarb, or to give so much of the *pilulæ saponacæ cum rheo*, daily, as procured one or two loose Stools. [190]

After the Ague had regular Intermissions, and the Patient was quite cool, and without Fever in the Intervals, if the Disorder did not yield to the above Treatment, which it seldom did, we then gave the Bark freely; even though the slight icteric Symptoms still remained; and it put an End to the Ague, and removed the Jaundice at the same Time, without the least Inconvenience to the Patient. In such Cases, we generally used to add a few Grains of Rhubarb to the first Doses of the Bark; or gave the Bark made up into Pills with Soap, and added occasionally a few Grains of Rhubarb. [191]

Several of those who had the icteric Symptoms along with the Ague, had bilious Vomiting in the Time of the cold Fit; they found themselves sick, with a bitter Taste in their Mouth, before the Approach of the aguish Paroxysm; and many of them, though they took Emetics, which operated freely at this Time, yet did not vomit up the Bile; but the Sickness and bitter Taste continued till the cold Fit came on, when they vomited Bile in large Quantities. In such Cases, after the Use of Emetics and Purges, and the Ague was brought to have regular Paroxysms, with free Intermissions, the Bark, given as just now mentioned, removed the Ague and icteric Symptoms, without the least bad Consequences. [192]

Many Practitioners of great Repute have been prejudiced against the Bark; and tell us, that the free Use of this Medicine often lays the Foundation of Obstructions in the abdominal Viscera, especially when it has been given where there was an icteritious

Colour in the Eyes and Countenance; and that, in such Cases, we ought not to give the Bark till these Icteric Symptoms are gone. At first, I was very cautious of giving it under such Circumstances; till meeting with some Cases where the Paroxysms were severe, and became more frequent, while the Patient was so low, as to be in Danger of sinking under the Disorder, I gave the Bark freely, as the only Remedy capable of preserving Life; which not only stopt the Ague, but carried off the icteritious Symptoms^[84], and restored the Patients to perfect Health.

After this I gave it freely, in the Manner above mentioned, to some Hundreds, with great Success; and I never saw any Mischief follow from using it: Indeed sometimes, where it was given rather too soon, it did not sit easy on the Stomach; and made the Patients hot and restless; but, by laying it aside, these Effects immediately ceased; and generally, after a little Time, the Paroxysms became milder and more distinct, when the Bark was again administered, agreed with the Stomach, and put an End to the Disorder; and I am now convinced, from Experience, that the Cases in which the Bark has done Mischief, or given Rise to Obstructions of the abdominal Viscera, are but very rare; and that these Mischiefs mostly arise from the Obstinacy of the Disorder, and not from the Use of this Drug; for I have oftener observed these Obstructions where little or no Bark had been used, than where it was given freely^[85]. What probably has given Rise to the Belief of the Bark's doing so much Mischief, is, that in *Holland*, and other low fenny Countries, where Agues are endemic, they are oftentimes extremely obstinate, and yield hardly to any Remedies; and if they are stopt by the Bark, they often return soon after, and by their long Continuance give Rise to Obstructions of the abdominal *viscera*, which have been attributed to the Use of this Specific.

In some few Cases a Purging accompanied these icteric Symptoms, which we treated much in the same Manner as when the Ague was complicated with the Flux; we gave Emetics and Purgatives; and the milder Draughts with Mithridate, throughout the Day, and Opiates at Night, if the Purging was violent; if it continued, accompanied with regular aguish Fits, the Bark, with Astringents, generally removed both.

In the latter Part of the Year 1761, and during Spring 1762, we had at *Bremen* many Patients in Agues of all Sorts; as Quotidians, Tertians, Quartans, and irregular Agues of a very obstinate Nature. The Town of *Bremen* is large and well built, situated in a low sandy Plain, with the *Weser* dividing the old from the new Town; generally a considerable Part of the Environs is covered with Water in the Winter, and frequently the *Weser* breaks down some of the Dikes, and overflows all the Country round; and every Time the River overflows its Banks, the Cellars of all the new Town, and of that Part of the old Town next the River, are filled with Water. All the Year round, on digging two or three Feet deep into the Ground, you come at Water.

Agues are endemic in this Place, and great Numbers of the lower Class of People are afflicted with them at all Times of the Year, especially in Spring and Autumn.

Some of the Sick sent down from the Army were bad of Agues; but the greatest Number we had in Hospitals was composed of such as took it in Town; either from doing Duty on the Ramparts, or from lying in bad Quarters, or getting drunk and exposing themselves to Wet and Cold; and many Men of the invalid Companies who had come from *Emden* brought with them old inveterate tertian and quartan Agues.

Most of the recent Cases were easily cured by the Methods already mentioned; though they often continued longer, required a greater Quantity of the Bark to stop them, and a longer Continuance of its Use to make a Cure, than at other Places, which were more dry, and higher situated.

The most obstinate of the recent Cases were the irregular Intermittents, which had regular Paroxysms, but where the Pulse was not settled in the Intervals; which we were obliged to treat as Remitting Fevers till the Paroxysms became quite distinct, and the Patient was cool and free from any Fever in the Intervals; after which they commonly yielded to the Bark.

But many of those Agues which had continued for some Time, especially with those Invalids who came from *Emden*, or who had brought on frequent Relapses by their own Irregularities, were very obstinate. With many the Bark had no Effect; and its Use persisted in seeming rather to exasperate the Paroxysms, and to do Hurt. Nor had almost any Remedy we tried a better Effect. We gave the following Medicines to divers Patients; the saline Draughts and cooling Medicines; Infusions of Camomile Flowers and of other Bitters; Dr. *Morton's* Powders of Camomile Flowers, Salt of Wormwood, and diaphoretic Antimony; Dr. *Mead's* Powders of Camomile Flowers, Salt of Wormwood, Myrrh, and Alum; Alum and Nutmeg; large Doses of *sal ammoniac*; large Quantities of Spirits of Hartshorn; the antimonial Drops and Powders; to some we gave Emetics, both in the Intervals and immediately before the Fits. In some we tried to promote Sweats before the Approach of the Fits, by making them drink freely of warm Liquors while they kept in Bed, and took diaphoretic Medicines; and to others we applied Blisters.—But all did not put a Stop to some of

those Agues.

With some the Disorder continued till it broke down the Crasis of the Blood, and brought on a general Relaxation of the Fibres; and the Patients became cachectic, and fell into Dropsies, or were seized with Diarrhœas, of which they died. Some had Obstructions formed in the Liver or Spleen, or other *viscera*, and fell into the Jaundice and Dropsies, which carried them off.—In the Bodies, of several whom we opened, we found Indurations of the Liver and Spleen—in two of them Suppurations of the Liver—and in one, who had had the Ague at *Embden*, and had long complained of one of those Swellings towards the left Side of the *abdomen*, called the *Ague Cake*^[86], the Spleen was so much enlarged as to weigh above four Pounds.

Some, whose Constitutions were worn out by these obstinate Agues, fell into Consumptions and other pulmonic Disorders in the Winter, of which they died. One Man died in the cold Fit^[87].

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Where-ever the Ague continued long, and the Bark had no Effect, we were obliged to lay it aside, and to try other Remedies adapted to the present Circumstances of the Patient.

The mild Methods succeeded best; giving the saline Draughts and gentle cooling Medicines to such as were strong and plethoric, and had the aguish Paroxysms violent; and the gentle Aromatics and Bitters, or Chalybeats, to those of a weakly Habit, or whose Fibres had been much relaxed, and their Constitutions greatly injured by this or any other preceding Disorder.

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During these Courses, we gave at Times gentle Emetics; and if the Patient complained of Gripes and Purging, which they frequently did, in the Course of this Disorder, we gave a Dose of Rhubarb, or of some other mild Purge; and after it other Medicines proper for this Complaint.

By these Methods frequently the aguish Paroxysms became gradually milder, and at last vanished. At other Times, after they had continued for five or six Weeks, we again gave the Bark, and found it to have the proper Effect. With others they continued thro' the Winter, and went off of themselves in the Spring. With others they still continued; and as no Medicines nor Time seemed to have any Effect in that Country, we recommended their being sent over to *England* for Change of Air, as the only Means likely to remove the Disorder.

Two Agues which had resisted the Use of the Bark were cured by Powder of Camomile-Flowers, Salt of Wormwood, and diaphoretic Antimony; and one by the Use of the aluminous Powders, with Myrrh.—One Invalid, who had long been ill of an obstinate Tertian, on catching Cold, was seized with an Inflammation of his Throat, for which he was blooded, and took a mild Purge; next Day there appeared a Swelling of one of the parotid Glands, which we endeavoured to bring to Maturation, by the Application of emollient Cataplasms; after some Days it went entirely away, without coming to Suppuration; but as there remained still a Confusion of the Head, and a Quickness of the Pulse, a large Blister was applied to the Back, which continued running for some Days; after it dried up he fell into a Fit resembling that of an Epilepsy, and next Day had another Fit of the same kind; from the Time the Swelling first appeared till the Time he had the first Fit, he had no Ague, but it returned the second Day after the second epileptic Fit; another Blister was applied, and he had no Return of the epileptic Fits, though his Ague continued obstinate till *March*, at which Time he was sent to *England*^[88].—About the same Time the aguish Fits of two others were stopt by the Application of Blisters, though they returned in both soon after.

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Excepting in these few Cases, I found no Medicines effectual in stopping those Agues, which had resisted the Bark when properly given, though we tried a vast Variety in different Cases. The *cortex cascarillæ*, or *eleutheriæ*, was given freely, both in Decoction and Substance, in four Cases, which had not yielded to the Bark, but without producing any good Effect; we had not an Opportunity of trying this Bark in more Cases of this kind, nor in Fluxes, the small Quantity of it which had come from *England* being all expended.

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A Soldier of one of the Regiments of Guards, who was admitted into the Hospital for œdematous Legs, and the Remains of a very bad Flux, which he had had ever since the preceding Autumn; after being cured of the Flux, and most of the œdematous Swellings, was seized with an intermitting Complaint in *February*. He had no regular hot and cold Fits; but every second Day, after a slight Shivering and Cold, he was seized with Gripes and a Purging. In one or two of the Fits his Pulse was very quick, and the Pain of the Bowels very acute and severe; which obliged us to blood him, and give him a Dose of the saline oily Purge; after which we treated the Disorder as a Flux complicated with the Ague, and gave the Bark mixed with Diascord, and gentle Opiates at Nights, and at Times gentle Purgatives; the Ague and Diarrhœa stopt very soon, and in a few Weeks he got free of all Complaints, though he still continued weak, till he was sent to *England*, about the Beginning of *April*.

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Many, especially those whose Constitution had been shaken by this or some other Disorder, complained of flatulent Swellings of the Stomach and Bowels, which affected them either while the Ague continued, or soon after it was stopped, and were very troublesome and uneasy. For the most part, these Swellings were removed by the Use of cordial Medicines mixed with the Bark, or a Course of Bitters, and some Doses of rhubarb given at proper Intervals. In some Cases, where they were attended with Sickness, and the Stomach seemed to be loaded, a Vomit gave Relief. Very often these Symptoms continued for Weeks after the Ague had left them, and did not go entirely off, till the Patient recovered his Strength.

In *February, March, and April, 1761*, severals of the Soldiers in the Hospital at *Paderborn* complained of periodical Head-Achs, which returned in most, every Day; in others, only every second; and afterwards Cases of this Kind occurred at different Times as long as the Army continued in *Germany*. These Head-Achs generally began in the Forenoon, were very violent while they lasted, and confined the Patient to his Bed for some Hours. During the Pain, the Pulse was quick; but in the Intervals the Patients were quite cool, and without Fever. Sometimes, tho' not always, the Urine deposited a little Sediment as the Head-Ach was going off. Commonly the Pain was all over the Head, but most severe in the Forehead; though sometimes it was confined to one Side only.

These Head-Achs we treated entirely as Agues of the same Type. When the Patient was strong, some Blood was taken away, and afterwards we prescribed an Emetic and Purge, and then gave the Bark liberally, which generally put an End to the Complaint, without any bad Consequences attending.

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FOOTNOTES:

- [78] See *Van Swieten*, Vol. II. p. 537.
- [79] A Gentleman told me, that he was once cured of an Ague in the Country, by applying a Poultice of Garlic to his Wrists, and letting it lie on till it inflamed and blistered the Part.—I have seen Blisters cure an Ague.—In the *Edinburgh Med. Essays*, Vol. II. Art. v. we have an Account of Agues being cured by the Application of Poultices of recent *Erigerum* (Groundsel) applied to the Stomach on the Days free from the Paroxysm, which caused strong Vomiting.
- [80] See an Account of an Ague being cured by the Patient being pushed into a Pool of Water without any previous Notice, and being much frightened, in *Mason's Account of Agues*, p. 222.
- [81] The common Account given of the Cause of Agues, and of the regular Return of their Paroxysms, has been: That the Ague takes its Rise from some Sort of Matter, bilious, or whatever it may be, either mixed with the Blood, or lodged in the Bowels, or in some other Part of the Body; that a great Part of this Matter is thrown out of the Body, in the Time of the Paroxysm; but that so much remains as serves by Way of a Ferment to assimilate other Particles to its own Nature; which, when collected in a certain Quantity, produce a new Fit; and, according to the Time that it takes to produce this Quantity, the Disorder assumes the Form of a Quotidian, Tertian, or Quartan Ague.
- [82] Mr. *Cleghorn*, while at *Minorca*, after Evacuations, gave the Bark at the End of the third Period, as we observed before; but where the Fever had been neglected till about the third or fourth Period, or badly treated in the Beginning, and the Bowels were inflamed or overcharged with corrupted Gall, he was obliged to endeavour to palliate the most pressing Complaints, and to watch Evening, Night, and Morning for a Remission, and then immediately to fly to the Bark, as the only Remedy that could avert the Danger. If the Patient was strong, he gave Half an Ounce of the Bark, with six Drachms of the *sal catharticum amarum*, divided into four equal Parts, of which the Patient took one every two Hours; the Effect of which was, that the next Fit was mitigated, and an Intermission commonly ensued, in which the Bark was repeated without the Purgative, to finish the Cure.—But where the Patient was excessively feeble, and there was a manifest Risk of his dying in next Fit, he gave Cordials with the Bark, instead of the *sal catharticum*; and endeavoured to throw in six or seven Drachms in the Space of ten or twelve Hours; he having found by Experience, that if a smaller Quantity is given, the Paroxysms come on earlier than usual, and make all Attempts to preserve Life unsuccessful. See his *Account of the epidemic Diseases of Minorca*, cap. iii. 2d edit. p. 192.
- [83] Sometimes, when Patients are reduced low by Agues, the Stomach becomes so squeamish as to reject the Bark in every Shape it can be given; in such Cases, when the Ague cannot be stopped by other Means, it may be administered with great Advantage in Clysters, of which the following is a very remarkable Instance.—*William Hadderell*, a Lad seventeen Years of Age, in the End of the Year 1761, was attacked with a severe Tertian Ague, in which a Mortification came on his left Foot, and one-half of it dropt off; notwithstanding, his Ague continued to attack him every second Day, and the Sore continued running on the 12th of *October 1763*, when he was admitted into *St. George's Hospital*. He was reduced extremely low; and the Sore of his Foot looked so bad, that it was at first imagined he must lose his Leg. He was ordered some Vomits, and a Purge, and cooling Medicines, and

afterwards to take the Bark freely; but his Stomach rejected it, in whatever Form it was given. Other Means were then tried to stop his Ague, but with no Effect, till the 7th of *November*, that I ordered two Drachms of the Powder of the Bark to be given him twice a Day in an emollient Clyster, with Half a Drachm of the *tinctura thebaica*, which stopt his Ague in three Days; and he had had no Return of it on the 28th of *January* 1764, and had recruited his Health and Strength, and the Sore of his Foot was greatly lessened. Dr. *Harvey* (who teaches Midwifery in *London*) told me, that he has cured Children of Agues by Bark Clysters, after the Bark Waistcoats, and other Means used, had proved unsuccessful.

- [84] This agrees with what Mr. *Cleghorn* remarks of Tertian Fevers in his *Observations on the epidemic Diseases of the Island of Minorca*, who says, "where there is an icteritious Colour of the Eyes, we are likewise told, that the Cortex should not be administered; though, in my Opinion, it is for the most part dangerous to delay it, after the first Appearance of that Symptom." Chap. iii. 2d edit. p. 205.
- [85] Dr. *Pringle* takes Notice, that these Obstructions happened as often without as with the Bark; and therefore seemed to depend on the long Continuance and Obstinacy of the Intermittent. *Observ.* part iii. chap. iv. sect. 2. p. 179. 3d Edit.
- [86] I have seen the dead Bodies of four People opened, who had those Swellings of the left Side, commonly called the *Ague Cake*, which had come after Agues; and in all the Swelling was owing to an Enlargement of the Spleen.
- [87] The cold Fit is the most dangerous Time of the Paroxysm, and the greatest Part of those who die of Agues die at this Time; one or two Instances of which I saw in the Military Hospital at *Edinburgh* in the Year 1746.—*Van Swieten* says he has seen the trembling and shaking so great in the Time of the cold Fit of Quartans, that the Teeth have dropt out of the Head. *Comment. in sect. 749. Aphorism. Boerhaav.* vol. II. p. 511.
- [88] On the 29th of *August* 1759, a Man (*Murdoch Brinnen*) about thirty Years of Age, was admitted into *St. George's* Hospital for a very large Swelling of the parotid Glands and neighbouring Parts, which had come three Days before, after a Fit of the Tertian Ague, which did not return afterwards. The Swelling was discussed by the Application of emollient Cataplasms, which were intended to have brought it to Suppuration. He had no Return of the Ague, nor did any bad Consequence follow the Discussion of the Tumour, and the Cure was completed by a few Doses of Physic, and a Decoction of the Bark, which restored him to his Strength, and carried off the little Heat and Feverishness which remained.

OF THE JAUNDICE.

[206]

THE Jaundice, or a yellow Colour of the Eyes and Skin, occasioned by an Absorption of Bile into the Blood, was another Distemper which appeared towards the End of each Campaign.

This Disorder, for the most part, takes its Rise^[89] from Calculi lodged in the biliary Ducts^[90]; and sometimes from a viscid Mucus or Pituita obstructing those Passages^[91]; and it may be brought on by a Tumour, or any other Cause^[92], compressing these Ducts, so as to prevent the free Flow of the Bile into the Cavity of the Intestines.

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The yellow Colour, or Jaundice, observed in the Ague, and some other bilious Disorders, seems to arise sometimes from Spasms of the Ducts; or from too great a Quantity of Bile secreted and absorbed into the Blood, which seems evidently to be the Case where large Quantities of Bile are either vomited or discharged by Stool; a Proof that the biliary Ducts are clear, and free from Obstructions.

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In the End of the Campaign of 1760, after a continued Rain for many Weeks, the Jaundice had been very frequent, and in a Manner epidemical, among the Troops, for some Time before they left the Field; and in passing thro' *Munster*, about the End of *December*, I observed several ill of that Distemper in Hospitals, and met with a few Cases of this Kind in the Hospitals at *Paderborn* in *January* 1761; but during the Spring and Summer, we had only one or two now and then sent to the Hospitals for this Complaint; though towards the End of the Campaign it became more frequent, and several were sent down to *Bremen*; and some of the Garrison were likewise affected with it. During the Winter not above four or five were sent to the Hospitals I attended, and but a few to the flying Hospital, during the Campaign 1762. It frequently appeared in dropsical Cases, depending on obstructed Viscera.

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Those in whom the Jaundice was the original Disorder, and not complicated with

any other, generally got well soon; but where it appeared in dropsical Cases, depending on obstructed Viscera, it was commonly fatal.

In the Beginning of this Disease, Patients usually complained of Sickness, Heat, Thirst, and other feverish Symptoms; and some had a Vomiting, and Pain of the Stomach, for a Day or two before the Jaundice appeared; the Urine was always of a deep Colour from the first; and about the second or third Day the Skin, and the Whites of the Eyes, began to be tinged with a yellow Colour, attended with the common Symptoms of this Disorder.

Such was the Manner in which the Jaundice began in those who were taken ill in Garrison; but those sent us from the Army could seldom give any accurate Account of their own Cases.

In the Course of this Disorder, the Sick were inclined to be costive, though some few had a Diarrhœa; several, who had been reduced by Fevers, or other Complaints, before the Jaundice appeared, were attacked with violent Hæmorrhages from the Nose; and two had like to have died of them before the Bleeding was stopped. The Hæmorrhages did not prove critical, but seemed to depend on a dissolved State of the Blood.

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On the Patient's being first taken ill, if he was plethoric or feverish, or complained of Pain, attended with Sickness and Vomiting, some Blood was taken away. Next Day we gave twenty-five or thirty Grains of Rhubarb in a saline Draught, and afterwards the common saline and other cooling Medicines, till the Fever was abated. If the Pain and Fever did not abate, a Vein was opened a second Time, and a few Drops of the *tinctura thebaica* were added to the saline Draughts, while emollient Clysters were frequently administered, and the Stomach and Belly fomented with Flannels dipped in warm emollient Decoctions.

When the Pain and Fever were gone, we then gave a gentle Vomit in the Evening, and next Day a Dose of Rhubarb; and afterwards so much of the *pilulæ saponaceæ cum rheo* daily as kept the Body open; or the saline Draughts with five or six Grains of Rhubarb in each, or such a Quantity as answered the same Purpose as the Pills; and from Time to Time repeated the Emetic^[93] and Purge.

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Most of the icteric Cases we had, which were not complicated with other Disorders, yielded to the above Treatment in about twelve or fourteen Days. Two or three remained obstinate for a longer Time. To one I ordered a Quart of the pectoral Decoction, made with Parsly Roots instead of the Linseed, to be drunk daily along with the Soap Pills; and the Jaundice disappeared in about eight or ten Days. One who had the Disease more obstinate than the rest, and complained for some Time of a Tension and Uneasiness about the Liver, was ordered to have the right Side fomented Morning and Evening, and to rub it for some Time after with the *linimentum saponaceum* and to drink the Decoction of Sarsaparilla after the Soap Pills; and by continuing this Course for about three Weeks, the Disorder went off^[94].

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The Hæmorrhage from the Nose commonly stopped soon. Where it was violent, we kept the Patient cool, and applied Cloths dipped in Vinegar and Water to the Nose.— In two Cases, one at *Munster*, the other at *Bremen*, the Patients were hot and feverish, and a Vein was opened, and eight or ten Ounces of Blood taken away; and in one Case nothing took Effect till we gave repeated Doses of the *tinctura saturnina* in a common acid Julep.

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FOOTNOTES:

[89] Obstructions and Scirrhi of the Liver have been assigned as the Cause of the Jaundice; but as we have so many Cases of this Kind related where no Jaundice appeared, it is now much doubted, whether such Obstructions, which do not affect the Ducts, are capable of producing this Disorder.

[90] We have numerous Cases in *Bonetus*, and other physical Observations, where Calculi have been found in the Gall Bladder, and Ducts of People who have died of the Jaundice; and I have frequently found two, three, and sometimes twelve, fifteen, or twenty, such bilious Calculi in these Cavities.

[91] Viscid Mucus or Pituita, or viscid Bile, has been observed frequently to obstruct the Ducts. Dr. *Coe* says, sometimes icteric Patients discharge very thick Bile, almost as viscid as Bird-Lime. See his *Treatise on biliary Concretions*, chap. ii. where he has collected a great Number of icteric Cases, in which the Bile has been found quite viscid after Death.

[92] See the Case of a Jaundice in *Bonetus's Sepulchretum Anatomicum*, tom. II. p. 326, where the Sides of the common biliary Duct were compressed by an Enlargement of the Glands about the *vena portarum*; and we sometimes meet with a Jaundice in pregnant Women which goes off after Delivery, and seems to have been caused by the Pressure of the Uterus and indurated Fœces in the Colon. *Van Swieten* says, he has seen this very frequently, vol. III. sect. 918, p. 95.

[93] Vomits are reckoned amongst the most efficacious Remedies in this Disorder, and I have often seen good Effects follow their Use.—*Janet Crags*, a Woman thirty Years of Age, was, on the 21st of *December* 1758 admitted into *St. George's Hospital* for a Jaundice of some Months Continuance. Her Eyes and Skin were not of the common icteric Colour, but of a dark livid yellow, for which Reason both she and the Nurses termed her Disorder the Black Jaundice. She at first complained of a Difficulty of Breathing, and a Weight and Oppression about the Region of the Liver, for which she was blooded, took some Doses of Physick, and the Soap Pills with Rhubarb; but these produced no Change in her Complaints. On the 29th she had a Cough, and complained much of Sickness and Difficulty of Breathing, for which she was ordered a Vomit, and afterwards to take the Squill Draught Morning and Evening, which occasioned a Purging and Gripes. On the 5th of *January* 1759, the Looseness still continuing, I ordered her to leave off the Use of the Squill Draughts, and to take only some Rhubarb in an oily Draught every Night at Bed-Time. On the 8th, tho' the Purging had increased, I did not chuse to check it, as I suspected it would prove a Crisis to the Disorder, and therefore only ordered her the Cordial Draughts and Wine to support her Strength. The Looseness continued till the 15th, when most of the icteric Symptoms were gone, and by the 30th they entirely disappeared. However, she continued low, and subject to Flatulencies for some Months afterwards, which were at last removed by the continued Use of Cordials, gentle Bitters, a nourishing Diet, and repeated Doses of Rhubarb; and on the 2d of *May* she was discharged in a firm State of Health.

Dr. *Coe* says, "I have more Reason to be satisfied of the Effect of Vomits in dislodging these Calculi, than of any other, or indeed of all other Medicines." *Treatise on biliary Concretions*, chap. ii. p. 253. Besides viscid Humours, which Vomits bring away from the biliary Passages, how often are Gall Stones likewise found in the Stools after the Operation of a Vomit? *Ibid.* p. 256.

[94] Sometimes the warm Bath has a good Effect after other Remedies have afforded no Relief. In the Year 1743, a young Gentleman, a Student of Physic at *Edinburgh*, had a Jaundice for which he had taken Variety of Medicines, and rode daily on Horseback for some Weeks, without receiving any Benefit: At last, by my Father's Advice, he took a brisk Dose of Physic, and before it began to operate had a large Quantity of warm Whey thrown up by way of a Clyster, and went immediately into the warm Bath. In the Bath he was taken with a violent Inclination to go to Stool; and after coming out, had a great Number of bilious Stools that Day, and next Morning was still inclined to be loose; and in a few Days all the icteric Symptoms vanished. On the 20th of *July* 1763, a middle aged Woman, *Elizabeth Hosier*, was admitted into *St. George's Hospital* for a Jaundice, which came about a Fortnight before. She had been blooded, and had taken some Medicines, before I saw her. I ordered her a Vomit and Purge, and to take too Scruples of the Soap Pills and Rhubarb daily; and four Days afterwards the Vomit and Purge were repeated, but without making any Change in her Disorder. On the 29th she went into the warm Bath, and took a Vomit immediately on coming out. After the Vomit she had some loose Stools, and the icteric Symptoms went all off in a few Days. She continued well for some Months; but I have been told, that she has since relapsed.

When the Jaundice continues obstinate, there is hardly any Thing has often a better Effect than the continued Use of Decoctions of the Juices of succulent Plants, of Whey in the Spring, Soap, and such like Medicines. The Baron *Van Swieten* tells us, that he has cured many obstinate Jaundices by making the Patients drink daily a Pint or two Pints of a Decoction of Grass, Dandelion, Fumaria, Succory, and such like, prepared in Whey; to each Pint of which he added Half an Ounce of *sal polychrest*, and an Ounce or two of Syrup of the five aperient Roots; and by ordering them to drink the Spa Water in Summer, and take freely of Soap, along with a Decoction of the aperient Roots, in Winter. In those who were cured by these Remedies, he says, Stones, or a kind of a grumous calculous Matter, were always found in the Stools, as the Jaundice was going off. He relates one very particular Case of a Lady of sixty Years of Age, who had had a black Jaundice for twelve Years, and was cured by continuing the Use of these Medicines for eighteen Months; during the last six Months of which she had a Looseness, and constantly discharged by Stool a fetid granulated Matter of the Colour of Clay;—and another singular Case of a Man who was cured by living mostly upon Grass, and a Decoction of it, for two Years together. The Man came at last to devour such Quantities of it, and could distinguish the good Sort from the bad so well, that the Farmers often used to drive him out of their Fields. Vol. III. §. 950.

Glisson tells us, that Cattle are subject to bilious Concretions in Winter, which are dissolved and evacuated in the Spring, when they begin to move much about, and to eat the new Grass, which purges them. *Oper.* vol. II. *Anat. Hepat.* chap. vii. p. 104.

Dr. *Russel* greatly recommends the Use of Sea Water along with the saponaceous Medicines. See his *Treatise on the Use of Sea Water*.

IN *May* 1761, a great many of the Patients, who had been in Hospitals the preceding Winter, had Tumours formed on the external Part of the Breast, which they shewed me at *Osnabruck*. They began in the Form of indolent Tumours, and came slowly to Suppuration. For the most part, the Suppuration was only partial, and the Tumour, on being opened, discharged a very small Quantity of Matter. Some of them, though they felt soft, and seemed to contain Matter, yet, upon being opened, discharged only a small Quantity of black Blood. None of them melted down entirely into Pus, or came fully to Suppuration, and healed kindly as Abscesses which succeed acute Inflammations. But after a small Quantity of Matter was discharged, for the most part, there still remained a hard Tumour, which felt as if it was a Swelling of the Bone, or Cartilage below; and in some the Surface of the Bone was found rough at the Bottom of the Abscess. [217]

These Tumours seldom rose high, and were most of them situated at the lower Part of the Sternum, or a little to one Side of it, commonly on the left Side, above the *cartilago ensiformis*. Some Patients had only one, others two, and some three such Tumours. The first of them I saw was on the left Side, which, on being felt, gave exactly the same Sensation as when the Cartilages of the Sternum are begun to be raised by an Aneurism of the Aorta; only no Pulsation was to be perceived; and most of them had the same Appearance.

The Patients, who had such Tumours, commonly complained of Pains of their Breast. One or two, after these Tumours came to Suppuration, seemed to recover their Health, and to feel no Uneasiness, tho' some of the Swelling remained: But many of them were inclined to be hectic, and seemed likely to grow consumptive. [218]

Being ordered up to the flying Hospital in *June*, and the Sick going down to *Bremen*, I had no Opportunity of seeing the Event of these Tumours, or of examining the Bodies of those who died with them. One I accidentally met with the following Winter at *Bremen*, who died of a Consumption and Diarrhœa. He had a large Abscess, which penetrated into the Cavity of the Chest, and discharged a great Quantity of very fetid Matter, at the Part where one of these Tumours had been seated, and the Sternum and Ribs were carious all round the Abscess.

OF PARALYTIC COMPLAINTS.

 [219]

SOME of the Soldiers, from lying out in the Nights on the wet Ground, and from doing Duty in cold rainy Weather, were seized with a Pain and Numbness all over, and lost the Use of their Limbs, which in some was succeeded with a Palsy of these Parts: But the greatest Number of those afflicted with Paralytic Symptoms were seized with them either in Fevers, or after feverish and other Disorders. The Number, who were attacked with Complaints of this Kind, were but few.

When Men were suddenly taken with Pain and Numbness all over, we found that the best Method of treating them was to put them to Bed, and give them Plenty of mild warm diluting Liquors for Drink; and if there was much of a Fever, to open a Vein, to give the cooling antiphlogistic Medicines, and apply Blisters; and if these Complaints still remained, to endeavour to promote a breathing Sweat, by means of Diaphoretics and warm Drinks. Several who were brought to the Hospital, soon after being seized in this Manner, got well; but in some few, one or other of the Limbs would begin to waste, and remain paralytic afterwards. [220]

Those who had the true confirmed Palsy seldom remained long enough with us to be cured. Two or three received Benefit from Blisters applied to the Parts, and from Issues; drinking at the same time the Decoction of the Woods, or of Sarsaparilla, and taking the volatile Tincture of Guaiac or Valerian^[95], and being sweated by the Use of *Dover's* Powder, or other Diaphoretics. [221]

One Man of the 51st Regiment of Foot, after doing Duty in very cold wet Weather, in the Beginning of the Year 1762, was seized with a Palsy of one Side of his Face, which prevented him from speaking distinctly, and was an Impediment to his eating. He mended much after being blooded, and having a large Blister to his Neck, kept open for some time by means of the epispastic Ointment. [222]

FOOTNOTES:

- [95] On *Wednesday* the 1st of *February* 1764, *Margaret Julion*, a Woman between fifty and sixty Years of Age, was admitted into *St. George's* Hospital for an entire Loss of Speech, which seemed to depend on a paralytic Disorder of the Parts about the Larynx. The Account her Friends who came with her to the Hospital gave of her Case was, that she had been for five Months troubled at Times with Pains of her Bowels, and a Purging; that on *Sunday* se'night before coming to the Hospital, she had suddenly lost the Use of her Speech, and had not spoke since that Time, though she seemed to hear and understand whatever was said to her. I asked her some Questions, which she answered distinctly by Signs. She had no paralytic Complaint of her Face, Arms, Legs, or any other Part of her Body, and swallowed both Fluids and Solids with Ease. She had no Fever, and seemed to complain of nothing but the Loss of Speech.—A Blister was applied to her Neck, and she was ordered the saline Draughts, with a Scruple of Powder of Valerian in each, to be taken three Times a-day, and a Dose of sacred Tincture, to be taken twice a-Week. She followed this Course for a Fortnight, when another Blister was applied to the Fore-part of the Neck, and the Powder of Valerian in the Draughts was changed for two Drachms of the *tinctura valeriana volatilis*. At the End of three Weeks she could pronounce the two Words *Why, What*. She continued the same Course till this Day, the 16th of *March*, and can now pronounce many Words and short Sentences.

OF AN INCONTINENCY OF URINE.

[223]

AN Incontinency of Urine was another Complaint frequent among the Soldiers; but it seemed to me to be counterfeited by many. All, who had it, said that they had received some Hurt^[96] or Sprain of the Back, or a Kick from a Horse, or that a Carriage had run over them.

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Those who really had the Disorder seemed to have received such an Injury of the Bladder, or Kidneys as required a considerable Space of Time to get the better of; and by reason of the short Time we had them under our Care at the flying Hospital, they seldom received much Benefit. One or two thought they grew better on taking the Bark and Balsam of *Peru*; at the same Time they bathed Morning and Evening the lower Part of the Abdomen and Perinæum, with Flannels dipped in gentle astringent Liquors, applied cold. Blisters applied to the *os sacrum* had no Effect.

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FOOTNOTES:

- [96] A Soldier in the Hospital at *Paderborn* used to discharge his Water involuntarily, and mixed with Pus, which came from some violent Blows he had received on the Back.

John Pearce, a young Man about eighteen Years of Age, was admitted into *St. George's* Hospital, the 10th of *April* 1759, for a Pain of his Side, and a Complaint of the Bladder. The Account which he gave of his own Case was, that, some Months before, he had received a violent Blow with a Cricket-Bat on the left Side, on the Region of the Kidney; and that ever since he had had a sharp Pain in that Part, and sometimes had a Stoppage of Urine, and at other Times it came away insensibly. His Pulse was rather quick, but low, and he had a feverish Heat. He at first took some cooling Medicines; but on the 20th, being low and faint, he had some of the foetid Julep. On the 23d he was attacked with a sharp Pain in the Belly and Side, had a Stoppage in making Water, a quick and full Pulse, and most of the Symptoms of the Stone. He was ordered to be bled immediately, to take the saline Draughts every four Hours; and as he was inclined to be costive, to take as much lenitive Electuary as to procure him a loose Stool; and it was recommended that he should be sounded as soon as the Violence of the Fever was over. On the 25th he continued much in the same Way, and had made some Water, which was intolerably foetid. Half a Drachm of the dulcified Spirit of Nitre, and five Drops of the *tinctura thebaica*, were added to each of his Draughts, as the Pain and Difficulty of making Water had increased. On the 26th his Pulse rose, and became very hard and quick; the Pain in his Side, and the Dysuria, became more violent; and about Twelve o'Clock he had a convulsive Fit, resembling that of an Epilepsy; after coming out of the Fit, as the Fever and Pain had increased, he was bled; the Belly was fomented and embrocated, and he took the oily Draughts four Times a-Day; his Blood immediately threw up a very thick Buff. He remained pretty easy the rest of

the Day; but about the same Time next Day, he had another convulsive Fit, and died.

On opening his Body, we found about two or three Pints of a dark-coloured foetid Water in the Abdomen; on cutting through, and squeezing the right Kidney, there came out a thin purulent Matter every where from its Substance, though it appeared sound; on raising and cutting through the Peritoneum, covering the left Kidney, there was a Discharge of about a Pint of black and very foetid Water, which had every where surrounded this Kidney; and there were six mortified Spots on its Surface, as large as the End of one's Finger, with a Depression in each about a Quarter or Half an Inch deep; most of the Substance of this Kidney seemed diseased, and it was full of Suppurations. The Bladder was contracted and thickened, and contained a rough Stone, which weighed three Ounces. The rest of the *viscera* were sound. This Stone had certainly been in the Bladder long before the young Fellow received the Blow with the Cricket-Bat; but the Injury done the Kidney had probably aggravated the Symptoms.

I do not remember ever to have seen convulsive Fits, such as this young Man had, in acute Diseases, except in one Case of a slow Fever, which came by taking Cold after a Salivation, and which I attended, along with Dr. *Pringle*. The Gentleman had three Fits exactly of the same kind as this young Man, at twenty-four Hours Distance from one another, and he died of the third.

OF A STOPPAGE OF URINE.

[227]

WE formerly mentioned, that in acute Diseases many complained of a Stoppage or Difficulty of making Water; and others had this Complaint from Strictures of the Urethra, or Disorders of the Bladder or Kidneys^[97].

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Where it depended on Strictures of the Urethra, Bougies introduced into that Passage, and worn for some Time, were of great Service. The Patients were at the same time ordered to live on a cool Diet, and to drink the *decoctum Arabicum*, or an Infusion of Linseed, or such other mild mucilaginous Liquors; and to take oily Medicines and Opiates occasionally, and gentle Laxatives, to keep the Body open; which Method of Treatment generally gave Relief. Where the Patients were plethoric, or complained of Pain, or the Disorder was attended with a Fever, Bleeding was often necessary.

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When the Stoppage of Urine seemed to arise from an Inflammation of the Kidneys or Bladder, or other Diseases of these Parts, we treated it accordingly; and where the Fever was considerable, we made Evacuations, and gave plenty of diluting Liquors, and the cooling saline Medicines, and afterwards those of the soft, mucilaginous, and oily Nature, and mild Diuretics and Opiates.

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When the Disorder, in its Progress, became chronical, the Sick were commonly sent down to the fixed Hospital, so that we had no Opportunity of examining the Bodies of such as might die of this Complaint.

FOOTNOTES:

[97] It is often very difficult to judge of the Cause, or to be able to determine exactly the Seat of these Disorders before Death; as the following Cases will shew.

John Waden, a middle-aged Man, was admitted into *St. George's* Hospital the 10th of *April* 1759, for a Swelling of the Abdomen, and a Difficulty of making Water, which he said begun about two Months before, with a violent Pain in his Back and Belly, occasioned by his being employed in making of Cyder in a very cold Cellar. He had not had a Stool for some Days: at first he took a Dose of Physic, and some of the saline Draughts; but in a Day or two complained that his Belly had grown to a monstrous Size, and that he had not made Water for above twenty-four Hours; on examining, we found the Bladder so much distended as to reach up to the Navel; and upon a Catheter's being introduced, above two Quarts of Water were drawn off, and the Swelling immediately subsided; but in the Afternoon was as large as before, the Bladder seeming to be in a paralytic State. During the Months of *May* and *June*, his Water was drawn off twice a-Day; he had his Belly fomented with emollient, astringent, and other Decoctions, and embrocated with Liniments; was blooded once when feverish, took Cordials, the Bark, Myrrh, and a Variety of Medicines, without any Effect. On the 3d of *July*, a flexible Catheter was introduced into the Bladder, and left there, in order that the Urine might drain away as fast as

it was secreted, and the Bladder be allowed to contract, and recover its Tone. The Catheter gave him no Pain, and he thought himself much easier by the Bladder's never being too much stretched; but on taking out the Catheter some Days after, he had the same Stoppage of Water as before. On consulting with Dr. *Batt* and the other Physicians, it was agreed to give two Grains of the Powder of Cantharides, with three Grains of Camphor and ten of Sugar, rubbed well together in a Mortar, twice a-Day; and to continue the Use of the flexible Catheter. He found no Uneasiness or Strangury from the Use of the Cantharides, and thought he passed his Water more freely, when the Catheter was taken out; but after fourteen Days, finding no Change for the better, and being free from any Fever, he was ordered into the cold Bath; the two first Days he found himself more lively and brisk; but the third Day was chilly and cold after coming out of it, and therefore was desired to leave it off; some Days after he became hectic, and I observed Pus in his Water, which he said he had passed with his Urine for above three Months; after this he languished for near a Month, and died upon the 25th of *August*.—Upon examining his Body next Day, we found the thoracic Viscera in a sound State, except that the Lungs adhered a little on the right Side. Both Kidneys were diseased; they were inflamed, and seemed enlarged; and on cutting them, had Tubercles dispersed every where through their Substance, which had come to Suppuration, and contained a good deal of Matter; the lower Part of the left Kidney was mortified, and contained two or three Ounces of a black foetid Liquor. The Bladder of Urine was contracted, and its Coats greatly thickened, and the internal Coat much inflamed; and there was a Cyst full of Matter, about Half the Size of a Walnut, between the muscular and villous Coats, towards the lower Part of the right Side of the Bladder; and there were two large Cysts, containing a small Quantity of Matter, though capable of containing near two Ounces each; one situated between the *vesiculæ seminales* and Rectum, the other between the *vesiculæ* and Bladder, which opened into the Urethra by one common Orifice, capable of admitting a large Quill, at the Side of the *caput galinaginis*. The rest of the Viscera were in a sound State.

Mary Hibbard, a Woman twenty-four Years of Age, was admitted into *St. George's* Hospital, the 6th *June* 1759, for a Complaint of her Bladder. The Account she gave of herself was, that, about *Christmas* 1758, she had parted with some Gravel; and about fourteen Days before coming to the Hospital, she was seized with a violent Pain in her Back and Loins, attended with a Sickness and Nausea; and very soon after complained of a violent Pain in the lower Part of her Belly, and with a perpetual Inclination to make Water, though she felt a sharp Pain and Difficulty in doing it; and that these Complaints still remained. Her Pulse was quick and strong, and she was inclined to be costive. She was immediately bled, took the oily Draughts three Times a-Day, the *decoctum furfuris* for common Drink, and so much lenitive Electuary as procured her a Stool next Day. As there was a strong Suspicion of her having a Stone, she was sounded; but nothing at all was to be felt in the Bladder. Her Medicines eased her Pain in making Water, but not the Pain in her Back. On the 16th her Water was thick and turbid, and deposited a brown Sediment; and the Difficulty in making Water still remained; instead of the lenitive Electuary she was ordered the Rhubarb oily Draught to be taken every Night. On the 18th, there being no Change in her Disorder, she had Draughts made of an Ounce and a Half of simple Mint Water, Half a Drachm of the dulcified Spirit of Nitre, and five Drops of the *tinctura thebaica*, and Syrup three Times a-Day; but on the 22d she complained, that since she left off the oily Medicines, her Pain and Difficulty in making Water had grown worse; she was therefore ordered the saline and oily Draughts alternately, and to take the Rhubarb oily Draught occasionally when costive, which removed these Complaints; and they did not return while she remained in the House; but on the 4th of *July*, the Day before she was to have been discharged as cured, she was attacked with a sharp Pain in her Hip and Loins, and about the *os coccygis*; which increased till the 9th, and extended itself all along the Outside of the right Thigh; it was most acute about the *os coccygis*; but on examining, nothing was to be observed externally: This Pain continued more or less all that Month, and till the End of the next, and so obstinate as not to be altered by bleeding, and the Use of Liniments, Blisters, cooling Medicines, Opiates, warm Baths, and other Remedies. On the 20th of *August*, a strengthening Plaister was applied to her Back, which gave immediate Relief, and she was discharged cured the 29th. She continued well till *October*, when she was attacked with a violent Fever at *Hounslow*, and was brought to the Hospital on the 24th of that Month, and the tenth Day of the Fever. She died the 3d of *November*. During the Course of the Fever, she only complained once of a Difficulty of making Water.—After Death I had her Body opened, when the only Thing particular which we could observe, was the urinary Bladder about four times the natural Size; it seemed to be flaccid, and in a State of Relaxation; the Kidneys were sound, and no Signs of any Distemper could be observed about the Uterus or Rectum, or near the *os coccygis*.—When she was first in the Hospital, I desired her always to examine her Urine; but she never observed that she passed any Sand, Gravel, or any thing of that kind.

Thomas Jacey, an elderly Man, was admitted into *St. George's* Hospital the 14th of *March* 1759, for a Pain in his Back, and a Difficulty and Pain in making Water, which was often mixed with grumous Blood; but he had never observed any Sand or Gravel in it. His Pulse was quick and full, attended with Heat and Thirst; and he was inclined to be costive; he was at first bled, and took a Dose of laxative Mixture, and two Ounces of the Tincture of Roses, four Times a Day, and the *decoctum malvæ* for common Drink. At first he seemed relieved, and passed no grumous Blood for some Days; but on the 26th, as he complained much of a Pain in making Water, the Tincture of Roses was changed for the oily Draughts, and he was ordered the Rhubarb oily Draught occasionally. On the 9th of *April* he fell suddenly

into a comatose Way, and remained so till the 12th, when he died, notwithstanding the Use of divers Remedies.—Upon examining his Body, both Kidneys were found in a sound State; the Intestines covered with slight inflammatory Spots, the Bladder of Urine quite contracted, schirrhous, and greatly thickened; and its internal Surface rough and eroded, with one or two black Spots on it, and some grumous Blood lying on its Surface. The other viscera were sound.

In Ulcers of these Organs, the natural Balsams, mixed with soft Things, are often of great Service; of which the following Case is an Example.—*William Lumley*, a Boy nine Years of Age, was admitted into *St. George's* Hospital, the 6th of *September* 1759, for a Pain in the Bladder, and a Difficulty in making Water, which was always more or less mixed with Matter. At first there was a Suspicion of his having the Stone; but on sounding, none was to be found. From the Symptoms, it appeared as if there was an Ulcer in the Bladder near to its Neck; the Boy had a Cough, was very low, and inclined to be costive; at first he took three Spoonfuls of the *Sperma Ceti* Mixture four Times a-Day, and a Dose of Physic; but the Symptoms still remaining, on the 2d of *October* he was ordered to take a Scruple of the *electuarium e spermate ceti* three or four Times a Day, and to have the Gum-Arabic Decoction for his common Drink. By continuing the Use of these Things, and taking some opiate and laxative Medicines occasionally, he mended by slow Degrees, and all his Symptoms went off; and he recovered his Health and Strength, and returned Thanks for his Cure the 18th of *January* 1760.

The following Account of a remarkable Suppression of Urine I had in a Letter, dated the 25th of *November* 1757, from Mr. *Pearson*, one of the Surgeons to his Majesty's Military Hospitals, who then served as a Mate.

James Ruffendal, aged Twenty, of a delicate Habit, was, in the Middle of *July* last, seized with a violent Pain in both Kidneys, which extended along the Ureters to the Bladder, and remained in the same Situation for about three Weeks; during which Period his Urine began to decrease in Quantity, and the voiding of it was attended with acute Pain about the Neck of the Bladder. The Secretion then totally stopt; he remained for upwards of five Weeks in the Hospital at *Dorchester*, and made no Water; at the End of which Time I first visited him along with Mr. *Adair*. He complained then of a slight Pain in his Kidneys, and told us he had a tolerable Appetite, sweated little, and voided every Day four or five Liquid Stools. He was ordered Boluses of Camphor, and *sal. vol. c. cervi*, and every Night a Dose of *tinctura cantharidum*; which he continued to take for a Fortnight without receiving the least Benefit. I then bled him to the Quantity of ten Ounces, and gave him an Emetic of six Drachms of the *vinum ipecacoanhæ*, and two Ounces of the Oxmyel of Squills, which operated very well; and afterwards ordered him to take one of the following Boluses every four Hours. ℞ Sapon. dur. Hispan. drachm. i. Sal. Absynth. gr. vi. Calc. Viv. gr. x. Balsam. Peruv. q. s. ut fiat Bolus. These he continued to take for twelve Days. On the Morning of the 14th of *October*, he was suddenly seized with an acute Pain in both Kidneys, and about Noon voided upwards of Half a Pint of straw-coloured Urine, which let fall a clay-coloured Sediment. As he was feverish, I took away twelve Ounces of Blood, and ordered him Barley-Water with Nitre for Drink. He was easy in the Night, and made upwards of two Pints of Urine, which deposited a Sediment of a gelatinous Consistence. Next Morning the Pain increased, especially in his Right Side, and ten Ounces more of Blood was taken away. This lowered the Pulse, and considerably abated the Pain. Both this and the Blood taken away the Day before threw up an inflammatory Buff. He was ordered to continue the Use of the Barley Water with Nitre, and to take three Spoonfuls of a Mixture with *spiritus mindereri* every two Hours. He had an easy Night, and was next Day free from Fever; but complained of an Uneasiness in his Stomach and Nausea. He was ordered a Scruple of the Powder of Ipecacoanha, which vomited him, and procured him a Stool. He was easy in the Night; but in the Morning was hot, and complained of a Pain in his Right Kidney, and all over his Bones, as he expressed it. I then gave him a Mixture, with *spiritus mindereri*, and the *pulvis contrayerva comp.* of which I desired him to take some Spoonfuls frequently. This procured him a plentiful Sweat, which removed the Fever and Pain: these Symptoms returned next Day, but were removed by the same Means. I remained at *Dorchester* for a Week after, and he recovered his Strength and Appetite as much as could be expected in so short a Time; but he still complained of Pain in his Right Kidney, tho' he made Water freely. By a Letter I received from the Gentleman whose Care I left him under, I understood he had a Relapse, which he has since got the better of.

I forgot to inform you, that his Father died of the same Complaints, after being six Months without secreting a Drop of Urine; and his Brother died of the same in about ten Weeks.

THE Epilepsy, or Falling Sickness, attacked a Number of Men, from the severe Duty of long Marches in hot Weather, and afterwards lying out on the cold Ground, exposed to the Damps of the Night^[98].

It was very seldom that Men were cured of this Disorder in the military Hospitals. We had some few Instances, indeed, where Relief seemed to be obtained by Rest, a regular Diet, gentle Evacuations, and Issues^[99]; but even those Men generally relapsed as soon as they were sent to their Regiments, and began to do Duty. All who had these Fits after being some Time with their Regiments, were at last discharged, and sent home. However, before Men are discharged for Fits, they should be watched very narrowly for some Time; for there is no Disorder which Soldiers are more apt to counterfeit than this.

It is no Wonder that Soldiers, during the Time of Service, should seldom be cured of these Fits; for in Adults it is not often cured even in private Practice, with all the Conveniencies and Advantages to be wished for; and generally the few that do get well, require a considerable Length of Time to accomplish the Cure; and we find from daily Experience, as well as from examining the Records of Medicine, that the Cures that have been made, have mostly been performed either by a Change of Air, such as going from a cold to a hot Climate^[100], by some remarkable Change of Life^[101], or some accidental Disorder;^[102] or by Issues or Drains^[103]; or by the Removal of some acrid or irritating Substance, or such like^[104]; or by preventing the Cause^[105]; and that those Medicines called Specifics have in general had but little Share in the Cure.

FOOTNOTES:

[98] I saw above twenty Men, while I was in *Germany*, who attributed the Epileptic Fits they were attacked with to these Causes, and said they had never had the Epilepsy before; besides others, who had been formerly subject to these Fits, who declared, that the Disorder was brought back by the same Means.

[99] *William Wilson*, a Boy fourteen Years of Age, was admitted into *St. George's* Hospital, *Sept.* 20, 1758, for Epileptic Fits, which he had been subject to for some Time, and which generally seized him three or four Times a Week. He took Variety of Medicines without any Effect till the 6th of *November*; when I ordered him to take eight Grains of the *pilulæ fetidæ* Morning and Evening, and Physic twice a Week, and a Seton to be made in his Neck. After the Seton began to run, he had but three or four slight Fits in *November*, and none the following Month; and he was discharged the Hospital the 3d of *January* 1759, seemingly in good Health, with Directions to keep the Seton running at least for some Months after he went home, and to come again to the Hospital if he should have any Return of his Fits; but we never heard more of him.

Mary Hacket, a Girl of nineteen Years of Age, was admitted into *St. George's* Hospital the 14th of *February* 1759, for Fits. The Account she gave of her Case, was, that about five Years before she was seized with the first Fit, after a Fright; three Years afterwards she had a second Fit, and for some Time after had a Fit commonly once a Month, about the Time of the full Moon; and since had them more frequently; that the Fits began with a Trembling and Shaking of the right Foot, and she had frequent pricking Pains in the right Thigh, and what she called convulsive Tremors in the right Leg and Foot. She was regular in her menstrual Discharge. At the Time she came into the Hospital, she was feverish, and complained much of a sharp Pain in the right Thigh: She was blooded, and took some cooling Medicine, and had no Fit till the 9th of *March*: She then took the fetid Pills and camphorated Julep twice a Day; but still the Fits returned frequently. She then had the Bark, Valerian and Purging Doses successively, and used the warm Bath; but without any Effect. On the 7th of *May* a Blister was applied to her right Foot, which was intended to be kept open; but an Inflammation coming on that Leg and Foot, it was suffered to dry up, and an Issue made in the same Leg. From the Time the Blister was applied, she had no Fit while she remained in the Hospital. She was discharged the 15th of *July*, seemingly in good Health; though during that Period she had some little Tremors in her Foot, and was subject to be low and faintish, which was always relieved by cordial anodyne Medicines. After going out of the Hospital, she remained in good Health for seven or eight Months, when I was told her Disease had returned as violent as ever.

[100] *Hippocrates* lays the chief Stress of the Cure upon Change of Air, Aphor. 4, 5, sect. ii. The Baron *Van Swieten* says, he has known a great Number cured by going to the *East Indies*; many of whom have remained well ever after, while others had a Return of the Disorder when they came back to *Holland*. *Comment.* vol. III. p. 436. sect. 1080.

[101] *Celsus* has long ago observed, that the Appearance of the Menses in Girls, and of Puberty in Boys, often removes this Disorder, lib. iii. cap. xxiii.—On the 22d of *November* 1758, *Mary Evans*, a Girl of eighteen Years of Age, was admitted into *St. George's* Hospital for Fits. She had never had the Menstrua; but, for above two Years, found regularly, once a Month, a Fulness in her Breasts, and had a slight Head Ach, and other Symptoms which generally precede this Discharge; and were succeeded with violent Epileptic Fits, which continued returning frequently for two

or three Days, and then went off; and she had no more Symptoms of them, till about the same Time next Month. She was ordered to take ten Grains of the *pilulæ fœtidæ* Morning and Evening, and a Dose of Physic twice a Week; and as I found that she became plethoric near the Time her Fits used to return, I began to imagine, that both the Fits and Stoppage of the Menstrua were owing to too great a Fullness of the Vessels, which prevented the Heart and vascular System from having such free Play, as to drive the Blood through the extreme uterine Vessels: I therefore ordered seven Ounces of Blood to be taken away from her immediately. In three Days Time the menstrual Discharge began to make its Appearance; and on the 10th of *January* she was discharged the Hospital, seemingly in good Health, after the menstrual Discharge had returned for two regular Periods, without any Appearance of Epileptic Fits. She was desired to come back to the Hospital, if the Fits returned; but I never heard more of her.

[102] *William Glen*, a Patient in the *Royal Infirmary at Edinburgh* in *September* 1747, was freed from Epileptic Fits, which used to return ten or twelve Times a Day, for a Quarter of a Year, by a Diarrhœa coming on; but they afterwards returned.

A *Man* subject to the Epilepsy was cured of it by a Quartan Ague, and had afterwards no Return of the Disorder. *Miscell. Curios. Dec. 3. Ann. 3. p. 34.*

[103] There are numerous Instances of the good Effects of Issues and Drains in diverse Authors. *Tulpius, Van Swieten, &c.*

[104] *La Motte* gives one Instance of a Person being cured of the Epilepsy by voiding five Stones, *Chirurg.* vol. II. p. 20; and of another who died of the Fits from a triangular Stone remaining in the Kidneys, *ibid.* p. 416. Dr. *Short* cured a Woman of an Epilepsy of twelve Years standing, by extirpating a cartilagenous Substance, about the Bigness of a large Pea, seated on the gastroneimi Muscles, above a Nerve which he cut asunder. *Edin. Medic. Essays*, vol. IV. Art. 27.

[105] *Galen*, tells us, of his having prevented the Epileptic Fits in a Boy, who used to have one whenever he was hungry, by making him carry Bread in his Pocket, and eat a little as soon as he found the least Symptoms of Hunger. *De Loc. Affect.* lib. v. cap. vi.—And *Van Swieten* mentions how he cured a Boy, who had a Fit every full Moon; whose under Lip used to fall a Trembling before it began (a Symptom which, he says, often precedes Vomiting); by giving a Vomit every Month, for six Months successively, three Days before the full Moon, and an Opiate in the Evening after its Operation; and by putting him under a Course of strengthening Medicines. It was observable, that if he vomited in the Time of the Paroxysm, it was soon at an End. See his *Comment.* vol. III. p. 439. sect. 1050.

OF THE SMALL-POX.

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THE Small-Pox appeared at *Paderborn* in the Spring 1761, and five had the distinct Kind, who recovered. Six or seven had them at *Osnabruck* in *May* and *June*, and one Man and a Child died of the confluent Kind. Four had the distinct Kind at *Munster* in *July* and *August* who all did well. During the Winter, we had sixteen in the Hospital I attended at *Bremen*; ten had the distinct Kind, and all recovered; five had the confluent Kind, of whom two died; as did also one who was brought to the Hospital with all the Symptoms of the most malignant Kind. Two were sent to *Natzungen* in *July*, both ill of the confluent Kind; the one died two Hours after his Arrival; the other recovered: And we had only two in the Hospital at *Osnabruck* in Winter 1762-63, and both did well.

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There was nothing particular either in the Course or Treatment of this Disorder, different from what we meet with in daily Practice; only as the Soldiers, who were attacked with it, were strong, and in full Health, they required Bleeding and gentle Evacuations, and a cooling Regimen, on the first Appearance of the Symptoms.

The malignant Kind required the Use of Acids, and the Bark; which last, could often only be administered by Way of Clyster, as the Sick could not swallow it: In short, we treated the Patients much in the same Way as in the malignant Fever, Allowance only being made for the present Circumstances.

Luckily this Disorder never spread much in the Army, while I was in *Germany*.

ERISYPILATOUS SWELLINGS.

IN *January* 1762, several Patients in the Hospitals I had the Care of at *Bremen*, had shining watery Swellings of the Face, or Extremities; which came suddenly, and were attended with a slight Degree of Inflammation, and watery Blisters rising above the Skin, and some Degree of Fever. The Blisters were not small, round, and angry, as in *St. Antony's Fire*; but larger, and of an irregular Figure, resembling those raised when People are scalded by boiling Water. The Swellings did not pit on being pressed, as the oedematous Swellings commonly do: They gave Pain when pressed, but the Inflammation was not in that high Degree as it is in the common Phlegmon: The Blood was sisy, and the Water of a high Colour. The Disorder seemed to be a Species of the Erisypelas. [246]

Between the 9th and 12th of *January*, three Patients were seized with such Swellings.

The first was a Dragoon, who had just recovered from a Flux, and a bad Cough. On the 9th, he was suddenly seized in the Night with a large Swelling of his Face, Hands, and Arms, which had a shining oedematous Appearance, with a small Degree of Redness, and was painful when pressed; and he had two or three watery Blisters rose on the Back of each Hand above the Division of the Fingers, attended with a quick full Pulse, a feverish Heat and Thirst, a Cough, and somewhat of a Difficulty of Breathing, and high-coloured Water; and he was inclined to be costive. He was immediately blooded, had a saline Mixture with *Conrayerva* and Nitre, and was ordered to take a Purge in the Morning. Next Day the Blood had thrown up an inflammatory Buff, the Fever was abated, and the Breathing easier; but the Cough and Swelling still remained. He then took a Julep made of equal Parts of the Saline and *Sperma Ceti* Mixtures, which eased the Cough. The fourth Day the Pulse was soft, and the Swellings still in the same Situation, and the Breathing a little affected. A large Blister was applied to his Back, which discharged plentifully, relieved the Breathing, and lessened the Swellings considerably. The Cough and some Degree of Swelling still remained; but were removed by the Use of the *Sperma Ceti* Mixture with Oxymel, gentle Opiates, and some Doses of Physic. [247]

The second was a Man of the Twentieth Regiment of Foot, who had been some Months in the Hospital for a hectic Complaint; he was taken ill, the same Night as the Dragoon, with a Swelling of his whole Face, particularly the Lips, which had a shining watery Appearance, and a slight Degree of Redness, attended with a strong Fever; and was cured by Bleeding, Purging, the Use of the saline Medicines, and the Application of a Blister. [248]

The third was an Invalid, who had been admitted for a pleuritic Complaint, which he had got the better of. He was attacked, the second Night after the other two, with a shineing, watery, reddish Swelling, of his right Hand and Arm, up as far as the Joint of the Shoulder; four large watery Bladders likewise appeared on the fore Part of his Arm, above the Joint of the Elbow. Bleeding, with the cooling Medicines, and two Doses of Salts, carried off the Fever, and lessened the Swelling, in about seven Days Time; but a little of it, with a Stiffness, still remained; which at last was removed by the Use of aromatic Fomentations, rubbing with the *linimentum saponaceum*, and taking two Doses of Physic.

Within less than a Fortnight, five or six more were seized with Swellings of the same Kind on some of the Extremities, and all got well by nearly the same Treatment; excepting one Man, who was in a very low State, and had a large deep Ulcer on his Hip, where there had been a Mortification from his lying on that Part in a Fever. The Swelling at first seemed to give Way; but on the third or fourth Day, having got a severe Cough, the Swelling increased, and the Inflammation began to look livid, and the Discharge from the Sore to look bad; and, notwithstanding various Means were used, a Mortification of the Part came on, and he died the seventh Day. [249]

OF THE SCURVY.

 [250]

THE true Scurvy, attended with spongy fetid Gums of a livid Colour, with livid Blotches, and Ulcers of the Legs, and other Symptoms, began to shew itself at *Bremen* in *January* 1762; tho' we had not the least Appearance of this Disorder in the Hospitals at any other Place, while I was with the Troops in *Germany*.

A great Variety of Disorders have been called by the Name of Scurvy: and the Disease has been divided into hot and cold; into the Acid, the Alcaline; and the Muriatic, according to the different Fancies of Authors, and the Causes they imagined it took its Rise from; but, from later and more accurate Observations, Dr. *Lind* has justly remarked, that the true Scurvy has been found to be the same in all the different Parts of the Globe, and to take its Rise from similar Causes; from Cold and Moisture, and living much upon salted Provisions, joined to a Want of fresh Vegetables, and of good generous fermented Liquors; and hence it is most frequent in low marshy Places in northern Climates, where there is a Scarcity of fresh Vegetables; and where the Inhabitants live much upon salted Provisions in Winter; and aboard of Ships in long Voyages or Cruizes, especially in the northern Seas; and hence this Disorder was so frequent at *Quebec* the first Winter it was in our Possession; and in some of the other Forts in *North America*, which were taken so late in the Year, that the Troops had not sufficient Time to lay in a Stock of Vegetables, and of fresh Meat to be preserved by the Frost^[106]; but were obliged to live mostly on Ship Provisions.

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It is observed, both at Sea and Land, that where the Scurvy rages, those People are least subject to it who are well clothed; who live in dry Habitations, or lie in dry Births; who take proper Exercise, without being too much exposed to the Inclemency of the Weather; and who live well, and drink good Beer, Cyder, or Wine; as has been remarked by Dr. *Pringle*, Dr. *Lind*, and others.

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At *Bremen* the Disorder was only observed among the Soldiers; not one of the Gentlemen belonging to the Hospital, or to the Commissariate, nor one of the military Officers, not even of the Serjeants, having the least Symptom of it. The Reason of its being frequent among the Soldiers was, that the Place is situated on a Plain naturally very damp; and the Soldiers were quartered in very low damp Houses; at the same Time, no Vegetables or Greens were to be bought in the Market; and fresh Meat, and other fresh Provisions, were at so high a Price, that the Soldiers could not afford to buy them; but were obliged to live on salted Meat, and salted Herrings, during the Winter; and what little Money they had remaining, they laid out on spirituous Liquors, which were sold cheap.

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The Cure of this Disorder requires—living in a dry comfortable Place—good Cloathing—light Food of easy Digestion, such as good Bread, Panado, Milk, Whey, Broths made of fresh Meats—white Meats, with Greens, or other Vegetable, &c.—the Use of Liquors of the acid or acescent Kind, or the moderate Use of Beer, Cyder, good Wine, or weak Punch^[107]—And, by Way of Medicine, gentle Purges, mild Diaphoretics; the free Use of acid or acescent Fruits, Lemons, Oranges, Apples, Pears, Currans, Grapes, &c. and of the antiscorbutic Plants and their Juices, as Succory, Endive, Water-Cresses, Scurvy-Grass^[108], &c. on which a great Part of the Cure principally depends; and the Use of some of the strengthening Bitters^[109], of which the Bark is not the least efficacious.

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Bleeding is seldom requisite, except where there is much Heat or Fever; or a sharp Pain of the Side, or Difficulty of Breathing, or some Symptom of the like Kind; it is then sometimes necessary to take away some Blood: And in obstinate Cases, it is often found of Use to promote Sweats, by making the Patient, while in Bed, drink freely of warm Whey, or Sack Whey, mixed with the scorbutic Juices; or warm Barley Water, or the like, mixed with a small Quantity of the Antimonial Wine, or some other mild Diaphoretic.

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And where the Patient is strong, and there is no Danger of Hæmorrhages, warm aromatic Baths have sometimes been found serviceable; but they are not to be used where the Patient is weak.

The first Time I saw this Disorder at *Bremen*, was in an old Invalid, *James Long*, who had come from *Bristol* to *Embsen*, and from thence to *Bremen*. He was some Weeks in the Hospital before I discovered his Disorder to be the Scurvy. He at first complained only of great Weakness, and such a Giddiness, when he got out of Bed, that he could not walk, and of what he called flying rheumatic Pains of his Legs. He had no other visible Complaint; all which, I imagined, proceeded from Old-Age, and being worn out in the Service. At last, on the 25th of *January*, he complained of his Gums being sore; and, on examining him, I found his Breath fetid, his Gums swelled, soft, and spongy, his Legs covered with scorbutic Blotches, and other Symptoms, which evidently proved his Disorder to be the true Scurvy.

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Upon which, I ordered him a low Diet, with the Addition of Greens for Dinner, and a Quart of Lemonade, with a Gill of Brandy in it, *per* Day, for his common Drink; and, by Way of Medicine, a Decoction of the Bark, with the Elixir of Vitriol; and, at the same Time, ordered his Gums to be scarified, where they were most swelled and spongy; and to be washed frequently with an astringent Gargle; and to be rubbed now and then with burnt Alum^[110]. By these Means, in a Fortnight's Time, his Gums became firmer, and his scorbutic Symptoms decreased. During that Course he took cold, and had a Stitch in his Side, for which he was bled. The Blood threw up a very thin Buff, which was not of a firm Consistence^[111]; the Crassamentum below

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was of a blackish Colour and of a loose Texture, and the Serum in a large Proportion. By the 2d of *March* his Gums had recovered their natural Firmness and Texture, and the scorbutic Spots and Pains of the Legs were gone, and he had recovered his Strength; the only remaining Complaint was a little Swelling about the Ankles, for which he continued the same Course, and took a Dose or two of Physic. By the 16th of *March* all these Symptoms were gone, and he was dismissed the Hospital free from all Complaints. I saw him well the last Week in *May*; and he told me, he had had no scorbutic Symptom since he left the Hospital.

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In the Beginning of *February*, another of the Invalids, who had been in the Hospital for a Fever and rheumatic Complaints, had Blotches appear on his Legs, complained of great Weakness, and fainted away in attempting to walk; which made me suspect his Disorder to be the Scurvy; and, on examining him, I found his Gums soft and spongy, attended with the other Symptoms of the true Scurvy. I put him nearly on the same Course as in the last-mentioned Case: He used a low Diet, with the Addition of Greens for Dinner, which he eat with a little Butter and Vinegar; and he had a Quart of Lemonade, with two Ounces of Brandy, for his common Drink during the Day; and, by Way of Medicine, a Decoction of the Bark, with two Drachms of the *confectio cordiaca* to each Half Pint, which he took by Spoonfuls. Next Day he complained of a Pain in his Leg; and, on examining it more particularly, I found a large livid Blotch, yellow all round the Edges, on the fore Part, and a Tension all over that Leg. As he was so extremely low, as to be in Danger of fainting whenever he sat up, I was afraid lest a Mortification should ensue; and therefore ordered his Leg to be bathed Morning and Evening with a warm aromatic Fomentation, and a Poultice of Theriaca to be applied after it; and desired him to take as much of the Decoction of the Bark with the Cordial as possible; and allowed him a Glass of Mountain Wine every two or three Hours. By the Continuance of this Course for some Weeks, the livid Blotches, Pain, and Stiffness of his Leg, and most of the other scorbutic Symptoms, went away; his Gums were restored to their natural Firmness; and he recovered his Strength so much as to be able to sit up all Day long; though he still remained very weak when he was sent to *England*, in *March*.

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In *February* and *March*, seven or eight more scorbutic Patients were sent to the Hospital I attended, who were all treated in the same Manner; and all did well. About the Middle of *February* this Distemper began to shew itself in the other Hospital attended by Dr. *Miller*, who treated the Patients nearly in the same Way, and they all recovered.

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On the 5th of *April*, a young Man, belonging to the Eighth Regiment of Foot, came to the Hospital with all the Symptoms of the true Scurvy; his Gums were spongy and foetid; he had livid Blotches on his Legs, and Contractions of the Hams, and a Stiffness and Hardness in the Calves of both Legs^[112]. By following the same Course as the others, and the Use of frequent Fomentations, and rubbing the contracted Parts with soft Liniments, he mended daily; and, after taking a Dose or two of Physic, was dismissed perfectly recovered on the 10th of *May*. At his first Admission into the Hospital, he was taken with a severe Cough, attended with Pain of the Breast, and a Spitting of Blood for a Day or two, for which he was bled. His Blood threw up a little Buff; the Crassamentum was of a blackish Colour and of a loose Texture, with a good Proportion of a yellowish Serum. This Bleeding relieved the Complaints of his Breast, and he had no Return of them while he remained in the Hospital.

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The first Week in *May* four Invalids were admitted into the Hospital for this Disorder. The first had spongy Gums, a foetid Breath, his Legs swelled and hard, and of a deep purple Colour. The second was a Case at first of a more doubtful Kind; there were no spongy Gums, though an offensive Breath; his Ancles and Feet were swelled, attended with Pain and Uneasiness, and a great Weakness and Lassitude; but no Fever, nor any livid Blotches. The Swelling of the Feet and Ancles seemed at first Sight rather gouty or rheumatic, than of the scorbutic Kind; but from the Man's Way of Life, and the Disorder being so frequent, we discovered it to be the Scurvy. The third had a very foetid Breath and spongy Gums, livid Spots and fungous Ulcers^[113] on his Legs, with Pains and Weakness all over. The fourth had also spongy Gums and a foetid Breath, Pains of the Legs and Arms, livid Blotches on his Legs, great Hardness and Contraction of the right Ham, and a livid hard Swelling on the Outside of the left Thigh, immediately above the Knee.

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We treated them all four in the Method above-mentioned, adding a Mess of Greens to Dinner, giving Lemonade for Drink, and the Bark, with Elixir of Vitriol, by Way of Medicine. The Parts that were hard and swelled, were fomented, and rubbed with soft Liniments, and Poultices were applied to the hard Swelling on the Outside of the left Thigh; and the Ulcers of the Legs dressed with Digestives, and occasionally washed with spirituous Tinctures, and touched with Escharotics. Before I left *Bremen*, the first Week in *June*, the first and second Patients were perfectly recovered, and the third and fourth almost well. All of them had had the Disorder some Months before they came to the Hospital.

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FOOTNOTES:

- [106] In *Quebec*, and other northern Parts of *North America*, as soon as the Frost sets in, they kill their Meat intended for their Winter Store, and hang it up: It soon freezes, and will keep in this Manner all through the Winter. They preserve Vegetables in the same Way; and when they intend to make Use of either, they put so much as they want into cold Water for some Time, which draws the Frost out of it; and then they boil or roast it, as they think proper.
- [107] The free Use of raw Spirits is found to be very prejudicial; but a moderate Quantity of these Spirits, diluted with Water, and acidulated with Lemons or Oranges (or with Cream of Tartar, or Tamarinds, when the former cannot be got), and made into Punch, is found to be a good Antiscorbutic.
- [108] Most ripe Fruits, particularly Lemons and Oranges, and esculent Herbs, and many Kinds of Roots, such as Horse-Radish, Onions, Leeks, and many others, have been found the most useful Remedies in the Cure of the Scurvy. Decoctions and Infusions of Fir-Tops, of Spruce, and of other Species of the Pine-Tree; and Beer made of these Infusions, by fermenting them with Molasses, are approved Antiscorbutics: and when such Remedies cannot be got, Infusions of the common Bitters, and weak Punch, made with Tamarinds or Cream of Tartar, have proved serviceable; and where these Acids cannot be had, the Mineral Acids may be used for acidulating the Drink. However, it ought always to be remembered, that fresh Vegetables and Fruits, and vegetable Acids, produce much better Effects in the Scurvy, than any other Sorts of Remedies; and ought always to be used, when they can be got.
- [109] Most of the common Bitters have been strongly recommended in this Disorder, Gentian, Trifolium, Wormwood, &c.—as likewise aromatic Bitters and Aromatics; such as *calamus aromaticus*, Carvi Seeds, Winters Bark, Cinnamon, and many others.
- [110] Dr. *Lind*, who has wrote one of the best Treatises on this Disorder, and who had a great Deal of Practice himself, says, “When first the Patient complains of an Itching and a Spunginess of the Gums, with loose Teeth, either a Tincture of the Bark in Brandy, or aluminous Medicines, will be found serviceable in putting a Stop to the Beginning Laxity of these Parts.” When the Putrefaction increases, he recommends the Use of some of the mineral Acids. See his *Treatise on the Scurvy*, part ii. chap. v. p. 201.—*Van Swieten* says, he never found any Thing answer better than a Gargle made of four Ounces of Elder or Rose Water, acidulated with a Drachm of the Spirit of Sea Salt; and where the Gums were very putrid and gangrened, he has been obliged to touch them slightly with the pure Acid Spirit, and some Hours after to have them washed with the Gargle just mentioned. Vide *Comment.* vol. III. p. 629, sect. 1163.
- If the Spunginess of the Gums sprout out into a luxuriant Fungus, it is sometimes requisite to cut such Funguses away, and to wash the Sores frequently with gentle astringent or acid Liquors.
- [111] Dr. *Huxham* observes, that, after the Disease has continued some Time, the Blood appears a mere Gore as it were, not separating into Serum and Crassamentum as usual, but remaining an uniform half-coagulated Mass, generally of a more livid or darker Colour than common; though sometimes it continues long very florid; but it always putrifies soon. See his *Essay on Fevers*, chap. v.
- There is something very particular in the Nature of this Disorder, according to an Observation of Dr. *Lind*'s; who says, “That the Scurvy is a Disease in its Nature very opposite to that of a Fever; insomuch, that even an Infection is long resisted by a scorbutic Habit; and those of a scorbutic Habit being seized with the Fever, was a Proof of its proceeding entirely from Infection.” See his *First Paper on Fevers*, p. 4.
- [112] If the Swellings become large, stiff, and painful, Dr. *Lind* recommends that the Legs should be frequently bathed and fomented; or, what he has found preferable, to be exposed to their Steams, after being well covered with Blankets. After this Operation, he advises the Limb to be rubbed with some mild Oil, such as *oleum palmæ*, or Salad Oil; and if the Swellings resist both the general Cure and these Applications, the Limbs to be sweated with Spirits. See his *Treatise on the Scurvy*, part ii, chap. v.
- [113] “Ulcers on the Legs, or any other Part of the Body, require pretty much the same Treatment, *viz.* very gentle Compression, in order to keep under the Fungus, and such antiseptic Applications as have been recommended for putrid Gums, *viz. mel rosat.* acidulated with *spiritus vitrioli, ung. Ægyptiacum*, &c. but nothing will avail where the Patient cannot have Vegetables and Fruits.” Dr. *Lind*'s *Treatise on Scurvy*, part ii. chap. v. p. 204. And he recommends, if the Swellings and Ulcers of the Legs neither yield to the general Cure nor to the Methods here proposed, that a slow and gentle Course of Mercury should be tried, after the scorbutic Taint is a good deal removed, and the Gums are sufficiently firm; and to give along with it a Decoction of the Woods, or of Sarsaparilla; but this Method ought not to be attempted till the Gums have acquired a proper Firmness. See *ibid.* part ii. chap. v.

OF THE ITCH.

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THERE was no Disorder so common in the military Hospitals as the Itch. It is of an infectious Nature, and now most commonly believed to be entirely owing to little Insects lodged in the Skin, which many Authors affirm they have seen in the Pustules by the Help of a Microscope; and that the Disorder is entirely communicated by Infection, and does not arise from any Fault in the Fluids or Solids.

It has been found by Experience, that internal Medicines have little or no Effect in removing this Disorder; and that only external Remedies, which come immediately in contact with the Parts affected, are capable of making a Cure; which has been brought as a farther Proof, that the Itch is owing to Animalcules or Insects; as it is alledged, that no Remedies will cure the Distemper, but such as are capable of killing them.

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The Medicines, which are most commonly used for the Cure, are *Mercury*, *White Helebore*, and *Sulphur*.

Mercurial Frictions on the Part are often made use of, and sometimes with Success, though they are by no Means to be depended upon for a Cure; besides that, they are liable to throw the Patients into a Salivation, as I have seen happen more than once; for which Reasons I would never recommend this Method where the Patient labours under no other Disorder which requires the Use of Mercury, and would confine it entirely to Cases where Patients, having the Itch, labour, at the same Time, under the *Lues venerea*, and require the free Use of mercurial Frictions; under such Circumstances the mercurial Ointment may be as well rubbed on the Parts affected with the Itch as upon any other.

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The Powder of the Root of *White Helebore*, made up into an Ointment with Hogs Lard, or a strong Decoction of it in Water, rubbed on the Parts, will often cure the Itch; but it is a sharp Medicine, and generally smarts, and sometimes inflames the Parts on which it is rubbed; and therefore it is not so commonly used, as we know a much surer and milder Remedy. Though I have cured some People with the Helebore Lotion without any Inconvenience, who would not use the Sulphur on Account of its Smell.

Sulphur is the most certain and easy Cure for the Itch of any we know, and perhaps is more certain in the Cure of this Disorder than almost any other Medicine in any other Disorder whatever. We used it in Form of the Sulphur Ointment of the *London Dispensatory*, of which one, two, or more Drachms were rubbed in every Night, in Proportion to the Extent of the Parts affected. These Unctions were continued from four or five to ten or twelve Nights, according to the Violence and Continuance of the Disorder. Most were cured in a few Days; others required a longer Time. As the sulphureous Unctions tend to obstruct the Perspiration, we generally ordered a Purge to be given before rubbing the Sulphur Ointment, and in full Habits sometimes ordered a little Blood to be taken away; and put them all under a low Diet. After the Disorder seemed to be removed, they took another Dose or two of Physic to carry off any Impurities that might have been thrown upon the Bowels, during the Use of the Sulphur Ointment. In inveterate Cases, the Sulphur was given internally at the same Time that the Patient rubbed with the Ointment.

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It is generally believed (though denied by some) that Sulphur, taken internally, enters the Blood; and its Steams are thrown off by the perspiratory Vessels, and assists more effectually to destroy the Insects and their Ovula, which give Rise to the Itch; but whether this Effect be true or not, I found it to answer another very good Purpose; which was to keep the Belly rather loose, while the Patient used the Uncction; and by this Way it carried off those Humours, which ought to have passed off by the Skin; and for that Reason, when it had not that Effect, we joined some Lenitive Electuary to it.

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There is one Thing to be observed with regard to sulphureous Unctions, which is, that we ought not to use them too soon with People recovering out of Fevers, or other Disorders which bring them low; otherwise there will be Danger of bringing on a Relapse, which I have often observed to happen in military Hospitals, where the Itch has appeared as the Patients were recovering from Fevers and other Disorders, and the Unctions were used too soon: But whether these Relapses were owing to the sulphureous Uncction's stopping up the Pores of the Skin, and obstructing a free Perspiration, or to the Patient's being more apt to take Cold while they used the Sulphur Ointment, than at any other Time, is what I cannot determine; but to me it seems most probable, that these Unctions rather obstruct the Perspiration; and that

when they are used too soon with People recovering from Fevers, especially those of the putrid Kind, they prevent those Particles from passing off by the Skin, which it was necessary should be evacuated, in order to free the Body from the Seeds of the Fever, or other Disorders the Patients laboured under. But however this be, Experience has shewn, that we ought not to attempt the Cure of the Itch, in Patients so circumstanced, till their Strength be in a great Measure re-established, otherwise there will be Danger of a Relapse; and likewise, that Patients using Sulphur externally, ought to be particularly on their Guard against Cold.

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This Observation of Peoples being so apt to relapse after Fevers by the too early Use of sulphureous Uction, is a strong Proof of the Usefulness of keeping the Body open during the Time of Rubbing and of Purging the Patient afterwards; as by these Means we may carry off by the Bowels those Particles which could not pass by the Skin; and I think, so far as I have been able to observe, those People have been less subject to relapse into Fevers where this Caution has been used, than where it has been neglected.

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That Species of the Itch where it forms small Ulcers or Pustules in the Skin, is the worst Kind, and most contagious, and seems to take its Rise from the common Itch continuing long, and making its Way deeper into the Skin. The Cure is the same, only this requires more frequent Unctions, and those to be continued longer, than before the Disorder has taken such deep Root.

It is no uncommon Thing to see the Itch appear again, some Weeks after it has seemingly been cured by the Use of sulphureous Unctions; which most commonly happened to those who were in too great a Hurry to get well, and left off the Use of the Unctions too soon. Such Returns of the Itch were generally cured by the Repetition of the same Treatment as before.

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TABLE of DIET.

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The following is a Copy of the Table of Diet which was used in the Hospital all the Time I was with the Troops in *Germany*:

	<i>Breakfast.</i>	<i>Dinner.</i>	<i>Supper.</i>
Full Diet,	One Pint of Rice Gruel; made with two Ounces of Rice, one Spoonful of fine Flower, a little common Salt, and fine Sugar.	One Pound of Meat.	As Breakfast.
Middle Diet,	As above.	One Pint of Broth, Half a Pound of Meat.	As above.
Low Diet,	As above, or according to the Patient's Stomach or Indisposition.	One Pint of Broth; or Half a Pint of Panado, with two Spoonfuls of Wine, and a Quarter of an Ounce of fine Sugar.	As Breakfast.

The daily Allowance of Bread was a Pound to those on full and middle Diet, and Half a Pound to those on low Diet, or a Pound, if so ordered by the Physician.

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Those on full and middle Diet were allowed daily three Pints of Barley or Rice Water; to each Pint of which were added two Spoonfuls of Brandy, and a Quarter of an Ounce of Lump Sugar. Small Beer was mentioned in the Diet Table; but this we could never have good; and therefore was not used.

Those on low Diet were allowed Barley or Rice Water; to which some Wine or Brandy was occasionally added, if ordered so by the Physician.

Besides this, the Physician might order an additional Quantity of Wine, Brandy, or Milk, or Water Gruel, or any other Articles which he thought proper for the Sick under his Care, and which could be got easily.

PHARMACOPŒIA

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IN USUM

Nosocomii Regii Militaris Britanici.

MDCCLXI.

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PHARMACOPŒIA

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IN USUM

Nosocomii Regii Militaris.

Ann. MDCCLXI.

AQUÆ SIMPLICES ET SPIRITUOSÆ.

AQUA Alexeteria.
— Bacc. Juniperi.
— Cinnamomi.
— Menthæ vulgaris.
— Menthæ piperitidis.
— Nucis moschatæ.
— Pulegii.
— Rutæ.

Vel aliæ aquæ hujus generis præparari possint, terendo in mortario vitreo elaeosacchara præparata, cum oleis essentialibus, et sacchari albi 12_{la} quantitate; et dein addendo aquæ fontanæ vel spiritus vini tenuis quantitatem sufficientem^[114].

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Aqua calcis simp. Ph. Lond.

Dosis a lib. i. ad lib. ij. in die.

Aqua Hordeata. Ph. Lond.

Utenda pro potu.

BOLUS.

Bolus anodynus astringens.

R Theriacæ andromachi, drachm. dimid. opii, gr. i. M. pro dosi semel vel bis die.

Bolus e rheo cum mercurio.

R Pulv. rhei, gr. xxv. calomel, gr. v. syrup sacchari, q. s.

Bolus e calomel.

R Calomel gr. v. conserv. rosar. scrup. i. M.

Bolus mercurialis.

R Argenti vivi, gr. x. extingue in balsam copaivi, q. s. et adde conserv. rosar. q. s.

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Bolus e scordio cum rheo.

R Elect. e scordio, scrup. i. pulv. Rhei, gr. x. syrup, q. s. ut fiat bolus sumendus semel, bis, terve die.

COLLYRIA.

Collyrium saturninum.

R Sacchari saturni, salis ammoniaci crudi ana gr. vi. solve in aq. fontanæ, unc. xij. adde pro re nata tinct. thebaicæ, drachm. i.

Collyrium vitriolicum.

R Vitrioli albi, drachm. ss. solve in aq. fontanæ, lib. i.

Confectio cardiaca. Ph. Lond.

Conserva cynosbat. Ph. Lond.

Conserva rosar. Ph. Lond.

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DECOCTA.

Decoctum album. Ph. Lond. utendum pro potu.

Decoctum arabicum.

R Gum. arabici, unc. dimid. coque in aq. hordeatæ bullientis, lib. ij. ad solutionem Gummi. utend. pro potu.—addi possit pro re nata spirit. nitri dulcis, drachm. ij.

Decoctum corticis Peruviani.

R Cort. Peruv. crass. pulv. unc. i. coque in aq. fontan. lib. iij. ad lib. ij. Colaturæ adde tinct. cort. Peruv. unc. i. spirit vini Gallici sescunc. Dosis ab uncia i. ad unc. iv. bis ter. quaterve die.

Decoctum cort. cum serpentaria.

Fit addendo decocto cort. Peruv. sub sinem coctionis, rad. serpentariæ virgin. contus. unc. dimid. Dosis ab unc. i. ad unc. iij. ter quaterve die.

Decoct. commun. pro clyster.

R Flor. vel herb. chamæmel. unc. i. coque in aq. fontan. lib. i. ss. ad lib. i. & cola.

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Decoctum ligni guaiaci.

R Ligni guaiaci ras. lib. ss. aq. fontanæ bullientis, cong. ij. macera per noctem; mane coque ad congiūm. i. & cola; Capiat a lib. ss. ad lib. ij. die.

Decoctum nitrosum.

R Coccinel. scrupul. i. coque in aq. fontan. lib. ijss. ad lib. ij. & dein adde salis nitri, unc. i. sacchar. albi sescunc. Colaturæ addi possit pro re nata aq. alicujus spirit. unc. ij. Dosis ab unc. i. ad unc. iv. 4^{tis} vel 6^{tis} horis.

Decoctum pectorale.

R Fol. herb. malvæ, unc. ij. feminum lini, unc. dimid. coque in aq. fontan. lib. ivss. ad lib. iv. addendo sub finem coctionis rad glycyrrhiz sescunc. vel mellis optimi, unc. i. Cola pro potu.—Adde pro re nata aceti, sescunc.

Decoctum rad. sarsaparillæ.

R Rad. sarsaparillæ, unc. ij. coque in aq. fontan. lib. ij. ad lib. ij. adde sub finem coctionis ligni sasafra, drachm. i. rad. glycyrrhizæ, drachm. ij. Colaturæ capiat a lib. i. ad lib. ij. in die.—Adde pro re nata vini antimonialis, drachm. ij.

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ELECTARIA.

Elect. astringens balsamicum.

R Specier. e scordio, pulv. e tragacanth. comp. ana unc. i. tincturæ thebaicæ, drachm. ij. syrup sacchari, q. s. ut fiat elect. Dosis ad molem N. M. bis, ter. quaterve in die.

Elect. corticis Peruviani.

R Pulv. cort. Peruv. unc. iv. syrup sacchari, q. s. Dosis a scrup. i. ad drachm. unam, bis, ter, 4^r. 6^{ties}. vel decies die.

Elect. corticis anodynum.

R Elect. cort. Peruv. unc. 1^{nam}. elect. e scordio unciam dimidiam, vel tinct. thebaicæ scrup. ij.

Elect. corticis astringens.

R Elect. cort. Peruv. semunc. pulv. rad. tormentil, lapidis cancror. pp^t. singulorum, drachm. i. syrup, q. s.

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Elect. cort. cum serpentaria.

R Elect. cort. Peruv. unc. i. pulv. rad. serpentar. virgin. cort. canel. alb. ana, drachm ij. syrup. q. s.

Elect. cort. cum sale ammoniac.

R Elect. cort. Peruv. sescunciam. sal. ammon. crud. drachm. i.

Elect. e baccis lauri. Ph. Lond.

Elect. lenitiv. Ph. Lond.

Elect. lenitivum cum sulphure.

R Elect. lenitiv. lib. ss. flor. sulphuris, unc. ij. Dosis, moles, N. M. vel ad semunc. pro re nata.

Elect. lenitivum compositum.

R Elect. lenitiv. lib. i. pulv. jalap. unc. i. sal. nitri, drachm. ij. syrup. q. s. Dosis a drach. i. ad drach. iv. pro r. n.

Elect. lenitivum balsamicum.

R Elect. lenitiv. comp. unc. ij. bals. copaiv. unc. i. gum guaiac. unc. ss.
M. Dosis, cochleare theæ, h. s. vel mane & vesperi.

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Electuar. e scordio vel diascordium. Ph. Lond.

Elect. e spermat. ceti.

R Balsam Peruv. unc. i^m. misce optime cum mucilag. gum arab.
sescunciam & adde spermat. ceti, conserv. rosar. ana unc. xij. syrup
sacchar. q. s. dosis, a dimidiâ drachma bis die ad drachm. i^m. quater vel
sexties die.

Elect. stomachicum.

R Conserv. cynosbat. unc. iv. pulv. rad. zinziber. drachm. ij. canell.
alb. unc. i. rubigin. martis, drachm. ij. syrup. q. s. dosis a scrup. i. bis
terve die ad semidrach. 4^{tis} horis.

Elect. e scammon. Ph. Lond.

ELIXIR.

Elix. aloes. Ph. Lond.

Elix. paregoricum. Ph. Lond.

Elix. vitrioli acid. Ph. Lond.

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ENEMATA.

Enema commune laxativ.

R Aq. fontan. calid. unc. xij. elect. lenitiv. semunc. sal. cathartici
amari, unc. i. M.

Enema commun. oleos.

R Aq. fontan. bullient. unc. x. mucilag. gum arabic. unc. i^m. olei olivar.
unc. ij. adde pro re nata elect. e scord. drachm. ij. vel. tinct. thebaic.
drachm. i.

Enema ex amylo.

R Aq. fontan. calid. unc. iv. gelatin. amyli, unc. v. elect. e scord.
drachm. i. M.

Enema terebinth.

R Terebinth commun. drachm. vi. solve in vitello ovi & adde enemat.
oleos. unc. x.

Emplastrum vesicatorium. Ph. Lond.

FOTUS.

Fotus communis.

R Fol. malv. flor. chamæmel. singulorum, m. i. coque in aq. fontan.
q. s.

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Fotus commun. spirit.

R Fotus commun. lib. ij. aceti, lib. i. spirit. vini tenuis, lib. ss. M. pro
fotu.

Fotus cum sale ammoniac.

R Fotus commun. lib. ij. sal ammoniac crud. unc. i.

Fotus volatilis.

R Fotus commun. q. s. asperge panno statim ante applicationem spiritus sal. ammoniac, q. s.

GARGARISMATA.

Gargarisma commune.

R Aq. hordeat. unc. xij. sal. nitri, drachm. i. mellis semunc. M. adde pro re nata spirit. vin. unciam i.

Gargarisma acidum.

R Aq. hordeat. unc. xij. spirit. vini gallici, unc. i. aceti sescunc. tinct. myrrhæ, drachm. ij. M.

Gargarisma volatile.

R Aq. hordeat. unc. xij. spirit. vin gallic. unc. ij. sal. vol. ammoniaci, drachm. i. M.

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GUTTÆ ANTIMONIALES ANODYNÆ.

R Vini antimonialis, unc. i^m tinct. thebaic. drachm. ij. dosis a gutt. 30 ad 40 bis terve die, vel a gutt. 60 ad 140, h. s. in potu tepido.

HAUSTUS.

Haustus simplex.

R Aq. fontan. sescunc. spirit. vini gallici drachm. i. ss. sacchar alb. drachm. dimidiam M.—Haustus præparari possit aqua aliqua simp. et spirit. loco aq fontan. & spirit. vini gallici pro re nata.

Haustus anodynus.

R Haust. simp. sescunc. tinct. thebaic. gutt. xx. M.

Haustus camphoratus.

R Camphoræ, gr. iij. tere in mortario cum sacchar. alb. drach. dimid. & dein adde mucilag. gum arabici, drachm. ij. haust. simp. sescunciam. M. s. a. Dosis repetenda, 4^{ta} vel 6^{ta}. quaque hora.

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Haust. emetic. antimonialis.

R Vini antimonialis semunciam. Dari possit ad drachm. x. pro r. n.

Haust. emeticus scilliticus.

R Oxymel. scillit. drachm. x. aq. fontan. semunc. pulv. rad. ipecacoan. gr. vi.

Haustus cardiacus.

R Haust. simp. sescunciam confect. cardiac. scrup. i^m. M. f. haustus repetendus 4^{tis}. vel 6^{tis}. horis—adde pro re nata sp. lavend. comp. dr. i.

Haustus cardiacus oleosus.

R Ol. essential. menth. gutt. ij. tere in mortario vitreo cum sacchar. alb. drachm. dimid. & adde haust. simplicis sescunc. tinct. stomachic. drachm. i. M.—adde pro re nata tinctur. thebaic. gutt. x.

Haustus lixiviosus anodynus.

R Haust. simp. sescunciam, lixivii tartari, drachmam dimidiam tincturæ thebaicæ, gutt. xx. cap. h. s. vel mane & vesperi.

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Haustus e mithridatio.

R Haust. simp. sescunc. mithridat. scrup. i. aceti vin. drachm. iij. dosis repetenda 4^{tis}. vel 6^{tis}. horis.

Haustus oleosus communis.

R Mucilagin. gum arabici, drachm. iv. ol. olivar, drachm. v. misce s. a. & adde haust. simp. sescunciam. Repet. 4^{tis}. vel 6^{tis}. horis.

Haustus oleosus cum rheo.

R Haust. oleos. communis, unc. ij. tinct. rhei sescunc. vel pulv. rhei, gr. xxv. tinct. thebaic. gutt. xv. M. fiat haustus sumendus vel h. s. vel primo mane.

Haustus purgans.

R Infus. senæ. unc. iij. sal. glauber. drachm. iij. spirit. vin. gallici, drachm. ij. sacchar. alb. drachm. dimid. capiat mane.

Haustus salinus communis.

R Aceti vinosi vel succ. limonum semunciam, sal. absynth. scrup. i. vel ad saturationem, haust. simp. sescunciam adde pro re nata pulv. contrayerv. comp. scrup. i. vel pulv. contrayerv. cum nitro, scrup. ij.—Haustus præparari possit cum salis diuretici drachma dimid. loco acidi & salis absynthii. Dosis repetend. 3^{tis}. 4^{tis}. vel 6^{tis}. horis—Eodem modo sit haustus cum spirit. mindereri uncia dimidiâ.

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Haust. salin. cum confect. cardiaca.

R Haust. salin. commun. unc. ij. confect. cardiac. scrup. i. M. repet. 4^{tis}. vel 6^{tis}. horis.

Haust. salin. cum mithridatio.

R Haust. salin. commun. unc. ij. mithridatii, scrup. i. M. sumend. 4^{tis}. vel 6^{tis}. horis.

Haustus salin. cum rheo.

R Haust. salin. com. uncias ij. pulv. rhei, gr. xxv. M. capiat mane.

Haustus salin. cum phu.

R Haust. salin. commun. unc. ij. pulv. rad. valerian. sylvestris, scrup. ij. Dosis repetend. 2^{dis}. 4^{tis}. vel 6^{tis}. horis.

Haust. salinus succinatus.

R Haust. salin. commun. unc. ij. sal succini, pulv. castorei singulorum, gr. x. H. repetend. 4^{tis}. vel 6^{tis}. horis.

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Haust. salinus purg. oleosus.

R Mannæ op^t. semunc. olei olivar. drachm. vi. vitelli ovi q. s. tere in mortario, addendo paulatim sal cathartici amari, unc. i. solutam in aq. fontan. calid. unc. iij. spirit. vini gallici vel aq. alicujus spirituosæ, drachm. iij. M. s. a pro dosi matutino.

Haustus volatilis.

R Haust. simp. sescunciam sal. vol. c. cervi, gr. x. M. H. repet. 4^{tis}. vel 6^{tis}. horis.

INFUSA.

Infusum amarum. Ph. Lond. Addi possit pro re nata in præparando spirit. vini tenuis, lib. ss. ad lib. ij. infusi. Dosis ab unc. i^{na}. bis die ad unc. ij. ter. die.

Infusum raphani rusticani.

R Rad. raphani rusticani, unc. ij. baccar. juniper, unc. i^{nam}. cort. canell. alb. drachm. ij. aq. fontan. bullient, lib. iv. infunde per noctem leni calore. Colaturæ adde spirit. vini gallici unc. iv. Dosis ab. unc. i. bis terve die ad unc. iv. 6^{tis}. horis.

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Infusum senæ commun. Ph. Lond.

JULEPUM E MOSCHO.

R Mosch. drachmam i^m. tere optime in mortario cum sacchar. alb. drachm. iij. & adde mucilag. gum arab. dr. iv. Haust. simp. unc. vi. Dosis unc. ij. 4^{tis}. vel 6^{tis}. horis.

LINCTUS.

R Conserv. cynosbat. unc. iv. ol. olivar. syrup. sacchari vel mellis ana unc. ij. adde pro re nata spirit. vitrioli tenuis, drachm. iv. Dosis cochleare theæ urgente tussi.

LINIMENTA.

Liniment. saponaceum. Ph. Lond.

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Linimentum camphoratum.

R Olei olivar. unc. ij. camphoræ, drachm. ij. M.

Linimentum volatile. Ph. Lond.

Linimentum volatile commune.

R Olei olivar. unc. iij. spiritus salis ammoniaci, dr. vi. M.

MELLA.

Mel cum borace.

R Mellis optimi, unc. i. pulv. subtilissim. boracis, dr. i. M.

Mel Ægyptiacum. Ph. Lond.

Mel rosaceum. Ph. Lond.

MITHRIDATIUM. Ph. Lond.

MIXTURÆ.

Mixtura acida communis.

R Haust. simp. unc: viij. spirit. vitrioli tenuis, scrup. ij. vel ad gratam aciditatem. Dosis ab. unc. ij. ad unc iv. 4^{tis}. vel 6^{tis}. horis.

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Mixtura ammoniaca.

R Gum ammoniaci, drachm. i. solve in haust. simp. unc. vi. Dosis ab. unc. i. ad unc. ij. bis terve in die.

Mixtura ammon. cum oxymel.

R Mixt. ammoniac. unc. vi. oxymel scillit. drachm. vi. Dosis a cochlear. i. ad unc. ii. ter. 4^{rve}. die.

Mixtura ammoniac. anodyna.

R Mixt. ammoniac. cum oxymel. unc. vi. tinct. thebaic. drachm. dimid. Dosis a cochlear. i. ad iv. 4^{tis}. vel 6^{tis}. horis.

Mixtura Campechensis.

R Extract. ligni Campechensis, drachm. iij. solve in haust. simplic. unc. vi. adde pro re nata tinct. thebaic. gutt. xxx. vel Philon. Londinen. drachm. i. Dosis ab. unc. i. ad unc. iij. bis, ter, 4^{rve}. die.

Mixtura fætida.

R G. asafæt. drachm. i. solve in haust. simp. unc. vi. Dosis ab. unc. i. ad unc. iij. 4^r. die.

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Mixtura fætida volatilis.

R Mixt. fæt. unc. vi. spirit. volat. sal. ammon. drachm. i. Dosis ab. unc. i. ad unc. ij. bis, ter, 4^{rve}. die.

Mixtura fracastorii.

R Haust. simp. unc. viij. Elect. e scordio, drachm. iv. Dosis ab. unc. i. ad unc. ij. 4^{tis}. vel 6^{tis}. horis.

Mixtura japonica.

R Haust. simp. unc. vi. Tinct. japonic. unc. i. adde pro re nata tinct. thebaic. dr. i.

Mixtura laxativa.

R Elect. lenitiv. unc. i. Mannæ semunc. coque in aq. fontan. unc. xvi. ad unc. xij. Colaturæ adde sal. cathartici amari. sescunciam. spirit. vini gallici, unc. i. Dosis ab. unc. ij. ad unc. xij.

Mixtura purg. antimonial.

R Elect. lenitiv. sescunc. mannæ semunc. coque in aq. fontan. unc. xx. ad unc. xvi. & dein solve tartar. emetici, gr. x. Colaturæ dosis ab. unc. i. ad unc. iv. omni hora vel omni 2^{da}. vel 3^{tia}. vel 4^{ta}. hora, donec laxetur alvus.

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Mixtura oleosa volatilis.

R Haust. simp. unc. vi. ol. olivar. unc. iij. spirit. volatil. salis ammoniaci drachmam i^{nam}. M. Dosis ab. unc. i. ad unc. iij. 3^{tis}. vel 4^{tis}. horis.

Mixtura scillitica.

R Haust. simp. unc. vi. oxymel scillitic. drachm. vi. Dosis a drachm. iv. ad unc. ij. bis, ter, 4^{rve}. die.

Mixtura e spermat. ceti.

R Spermat. ceti, drachm. ij. solve in vitello ovi & adde haust. simp. unc. vi. adde, pro re nata, tinct. thebaic. scrup. ij. Dosis ab. unc. i. ad unc. ij. 4^{tis}. vel 6^{tis}. horis.

Mixtura e spermat. ceti cum balsamo.

R Balsam. copaiv. drachm. ij. tere in mortario cum mucilag. gum arabici, drachm. iij. & dein adde mixtur. e spermat. ceti, unc. vi. Dosis ab. unc. i. ad unc. iij. 4^{tis}. vel 6^{tis}. horis.

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MUCILAGO. G. ARABICI.

R G. arabici pulv. unc. iv. solve in aq. puræ bullient. unc. x.

Oxymel scillit. Ph. Lond.

Philonium Londinen. Ph. Lond.

PILULÆ.

Pilulæ fætidæ.

R Gum asafæt. myrrh. ana drachm. i. sapon. alb. hispan. drachm. ij. Tinct. fuliginis q. s. Dosis a gr. x. ad drachm. dimid. bis terve die.

Pilulæ guaiac.

R Sapon. albi hispanici semunc. gum guaiac, scrup. iv. syrup. q. s. Dosis a scrup. i. ad drachmam dimidiam bis terve die.

Pilulæ gummosæ. Ph. Lond.

Pilulæ mercuriales.

R Argenti vivi semunc. extingue in balsam. copaiv. q. s. & adde pulv. glycyrrhiz. gum guaiac. singulorum, drachm. vi. syrup. q. s. ut fiat massa. Dosis a scrup. ss. ad drachmam dimidiam semel vel bis die.

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Pilulæ rufi. Ph. Lond.

Pilulæ saponaceæ. Ph. Lond.

Pilulæ saponaceæ cum rheo.

R Sapon. alb. hispanici, drachm. vi. pulv. rhei, drachm. ij. syrup. sacchari q. s. Dosis a scrup. i. ad scrup. ij. bis terve die.

Pilulæ scilliticæ.

R Pulv. glycyrrhiz. rad. scill. exsiccat ana drachm. dimid. rad. zinziber. drachm. i. sapon. alb. hispan. drachm. ij. syrup. q. s. Dosis a gr. iv. ad gr. xvi. bis terve die.

Pilulæ stomachicæ.

R Pulv. canell. alb. drachm. ij. extract. rad. gentian. dr. i. mucilag. gum arabici q. s. Dosis a scrup. i. ad drachmam dimid. bis die—adde pro re nata rubigin. martis drachmam dimid.

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PULVERES.

Pulvis astringens.

R Pulv. canell. alb. rad. tormentill. singulorum, drachm. i. M. Dosis a scrup. i. ad drachm. i.

Pulvis aluminosus.

R Alumin. crud. terræ japonicæ ana partes æquales dosis a gr. viij. ad drachmam dimidiam.

Pulv. anodynus Doveri.

R Sal. nitri, tartari vitriolati singulorum, unc. iv. in crucibulum candens injice, agitetur donec deflagratio & scintillatio desinat, & adde opii concisi, unc. i. & in pulverem redige addendo rad. glycyrrhiz. ipecacoanhæ subtilissime pulver. ana, unc. i. & dein probe misceantur omnia. Dosis a gr. x. ad scrup. ij. vel ad drachmam 1^{nam}.

Pulvis antimonialis.

R Pulv. e chel. cancror. drachm. x. tartari emetici, dr. i. M. fiat pulv. subtilissimus. Dosis a gr. ij. ad gr. x. 4^{ta}, vel 6^{ta}, quaque hora.

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Pulvis cardiacus.

R Pulv. canell. alb. drachm. i. rad. zedoariæ, drachm. ij. rad. serpentar. drachm. i. M. dosis a scrup. i. ad drachm. i. 4^{tis}. vel 6^{tis}. horis.

Pulvis chamæmelinus.

R Pulv. flor. chamæmel. drachm. ij. aluminis, g. myrrh. ana drachm. i. Dosis a scrup. i. ad scrup. ij.

Pulv. contrayerv. comp. Ph. Lond.

Pulv. contrayerv. cum nitro.

R Pulv. contrayerv. comp. unc. iv. salis nitri, drachm. i. M. Dosis a scrup. i. ad drachm. i. 4^{tis}. vel 6^{tis}. horis.

Pulvis emeticus.

R Pulv. ipecacoanhæ, scrup. i. tartar emetici, gr. ij. Dosis a gr. xi. ad gr. xxii.

Hiera picra. Ph. Lond.

Pulv. Ipecacuanhæ cum opio.

R Pulv. rad. ipecacoan. gr. x. opii, gr. ij. dosis a gr. ij. ad gr. xij.

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Pulv. e jalapio.

R Pulv. rad. jalapii, drachm. vi. rad. zinzib. drachm. ij. Dosis a scrup. i. ad scrup. ij.

Pulv. jalapii cum nitro.

R Pulv. rad. jalap. drachm. iv. salis nitri drachm. i^m. Dosis a scrup. i. ad scrup. ij.

Magnesia alba.

Pulv. nitrosus.

R Pulv. e chel. cancror. drachm. ij. nitri, drachm. i. M. Dosis a scrup. i. ad scrup. ij. vel ad drachmam. i.

Pulv. nitrosus camphoratus.

R Pulv. nitros, scrup. ij. camphoræ, gr. v. M. Dosis a scrup. i. ad scrup. ij.

Pulv. nitrosus cum gum guaiac.

R Sal. nitri, drachm. ij. gum guaiac. drachm. dimid. Dosis a gr. v. ad drachm. dimid.

Pulv. plummeri.

R Calomel, sulph. aurat antimonii ana dr. ij. tere in mortario ut fiat pulv. subtilissimus. Dosis a gr. ij. ad gr. x. vel ad scrup. i^m.

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Pulvis stanni. Ph. Lond.

Pulv. e spermat. ceti cum nitro.

R Spermat. ceti, drachm. ij. sacchar. albi sal. nitri ana unc. i^m. Dosis a scrup. dimid. ad drachmam i.

Pulv. e tragacanth. Ph. Lond.

SALES ACIDI.

PRÆPARATIONES.

	Spir. vitrioli fortis		

Acida mineralis	tenuis Spiritus nitri Spir. salis marini	Spir. vitrioli dulcis Spir. nitri dulcis Spir. salis dulcis.	Æther.
Varietat. acid. vegit.	Acetum. Spiritus aceti vel acetum distillatum. Succus limonum. Chrystalli tartari.		
Acid. anomal.	Sal. succini. Sal. sedativus Hombergeri.		

SALES ALCALINI.

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Alcal. vegit.	Sal. absynthii. Sal. tartari.	
Alcal. min.	Sal. alcali mineral. seu soda, seu natrum.	
Alcal. vol.	Sal. volatilis c. cervi. Sal. volatilis sal. ammoniaci.	

SALES NEUTRI.

SALES NEUTRI, qui fiunt ex ALCALI et ACIDO.

Tartarus vitriol.	vegetab.	
Sal. glauberi	minerali	vitrioli.
Sal. am. vitrioli	volatili	
Sal. nit. com.	vegetab.	
Nit. cubicum	mineral.	nitri.
Sal. am. nitrosum	volatili.	
Sal. digest. sylvii	vegetabil.	
--- marin. com.	minerali	Sal. marini.
--- ammon. com.	volatili	
Sal.		

Varietates salis neutri comp. ex alcal. & acid. vegatab.	diureticus	vegetab.	aceti.	Vegetabil.
	Tartar.	veget.	chryst.	
	tartar.	tartari	tartar.	
	Sal.	veget.	succ.	
	citratus	absynth.	limonum.	
	com.			
	Sal. de seignette	minerali	chryst. tartar.	
	Spir. mindereri.	volatili	acet. distillat.	

Hi omnes sales neutri præparari possint pro usu medico admiscendo Alkali & acidum ad saturationem; alii vero in crystallos redacti, s. a. commodius circumferuntur pro usu militari; alii ut *sal. citratus comm.* et *spiritus mindereri* facilius præparantur ad miscendo alcali & acidum ad saturationem pro re nata^[115].

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Solutio mercurii corrosivi sublimati.

R Mercur. corrosiv. sublimat. gr. vi. spir. vini gallici, unc. xii. M. fiat solutio. Dosis a semunc ad unc. i. die.

Species aromaticæ. Ph. Lond.
— e scordio. Ph. Lond.

Tartar. emetic. Ph. Lond.

Theriaca andromachi. Ph. Lond.

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TINCTURÆ.

Tinctura amara.	Pharm. Lond.
— corticis	
Puruv.	
— martis in sp. sal.	
— japonica.	
—	
melampodii.	
— myrrhæ.	
— sacra.	
— saturnina.	
—	
serpentariæ.	
— thebaica.	

Tinctura rhei.

R Pulv. rad. rhei, unc. ij. semin. cardamom minor. decortic. semunc. vini alb. hisp. lib. ij. sp. vini gallici, unc. viij. digere sine calore & cola. Dosis ab. unc. i. ad unc. iij.

Tinctura stomachica.

R Cort. canell. alb. semunc. cort. aurantior. unc. i. semin. cardam. minor. decort. drachm. ij. spirit. vini gallici lib. ij. digere sine calore & cola. Dosis a semunc ad unc. i. bis terve die.—Adde pro re nata vin alb. hisp. lib. i.

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UNGUENTA.

Unguenta cærulea vel mercurial. Ph. Lond.

VINA.

Vinum		
amarum.		
—		Pharm.
antimoniale.		Lond.
—		
chalybeatum.		

VITRUM CERATUM ANTIMONII.

FOOTNOTES:

- [114] Such *Elaeosacchara* (as they are called), made by rubbing the essential Oils with twelve Times the Quantity of Sugar, may at all Times be prepared at the fixed Hospital, and carried about with the flying Hospital, much more conveniently than the simple or compound Waters themselves.
- [115] This Table of neutral Salts is nearly the same as one I have seen, which was said to be a Copy of that given yearly by Dr. *Cullen*, Professor of Chymistry in the University of *Edinburgh*, to his Pupils; and as that published by Dr. *Vogel*, in his *Institutiones Chymiae*, sect. 629. These neutral Salts are likewise taken Notice of by *Macquer*, in his *Elemens de Chymie*, and other late chymical Authors.

AN

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ESSAY

ON THE

**MEANS of Preserving the Health of
SOLDIERS**

on SERVICE.

AND

Conducting MILITARY HOSPITALS.

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OF THE

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**Means of Preserving the Health
of Soldiers on Service.**

THE Life of *British* Soldiers on Service, in Time of War, is so very different from what they lead in Time of Peace, as to subject them to many Inconveniences and Diseases.

In Time of Peace, Soldiers are quartered either in Towns or Garrisons, where they are under the Eye of their Officers, who take Care that they keep themselves clean, and provided with Necessaries; they lie either in private Houses or in Barracks, where they have a good Bed, regular Meals of wholesome Provisions, and enjoy most of the other Necessaries of Life in common with the lower Class of People, their Duty is easy, they mount Guard but seldom, and in other Nights enjoy an undisturbed Rest.

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Whereas, during the Time of an active Campaign, they are seldom in Houses; they lie in Tents upon the Ground, which is often bare, and at best covered only with Straw and a Blanket; and sometimes they are obliged, after fatiguing Marches in wet Weather, to lie on the bare Ground, without even a Tent to cover them; they must stand Centinel, and be upon Pikets and other Out-Posts in the Night, during all Kinds of Weather; besides performing long fatiguing Marches, and other military Duties; and when near an Enemy, they are perhaps on Duty every second or third Night, besides working Parties, and other Duties of Fatigue; and what Rest they have is interrupted by frequent Alarms. They have often but little Time or Convenience to make themselves clean. Provisions are sometimes scarce, and frequently on long Marches they have no Opportunity of dressing what they can get: Water is sometimes difficult to be come at, and what is to be got, is bad. And it frequently happens, that neither Beer, Wine, nor Spirits, can be purchased for Money. In fixed Camps, they are often exposed to the putrid Effluvia of dead Bodies, of dead Horses, and other Animals, and of the Privies and Dung of the Horses^[116]; and, in some Encampments, likewise to the unwholesome Vapours of marshy Ground, and of corrupt stagnating Water: All which, joined to the other Hardships and Inconveniencies unavoidably attending a military Life in Time of Service, often give Rise to numerous Diseases, which weaken an Army in a most surprising Manner; and therefore Commanders ought to use every Means in their Power, consistent with the necessary military Operations, to preserve the Health of the Soldiers.

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Diseases are more or less frequent in Armies according as the Season is hot or cold, wet or dry; according to the Nature of the Climate, and the Time of the Year in which military Operations are carried on; the Nature of the Ground on which the Army is encamped, or the Situation of the Towns or Villages in which they are cantoned; the Cleanness, Neatness, and Dryness of the Camp, and of the Tents or Houses in which the Soldiers are lodged; according as the Men are supplied with Provisions, and good Water, good Beer, Wine, or other fermented Liquors; or are well clothed, and well furnished with Straw and Blankets; in proportion as the Duty is more or less severe; and to the Care taken of such as are attacked with Sickness.

Soldiers generally enjoy good Health in cold dry Weather, even during the Time of severe Frost; if they be kept in Exercise, be well clothed, and well supplied with Provisions and good Liquors, and with Wood; as the Troops, both in *Germany* and *North America*, experienced during the late War; but Cold joined to Moisture was observed always to be productive of Diseases.

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Nor is mere Heat of itself such an Enemy to Health^[117] as is generally apprehended; but when joined to Moisture, is observed to give Rise to the most fatal Disorders in the warm Climates.

In our northern Climates the Winters are cold, and the Weather variable; sometimes it is cold and rainy, at other Times thick and foggy; sometimes we have fair Weather and Sunshine, at other Times Frost and Snow; and sometimes it happens that we have all these different Sorts of Weather in the same Day. During this Season, Soldiers are subject to Coughs, Pleurisies, Peripneumonies, Rheumatisms, and other Disorders of the inflammatory Kind. And in very intense Frost, they are liable to have their Limbs benumbed with Cold, and their Extremities Frost bit (as it is called).

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And where there is a Want of fresh Provisions, and they are obliged to live on salted Meat, and cannot have Greens, Pot Herbs, Roots, or other fresh Vegetables, nor be properly supplied with Beer, Cyder, Wine, or other generous fermented Liquors, they, as well as Sailors, are subject to the Scurvy^[118]; especially if they be encamped or quartered in low damp Places.

The best Means of guarding against inflammatory Disorders, and other Mischiefs arising from Cold, whether in Camp or in Quarters, is, to take Care that the Soldiers be well clothed; that they lie dry, and be well provided with Straw and Blankets, and with Wood; and to prevent, as much as possible, their exposing themselves to sudden changes from Heat to Cold.

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In these northern Climates, it would be right to allow every Soldier on Service a Flannel Waistcoat, a Pair of worsted Gloves, and a warm woollen Stock, or a Neckcloth, to wear when on Duty in cold and wet Weather, as soon as the Winter begins to set in^[119]. Dr. *Pringle* mentions the Advantage the Troops received from the Flannel Waistcoats supplied by the Quakers, in the Winter Campaign of 1745-6, in *Britain*; and those Regiments who had them for their Men towards the End of the Campaigns in *Germany*, found that they contributed greatly to keep the Men in

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Health. Officers ought to take particular Care that the Men be well provided with good strong Shoes and Stockings; and where the Troops remain late in the Field, if the Government allowed a Pair or two extraordinary of each to every Foot Soldier, it would be of great Use to the Service.

Blankets ought to be provided for each Tent, and those carried along with the Regiment, so as to be always ready for the Men when they come to their Ground. During the late War in *Germany*, a Couple of Blankets were allowed for each Tent of the *British* Troops, and each Company carried their Blankets covered with an Oil Cloth on a Horse; so that they were always up with the Regiments when they came to their Ground.

Each Regiment ought to be provided with a Number of Watch Coats sufficient to serve the Centinels who are to be on Camp Duty, or general Guards, in very cold and wet Weather. Some of the Regiments in *Germany* had such Coats, and found great Service from them.

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In Winter Quarters, Soldiers are apt to make the Rooms in which they sit, and their Guard Rooms, as hot as possible; especially in *Germany*, where the Inhabitants use close Stoves, instead of open Fires; and continue in these warm Rooms till they are called out on Duty, when, by being exposed to sudden Cold, they are apt to be seized with Inflammations of the Breast; and therefore Officers ought to examine carefully the Quarters and Guard Rooms allotted for their Men, and chuse them dry and comfortable, if possible^[120]; but never to allow the Men to keep them as hot as Ovens, by Means of close Stoves, or other such Contrivances; but to depend more on good warm Cloathing, and dry Quarters, for guarding against Diseases, than upon artificial Heat. Many of the Regiments in *Germany* made the People in whose Houses their Men were quartered, take down their Stoves, and use only open Fires; when there was no Danger of the Soldiers making their Quarters too warm, as Wood was difficult to be got.

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But although close Stoves are prejudicial in small Rooms, yet when a Town is much crowded, and Men are obliged to be lodged, in Winter, in large Barns or Churches, or other large open Places, the *German* Stoves may be used with great Advantage in airing and drying such Places, and keeping them of a moderate Heat; especially if there be a Place in them for an open Fire, or if they be of that Kind which the *Germans* call *wynd Stoves*, which have a Door opening into the Chamber where the People are lodged; or if there be broken Windows, or any other Opening by which a free Circulation of Air can be kept up in the Men's Apartments.

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In Winter, when the Weather is very cold or wet, a Glass of Brandy, or of the spirituous Tincture of the Bark, given to the Men as they went upon Duty, especially in the Night, has been found to be of great Use^[121]. Dr. *Pringle* has very justly observed, that the Times of standing Centinel, and being upon Out-posts, ought, if possible, to be shortened at such Seasons; and that Fires in the Rear of the Camp, for Men coming off Duty to warm and dry themselves at, were found to be of great Service.

In Spring, and the latter End of Autumn, the Days are sometimes extremely hot, and the Nights cold and damp, and the Men exposed to these sudden Changes; at such Times, the Men who go upon Duty in the Night, ought to put on their Flannel Waistcoats, and be warmer clothed than in the Day; and use many of the Precautions practised in Winter for the Preservation of their Health.

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In *North America*, when the Men were in the Field in very hard frosty Weather, Fires were lighted at the Ends of the Tents, and Centinels set over them to prevent their doing Mischief; and both in *Germany* and *North America*, when the Troops were in the Field without Tents, they cut down Wood and made large Fires, and the Soldiers lay down and slept round these Fires, with their Feet next to them; and Fires were lighted at all Out-posts, where it could be done with Safety.

In *Germany*, when the Weather set in rainy or cold towards the End of the Campaigns, and the Army was in a fixed Position, his Serene Highness Prince *Ferdinand* constantly ordered the Army to Hutt; which was done either by thatching their Tents, or building Hurdles, or digging Pits, and covering and thatching them over. The Officers either built Hutts with Fire Places, or had Chimnies built to their Tents.

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If, notwithstanding all Precautions, Men upon Out-posts should be benumbed with Cold, or Frost bit, as soon as they are brought into Camp or Quarters, their Extremities ought to be rubbed with Snow, or put into cold Water^[122]; and afterwards well dried, and wrapt up in Blankets; and warm mild Liquors given them to drink, and afterwards Cordials; and, after some Time, they may be brought near the Fire, or put to Bed. Dr. *Lind*^[123] mentions one Caution to be used when Men are found in this Condition; which is, not to give them immediately strong spirituous Liquors, for that those often prove instantaneously fatal; but to put them to Bed, and give warm Water Gruel, or some other mild diluting Liquor, to drink; after which, he says, a Glass of Spirits will prove less dangerous and more beneficial.

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When Men are quartered or cantoned in Towns or Villages, whose Situation is low and damp, and where fresh Meat and Vegetables are scarce in Winter, and the Scurvy frequent among the lower Class of People; Commanding Officers, at the Approach of Winter, ought to use their Endeavours to provide a Store of Potatoes, Onions, Cabbages, sour Crout; of pickled Cabbages, and other pickled Vegetables; of Apples and other Fruits, preserved in different Forms, to be laid up, and sold out to the Men at a cheap Rate during the Winter. They should contract, if possible, with Butchers to furnish the Men with fresh Meat^[124], and endeavour to procure good small Beer, or Cyder or Wine in the Wine or Cyder Countries; or Spirits to be mixed with Water, and a small Proportion of Cream of Tartar or Vinegar; or some other wholesome fermented Liquor for their Drink^[125]; and to put their Men into as dry comfortable Quarters as possible.

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In Times of War, when Men are sent upon Expeditions into warm Climates, great Care ought to be taken to embark such only as are in good Health; particular Regard ought to be paid to those who are picked up in the Streets, or have been taken out of the *Savoy*, or other Jails. All dirty Rags from off such People ought to be thrown away or burnt; and the Men, after being well washed, and new clothed, ought to be kept for a Fortnight or three Weeks in some Garrison Town, or with their Regiments, in open airy Places, that it may be ascertained that they have no infectious Disorder before they be put aboard the Transports.

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All Ships allotted for Transports ought to be well aired and purified, and every Thing fitted up properly, before the Men are embarked. They ought to be provided with Ventilators, or Wind Sails, to make a free Circulation of Air through the Vessel^[126]; and they ought never to be crowded; but full Room allowed for each Man, in Proportion to the Length of the Voyage^[127].

In military Expeditions, Soldiers are put upon Ships Allowance; which, Dr. *Lind* very justly observes, ought not, in Voyages to the warm Climates, be made up so much of salted Beef and salted Pork (which always tend to the Putrescent), as is the common Practice of the Navy; but that a greater Share of Biscuit, Flour, Oatmeal, Goats, Rice, and other Stores of that Kind, ought to be laid in; and a greater Proportion of them, and a Less of the salted Meat, distributed among the Men: And he is certainly in the Right, when he says, that a full Animal Diet, and tenacious Malt Liquors, are well adapted to the Constitution of our own, and of other northern Climates; and that Sailors who visit the *Greenland* Seas, and are remarkable for a voracious Appetite, and a strong Digestion of hard salted Meat, and the coarsest Fare, when sent to the *West Indies*, soon become sensible of a Decay of Appetite, and find a full gross salted Diet pernicious to Health. "Instinct (he says) has taught the Natives between the Tropics to live chiefly on a Vegetable Diet, of Grains, Roots, and subacid Fruits, with Plenty of diluting Liquors^[128]."

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A Store of Vegetables, such as Mustard Seed, Garlick, Onions, Potatoes, pickled Cabbages and other pickled Vegetables, sour Crout and other Things of that Kind, which can be purchased at a cheap Rate, and preserved for some Months, ought to be laid in; which may be mixed with the Soops prepared for the Men, or given them to eat along with their salted Provisions.

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A Quantity of Beer, Cyder, or Wine, ought to be put aboard, and a certain Allowance distributed to each Man daily. When, for Want of these, Men are reduced to an Allowance of Spirits, they ought to be mixed with seven or eight Times the Quantity of Water, or made into Punch, by the Mixture of Water and Molosses, and the Juice of Lemons, before they are given to the Men; and, if Lemons cannot be got, Cream of Tartar, or Vinegar, ought to supply their Place; and it ought to be a Duty of one of the military Officers on board to see the Punch made, and distributed among the Men daily.

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It would be right, on all Expeditions into warm Climates, to send some Sloops of War, or other armed Vessels, before the grand Fleet, to take up a Quantity of Wine that will keep, either at the *Madeira*, or other Wine Countries; and afterwards to go to any of our Settlements that are nearest the Place of Destination, and to take in a Quantity of Limes, Lemons, Oranges, and other Fruits, and Vegetables which will keep for some little Time; and of Spirits, live Stock, and other Provisions proper for the Army; and then to meet the Fleet at the general Rendezvous. When once a Landing is made good, these Vessels, after having unloaded their Cargoes, may either be employed on other Services, or kept constantly going and coming for whatever Stores or Provisions are wanted for the Army or Fleet.

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A sufficient Quantity of Vinegar ought to be put on board of each Transport, both for the Men to eat with their Victuals, and likewise for fumigating and washing between Decks occasionally. And a Quantity of Molosses, or coarse brown Sugar, and of Lemons, or their inspissated Juice, or Cream of Tartar, ought to be allowed for making the Punch, as well as for other Purposes.

If the Water become fœtid, the Quantity to be used in the Day ought to be sweetened by Means of the Ventilator contrived by the ingenious Dr. *Hales*^[129] for that Purpose.

The Men ought to be brought upon Deck, and Roll called two or three Times a Day; they should be made to comb their Hair, and wash their Hands and Face every Day, and to shift themselves sometimes, if possible; and in every respect keep themselves as clean as the Nature of the Service will admit; and proper Exercises should be contrived, to keep them in Health.

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All the Parts of the Ship ought to be kept very neat and clean; and the Hold, and all between Decks, ought to be scraped and swept daily; and every Morning, in fair Weather, ought likewise to be washed, and afterwards sprinkled or washed with warm Vinegar, while the Men are upon Deck^[130].

When the Weather will permit, Fires of dried Wood may be lighted in Iron Kettles between Decks, and Centinels set over them, and the Fires sprinkled with Rosin or Bits of Rope dipt in Tar, or with some cheap Aromatic; and these Fires may be carried into all the Parts of the Ship that Safety will permit, in order to dry and purify the Air^[131]. After this Operation all the Ports and Hatchways should be opened, and the Air in all the Parts of the Ship often renewed by working the Ventilators.

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The Mens Hammocks and Beds ought to be brought up upon Deck in fair Weather, and well aired, and afterwards put in their Places, and Fires lighted below Decks.

When Troops, sent on an Expedition into warm Climates, arrive at the Place of their Destination, particular Care should be taken to guard them against the Diseases peculiar to such Climates, which are different from those common to our more northern Latitudes.

Dr. *Lind* says, that People coming first from a cold into a hot Climate are apt to have plethoric Symptoms; a Pain of the Head, Giddiness, a Sense of Weight, and Fulness of the Breast, and a slight Inflammation of the *tunica conjunctiva*; and that some are apt to be seized with ardent Fevers and Diarrhœas. And all Practitioners have observed, that New-Comers into warm Climates are at first liable to Fevers tending to the Ardent, 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. In military Expeditions these Disorders are liable to be complicated with Fevers of the Malignant or Hospital Kind, if Care is not taken to prevent it. And 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; exposing one's self to the Damps, especially lying on the Ground after the Dews fall; and working hard, or using violent Exercise in the Heat of the Day.

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The best Preservatives against Diseases in warm Climates have been found to be,—
1. Temperance; a Diet of light and easy Digestion, composed more of vegetable than of animal Food; such as a small Portion of fresh Meat, joined with a sufficient Quantity of Vegetables; Rice, *Indian* Corn, and other Grains, and Roots of various Kinds, prepared in different Forms; well baked Bread; the moderate Use of ripe Fruits; and the free Use of mild cooling subacid Liquors, joined with a small Proportion of vinous or spirituous Liquors; carefully avoiding the too liberal Use of Wine, Spirits, or other strong fermented Liquors.—2. Great Care not to expose one's self to the Damps of the Night, nor lie down to sleep on the Grass, or in woody moist Places, in the Day; and to avoid all violent Exercise in the Heat of the Sun.—3. Such Means as tend to support the Spirits; for Chearfulness has been observed to contribute as much to the Preservation of Health, as Fear and Dejection of Spirits to the Production of Diseases.—4. Keeping the Body clean, and bathing frequently in the Sea, or in a River, in the Morning.

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And therefore, in warm Climates, Officers ought to be particularly careful to keep their Men sober and temperate; to procure them good Bread, and Plenty of Vegetables and fresh Meat, if possible; and where no other but salted Meat can be got, to make them boil a small Proportion of it in their Camp Kettles, along with Onions, Goarts, Rice, Carrots, Turnips, Greens, or any other wholesome Roots or Herbs which the Country affords, or they can get, and of these to prepare a good wholesome Soop for themselves; and where there is Plenty of the ripe acescent Fruits, which are reckoned wholesome, to distribute a moderate Quantity among the Soldiers daily, which will both help to preserve their Health, and prevent them from privately stealing and eating large Quantities to the Prejudice of their Health.—To encourage their Men, and keep up their Spirits.

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They should also prevent, as much as possible, the too free Use of Wine, Spirits, or other strong fermented Liquors; and in Wine Countries give every Man a daily Allowance of Wine, to be mixed with Water for his common Drink; and in Countries where nothing but Spirits can be got, make the Spirit be mixed with Water, or made into a very weak Punch, before it is given to the Men, as Lemons, Oranges, Limes, and other Fruits proper for this Purpose, are generally to be had in most warm Countries.

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They should be careful not to march their Men in the Heat of the Day, nor order them upon Duty where they must stand exposed to the Dews and Damps of the Night, unless where the military Operations absolutely require it.

They should endeavour to make the Bottom of the Tents be covered with Straw, or dried Leaves of Trees, or dried Reeds, and with Blankets^[132], for the Men to lie upon.

The Time of standing Centinel, and being upon Out-posts, if possible, should be short, where Men are exposed to the scorching Heat of the Sun; and when Men are upon Out-posts in the Night, it should be recommended to them to lie down on the Ground as little as possible; and if they do it, to chuse a dry Place; and, where it can be done, to have it covered with Straw or a Blanket, and to have some light Covering to defend them from the Dews. [336]

The Tents should be covered with Boughs of Trees, and the Men should be ordered sometimes to strike them in the Middle of the Day, and air well every Thing within them.

The Men should be obliged to keep themselves neat and clean; to comb their Hair, and change their Linen often; and if the Camp be near the Sea, or a large River, they ought to bathe early in the Morning as often as the Nature of the Service will permit. However the following Caution, mentioned by Dr. *Lind*, ought to be observed, which is, not to go into the cold Bath when overheated with Work or Liquor, or when the Stomach is full, or when a critical Eruption, called the prickly Heat, appears on the Skin^[133].

When Men are seized with inflammatory Symptoms on entering into warm Climates, they may be blooded 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. Dr. *Lind* says, many Practitioners disapprove of Blood-letting in the Countries lying under the Torrid Zone, on a Supposition that the Blood is too much dissolved; but he thinks that this Rule will admit of many Exceptions; and that Sailors (*and consequently Soldiers*), being strong and robust, and exposed to greater Vicissitudes of Heat and Cold, and more Excesses, and other Accidents in general, bear freer Bleeding than any other Set of People. [337]

After some Time, the Diseases in these warm Climates tend to the putrid Kind, and must be treated as such. [338]

In all Countries, and in all Climates, great Care ought to be taken in chusing the Ground on which Men are to encamp. Dry high Grounds, exposed to the Winds, where there is a free Current of Air, and which lie at a Distance from Marshes, stagnating Water, and large Woods, are generally healthful in very different Climates^[134]. But Places situated low, where, on digging two or three Feet below the Surface of the Earth, you come to Water^[135], and marshy Grounds, and Places surrounded with corrupt stagnating Water, are almost always the contrary, and very unhealthy; as are often those Grounds which are subject to be overflowed by large Rivers, and low Places covered with Wood, where there is no free Circulation of Air. However, it ought to be observed, that it is not the Neighbourhood of Water alone which is prejudicial, but the watery Vapours which keep the Air perpetually moist, and the Exhalations of corrupt Effluvia, which render such Places unwholesome; for the Neighbourhood of Rivers, and of the Sea, where the Tide ebbs and flows freely, has no such Effect, where the Situation is dry and airy; and those very unhealthy marshy Grounds often continue healthy in cold Weather, when their Waters are refreshed with Rains^[136], and little or no moist putrid Exhalations rise from them; though, as Dr. *Pringle* observes, in Summer and Autumn, when their Waters begin to corrupt, and the Exhalation is strong, they are always exposed to Diseases; and it is for this Reason that such Places are always very unhealthy in warm Climates. [339]

Hence, where the military Operations will permit, Commanders, if possible, ought to chuse a dry Ground, whose Situation is high, and which admits a free Current of Air, such as on the Banks of Rivers, where there is generally a Stream of fresh Air, and Plenty of fresh Water to supply the Camp^[137]; taking Care to avoid the Neighbourhood of low marshy Grounds, and corrupt stagnating Waters, especially in Summer, and in hot Climates. [340]

When Necessity obliges Commanders to take Post, or encamp in a wet or marshy Ground, they should endeavour to make it as dry as possible, by ordering Trenches to be cut for Drains across the Field and round the Mens Tents; to see that the Ground within the Tents be well covered with Straw; to order the Tents to be struck at Mid-Day, in dry warm Weather, and the Men to dry and air the Straw, and change it frequently; to have a proper Supply of Blankets for the Men, and to take Care that they be well clothed, especially those who go upon Duty in the Nights; and, in the northern Climates, to have Fires in proper Places for warming the Men and drying their Cloaths, and for correcting the Dampness of the Air^[138]. [341]

In Countries lying under the Torrid Zone, the Parts near the Sea Shore are often marshy, or close and covered with Wood, or have swampy Beaches, and are very unwholesome; and therefore where Soldiers aboard of Transports keep their Health, Commanders ought to be very careful not to allow them to land, till they come to the Place of their Destination. Dr. *Lind* observes, that Men commonly live more healthy in warm Climates at Sea, where the Air is dry and serene, and the Heat moderated by refreshing Breezes, than when they arrive in Harbours, or get within Reach of the noxious Vapours which arise from many Parts of the Land^[139].

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When Necessity requires Parties to be landed for Wood or Water, or on other Duties, they should always be obliged to return and lie aboard at Night; and if that cannot be done, they should be cautioned to avoid lying down to sleep on the Grass, where the Air is fresh, or they are exposed to the Dews; and to pitch their Tents on a rising Ground, covered with Straw or dried Reeds, and a Blanket; and to use the other Precautions necessary for encamping in these warm Climates; for where this Care has been neglected, the Consequences have frequently proved fatal^[140].

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On unhealthful Coasts, the noxious Land Vapours often affect the Crews of Ships that run up into Rivers or Harbours, and cause great Sickness; and therefore in such Places Ships should anchor at as great a Distance from the Shore as can well be done, that they may be exposed to the Sea Breezes, and as much to the Windward of the Woods and Marshes as possible; and if the Anchorage is safe, one should prefer the open Sea to running up into Rivers or Creeks^[141].

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Cleanness and Neatness in the Camp is another Article that ought to be particularly regarded. *Portius*, *Ramazini*, and most other Authors who treat of Camp Diseases, attribute those of the putrid Kind in a great Measure to the Stench and putrid Effluvia arising from the Excrements of Men and Beasts, and from the dead Bodies of Men, Horses, and other Animals, lying unburied in the Neighbourhood of Camps, and have in a particular Manner mentioned the Necessity of burying such putrid Substances. Dr. *Pringle* has very justly recommended the Digging of Deep Pits for Privies in Camp, and covering the Excrements with Earth daily^[142] till the Pits are near full, and then to fill them up with Earth, and dig new ones; and to punish every Person who shall ease himself any where in Camp but in the Privies: And he remarks, that when the Camp begins to turn unhealthy, that often the only Means that will preserve the Health of the Men, is to change the Ground, and to leave behind all the Filth and Nastiness which gave Rise to those putrid Disorders.

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In fixed Camps, the striking the Tents at Mid-Day in fair Weather, and turning and airing the Straw, and changing it often, as recommended by Dr. *Pringle*, will contribute much to preserve the Health of the Men; and making the Men wash themselves daily, and change their Linen often, and keep themselves otherwise clean, ought never to be omitted by the Officers.

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All military Authors have recommended to Commanders always to have Straw for their Men when they come to their Ground, if possible; and to have the Army well supplied with Provisions; giving proper Encouragement to the Country People, and to Suttlers and Merchants of all Sorts, to bring in every Kind of Provisions and other Necessaries to Camp; and preventing, as much as possible, the Soldiers from moroding. And the Commanders of every Corps ought to take Care that their Men form themselves into Messes, and that Stoppages be made for buying them Provisions.

In *Germany* every Regiment of the *British* Troops contracted with a Butcher, who was obliged to carry along with them, at all Times, a certain Number of live Sheep and Oxen to kill when wanted, and to sell the Meat at a fixed Price. Every Soldier was obliged to take a certain Quantity, which was paid for by Stoppages made in his Pay; and this Meat was boiled in the Camp Kettles, with such Roots and Greens as could be got; by which Means the Men, whenever they could use their Kettles, had always a good warm Soup, as well as Meat, to refresh them after their Fatigues, which, along with their Ammunition Bread, made a good wholesome Food.

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In Countries where Fruit is plentiful, a certain Quantity of what is fully ripe, distributed to the Men in warm Weather, and in hot Climates, will contribute to preserve their Health, though the Abuse of it will prove prejudicial; but unripe and acrid Fruits are always hurtful^[143].

Water is another Article which Commanders endeavour to have their Camp well supplied with, and therefore they generally encamp near Rivers or Rivulets. Where the Stream is small, Care ought to be taken that its Course be not interrupted, and that no Filth or Nastiness, or any Thing that will spoil or corrupt the Water, be thrown into it.

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When there are no Rivers or Rivulets near a Camp, and the Men are supplied from Wells, if the Water is not pure, very often the digging of deep Pits, and covering the Bottom and Sides with large Stones, and over these a Lay of Sand, Gravel, or Chalk, will make the Water pure in a few Hours.

In fixed Camps, where the Water is bad, *Portius*^[144] proposes straining it thro' Sand, and has given Figures of Machines to be used for that Purpose; but the Method proposed by Dr. *Lind* is still more simple, which is, to get a broad Cask with one End struck out; then put a longer Cask, with both Ends struck out, in the Middle of it; fill the short Cask one-third with Sand, and the inner longer Cask above one-half; fill the Rest of the inner Cask with the Water, which will filter through the Sand, and rise above the Sand in the outer Cask, where it may be allowed to run off into Vessels placed to receive it, by Means of a Cock, put into the Side of the outer Cask, fifteen or twenty Inches above the Level of the Sand.

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Where there are no such Conveniences for purifying the Water, what is used for Drink ought to be mixed with a small Proportion of Spirits, or Wine, or with Vinegar, or Cream of Tartar, when neither of the other two can be got; and if the Water be previously boiled, it will be so much the better.

In Expeditions into warm Countries, where fresh Water is difficult to be had, a few Stills, with a proper Apparatus, ought to be carried out; and after a Landing is made, the Stills ought to be set to work for distilling fresh Water from Sea Water in the Manner mentioned by Dr. *Lind*^[145]; and although a sufficient Quantity cannot be distilled for serving the whole Army, yet enough may be got in this Way for the Use of the Sick.

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When Men are very warm, after long Marches, and other hard Duties, in Summer; Officers should endeavour to prevent their swallowing immediately great Quantities of cold Water, and persuade them to wait a little till they cool; and at such Times, if Spirits can be got easily, to order a small Quantity to be mixed with the Water in each Man's Canteen.

Though the Abuse of vinous and spirituous Liquors is very destructive to the Constitution, yet these same Liquors, given in Moderation to Soldiers on Service, during the Times of great Fatigues, are some of the best Preservatives of Health. Spirits, for common Use, ought to be mixed with Water; and in the hot Climates made into Punch; though in very cold and wet Weather, and in damp Nights, a Glass of pure Spirits, given to the Men going on Duty, is of great Service; for it is always observed, that Men are much less apt to catch Diseases from being wet when they are upon a March, or at hard Work, than when they stand Centinels, or are upon Out-Posts where they move but little, or when they lie down in their wet Cloaths; and that they are less liable to be affected by the Weather after a hearty Meal, or drinking a Glass of Spirits, or some generous Liquor, than when their Stomachs are empty.

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An Infusion of Bark or other Bitters, and of Garlick, in Spirits, has been found to encrease their Efficacy as Preservatives both against the Effects of Cold and malignant Distempers. Dr. *Lind* has recommended an Infusion of Garlick in Spirits as one of the best Stomachics and Diaphoretics he knows in cold wet Weather. And many have recommended a Tincture of the Bark^[146]: Towards the End of the Year 1743, Mr. *Tough*, one of the Apothecaries to the *British* military Hospital in the late War, then a Mate to a marching Regiment, was ordered to go down the *Rhine* with a Party of Sick, who had the Seeds of the Hospital Fever among them, and were to go in Bilanders, from *Germany* to *Flanders*. Having had a Cask or two of Brandy put aboard as Part of the Stores for the Sick, he was afraid lest the Men should make too free with the Spirits; to prevent which he threw in a Quantity of Bark into each Cask, and gave the Men regularly, Morning and Evening, a Glass of this bitter Tincture. At the same Time, the Men were kept extremely clean. By these Means most of the Sick mended upon the Passage, without the Malignant Fever appearing again amongst them; whereas, Dr. *Pringle*, who takes Notice of the other Parties who came from the same Hospitals in *Germany*, tells us, that the Malignant Fever broke out in a violent Degree, and Half the Number died by the Way, and federal others soon after their Arrival^[147].

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Commanding Officers ought always to endeavour to proportion the Time the Men are to be upon Duty to the Weather and the Nature of the Climate. The Time of standing Centinel in very hard Frost, and in cold wet Weather, or in the Heat of the Day in Summer, when the Weather is very warm, and in hot Climates, ought to be shorter than when the Weather is dry and more temperate.

The Marches of Troops ought, if possible, during the Time of very hot Weather, to be made either very early in the Morning, in the Evening, or at Night; and Officers, during the Course of an active Campaign, ought to spare their Men as much as possible.

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And when they are in Quarters, and have nothing to do, they should narrowly inspect into their Manner of living; and have them out daily, when the Weather will permit, and exercise them, or march them two or three *English* Miles a-Day, in order to prevent their falling sick for want of Exercise; for Soldiers left to themselves are very subject to Diseases when they come into Quarters after an active Campaign, by leading too indolent a Life, if Officers do not take Care to prevent it. However, at such Times, the Exercise ought to be moderate, and the Men should not be brought out in wet Weather.

FOOTNOTES:

- [116] In the Year 1760, the Men, who remained in the fixed Camp about *Warbourg*, were very unhealthy; while the Regiments who were detached to the *Lower Rhine*, under the Command of the Hereditary Prince of *Brunswick*, enjoyed a much better State of Health; and notwithstanding their great Fatigues, and the Loss they sustained at the Affair of *Kampen*, were much stronger when they rejoined the Army to go upon the Winter Expedition into the Country of *Hesse*, than those Regiments which had remained in the fixed Camp.
- [117] This Dr. *Pringle* takes Notice of; and Mr. *Naesmith* says, he observed it in Voyages to the *East Indies*, which afford the fairest Trials of this Kind. See Dr. *Lind's Essay on the Means of Preserving the Health of Seamen*, 2d edit. note to page 5.
- [118] Dr. *Joh. Valint. Willius*, Army Physician to the King of *Denmark*, in his Treatise on Camp Diseases, says, you scarce find a Camp in these northern Countries in which the true Scurvy, attended with stinking Breath and eroded Gums, is not to be observed. *Cap. iii. sect. iii.*
- [119] A Flannel Waistcoat, worsted Gloves, and woollen Stock, or a Neckcloth, may be purchased for about Half a Crown *per Man*, and would contribute to preserve the Lives of many; the recruiting of others, to supply those Places, if they die, will cost the Government a great deal more than the Price of the Articles mentioned; which for a Regiment of nine hundred Men, at the Rate of two Shillings and Six-Pence *per Man*, comes only to 112*l.* 10*s.* *per Ann.* Every Recruit sent from *England* to the Army in *Germany*, cost the Government at least twenty Guineas before he joined his Regiment; and every sick Man sent to the general Hospital, cost the Government at least sixteen Pence *per Day*, which is ten Pence above his Pay; so that, if we suppose the extraordinary Cloathing here mentioned would preserve only the Lives of nine Men to each Regiment yearly, and keep forty in Health who would otherwise be sick, we see what great Gainers the Government will be in Point of Money at the Year's End; besides preserving the Lives and Health of so many Men.
- [120] Dr. *Pringle* has very justly observed, that upper Stories are preferable to Ground Floors; and that all uninhabited large damp Houses ought to be rejected. *Observat. on Diseases of the Army*, part ii. chap. iii. sect. 2.
- If Necessity obliges Officers to put up with such Places for their Men, Care ought to be taken to clean them well, and to air and dry them by Means of Fires, before the Soldiers go into them; and to supply well the Men who are to lodge in them with Straw and Blankets, and with Wood or Turf.
- [121] Dr. *Pringle* has taken Notice, that it would be a right Measure to make an Allowance of Spirits to the Infantry on Service; which certainly would be of great Use, and save many Mens Lives; and might be done at a small Expence to the Government, if properly managed; as it would only be requisite to make such an Allowance when the Troops are in the Field, and to such Men as mount Guard in cold wet Weather, or at Nights in Garrison Towns, during the Winter. If ever such an Allowance be made, what Spirits are given to the Men ought to be mixed with five or six Times the Quantity of Water; except when Men are to stand Centinels, or to be upon Out-Posts, in a frosty Season, or in cold wet Weather; at which Time a small Glass of pure Spirits may be given them in Presence of the Officer or Serjeant of the Guard.
- [122] *Hildanus* relates a very remarkable Instance of the good Effects of this Treatment. 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, and 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 Gangræna*, cap. 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 Extremitities; and even Apples and other Fruits which have been frozen, if brought immediately near a Fire, turn soft and rot; but if put into cold Water, throw out the icy Spicula, and recover, so as to be almost as good as before they were frozen.
- [123] *Means of Preserving the Health of Seamen*, 2d edition, page 19.
- [124] The Regiments in *Germany* who kept their Butchers in Winter, and made Stoppages of the Mens Pay, and obliged them to take a certain Quantity of Meat daily, were much more healthy than those who used no Precaution of this Kind.
- [125] In Places where the Articles here mentioned are at too high a Price for a Soldier's Pay, a small Allowance, from the Government, of such Things would contribute much to the Preservation of the Mens Health in unwholesome Garrisons.
- [126] See Dr. *Lind's Treatise on the Means of Preserving the Health of Seamen in the Royal Navy*, where he takes Notice of most of the Articles here mentioned with regard to Transport Ships in treating of Ships of War.
- [127] When Ships are too much crowded with Men, if they meet with a tedious Passage, and hot moist close Weather, they are often attacked with Diseases which prove

very fatal. Dr. *Lind*, talking of Ships of War, says it is a Mistake destructive to the Men to crowd too many of them together in a southern Voyage, or in a hot Climate; as the Ship will be found, before the End of the Voyage, in more Distress for Want of Men, than she would have been, had she at first carried out only her proper Compliment. An additional Number is made, in order to supply an expected Mortality; but they generally increase that Mortality to double or triple their own Number. *Ibid. note to p. 48.*

[128] The following is the Diet established for the Seamen of his Majesty's Navy.

Every Man is allowed a Pound of Biscuit, *Averdupoiz Weight*, and a Gallon of Beer, *Wine Measure*, per Day.

On *Sunday* and *Thursday*, one Pound of Pork, and Half a Pint of Peas, *Winchester Measure*.

On *Monday*, *Wednesday*, and *Friday*, one Pint of Oatmeal, two Ounces of Butter, and four Ounces of Cheese.

On *Tuesday* and *Saturday* two Pounds of Beef.

It is left to the Commanders of Squadrons to shorten the aforesaid Allowance of Provisions according to the Exigence of the Service, taking Care that the Men be punctually paid for the same. As it is thought for the Benefit of the Service to alter some of the foregoing Particulars of Provisions in Ships employed on foreign Voyages, it is to be observed, that

A Pint of Wine, or Half a Pint of Rum, Arrack, or Brandy, hold Proportion to a Gallon of Beer.

Four Pounds of Flour, or three Pounds of the same with a Pound of Raisins, Half a Pound of Currans, or Half a Pound of Beef Suet pickled, are equal to a four Pound Piece of Beef, or two Pound Piece of Pork with Peas.

Half a Pound of Rice is equal to a Pint of Oatmeal.

A Pint of Olive Oil is equal to a Pound of Butter, or two Pounds of *Cheshire* Cheese.

And Two-thirds of a Pound of *Cheshire* Cheese is equal to a Pound of *Suffolk*.

If Soldiers are sent as Passengers on board of King's Ships, or on board of Transports, their Allowance is generally but Two-thirds of the above.

[129] This Ventilator is no more than a long Tube, with a Tin Box, about six Inches wide and four high, with a Number of Holes at the Top, fixed at one End; and this Box is put down to the Bottom of the Water, and the Nose of a Pair of Bellows fixed to the other End of the Tube, which is above the Water; by working the Bellows, fresh Air is driven through the whole Body of Water, the putrid Effluvia are evaporated and dispersed, and the Water becomes sweet in a very short Time.

[130] This ought always to be done in the Morning, that all the Parts of the Ship may have Time to dry before the Men go to rest in their Births at Night; but it ought never to be done after Sun-set.

[131] It has been proposed, that the Air in Ships of War should be purified in this Way both by Dr. *Lind* and by Mons. *de Hamel de Monceau*.

[132] A sufficient Store of Blankets has often been neglected to be carried out in Expeditions into warm Climates; but Blankets are no-where more necessary, as it is very prejudicial to the Health of Soldiers to be obliged to lie down on the bare Ground; and Straw, dried Reeds, and other such Things, are often difficult to be got in the warm Climates.

[133] Dr. *Lind* says, the Use of the cold Bath, either in Tubs under the Forecastle, or to dip in the Sea early in the Morning, has been found extremely beneficial in warm Weather and hot Countries; and that he can affirm, from his own Experience in hot Climates, that many Diarrhoeas and other Complaints, the pure and sole Effect of an unusual and great Heat (relaxing the System of the Solids, and occasioning a Colliquation of the Animal Juices), have not only been cured by cold Bathing; but their Return, and even the Attack of such Diseases, effectually prevented by it. *Ibid.* p. 44, &c.

[134] Mr. *du Hamel* says, that the Air of the Island of *St. Domingo* is very fatal to *Europeans*; but it is observed that those People who inhabit the rising Grounds are much less exposed to Diseases than those who live in the Vallies. *Sur la santé des Equipages*, art. i. p. 16.

[135] Ground may seem very dry and healthful, and yet be quite the contrary, as Dr. *Pringle* remarks is the Case in the Neighbourhood of *Bois le Duc*, in *Flanders*, where Water is found every where at the Depth of two or three Feet from the Surface.

[136] Mr. *du Hamel* remarks, that Places which were formerly very subject to Diseases have become healthful when the Water which surrounded them was refreshed by opening a Communication with the Sea. *Ibid.* art. i. p. 18.

[137] Dr. *Pringle* observes, that where Grounds are equally dry, that the Camps are always most healthful on the Banks of large Rivers; because in the hot Season Situations of this Kind have a Stream of fresh Air from the Water, tending to carry off both the moist and putrid Exhalations.—And in Cantonments we are not only to seek Villages removed from marshy Grounds, but such as are least choaked with

Plantations, and stand highest above subterraneous Water. See his *Observat. on Diseases of the Army*, 3d edit. p. 99.

- [138] The Negroes on the Coast of *Guinea*, and some of the *Indians*, both of whom sleep on the Ground, have constantly a Fire producing a little Smoak burning in the Hutts where they sleep, which corrects the Moisture of the Night, and renders the Damp of the Earth less noxious; and during the Time of the very unwholesome Fogs on the Coast of *Guinea*, called Harmattans, which lay waste whole Negroe Towns, the Smoak of Wood, of pitched Staves, and such Things, are found to be the best Correctors of this thick Air. See Dr. *Lind's Means of preserving the Health of Seamen*.
- [139] Dr. *Lind* says, that it is constantly observed in unhealthy Harbours, that the Boats Crews employed in wooding and watering the Ships, who are obliged to lie on Shore, suffer most. *Ibid.* p. 72.
- [140] A very remarkable Instance of this we have related by Dr. *Lind*. In the Year 1739, in *Mahon* Harbour, a Party of Men were sent with the Coopers from Admiral *Haddock's* Fleet to refit and fill the Water Casks, who, finding an artificial Cave dug out of a soft sandy Stone, put their bedding into it; every one who slept in this damp Place was infected with the Tertian Fever, then epidemic in *Minorca*, and not one in eight recovered. At the same Time the Men aboard the Ships continued healthy; and others, who were afterwards sent on the same Duty, enjoyed perfect Health by being obliged to sleep in their respective Ships. He says, he has known a whole Boat's Crew seized next Morning with bad Fevers by sleeping near the Mangroves, with which the Sides of the Rivers are frequently planted in the Torrid Zone. *Ibid.* p. 74, 75.
- [141] The higher that Ships sail up the Rivers upon the Coast of *Guinea*, the more sickly they become: Such, however, as keep at Sea beyond the Reach of the Land Breezes (that is, two or three Leagues at Sea), are for the most part healthy. *Lind, ibid.* p. 65. The Malignity of these Land Vapours often does not extend itself to any considerable Distance, as we know by manifold Experience. The Troops in *Zealand* were very unhealthy when Admiral *Mitche's* Squadron, which lay but a little Way from the Shore, enjoyed perfect Health.—Dr. *Pringle's Observat. on the Diseases of the Army*, p. 1. chap. vii.—In *July* and *August* 1744, two Ships, belonging to Admiral *Long's* Squadron in the *Mediterranean*, lying near the Mouth of the River *Tyber*, began to be affected, while others, though at a very small Distance, but further out at Sea, had not a Man sick. *Lind, ibid.* p. 66.
- [142] The divine Lawgiver *Moses* has enjoined Cleanliness in the Camp to the *Jews* in a particular Manner, when he says,
"Thou shalt have a Place also without the Camp, whither thou shalt go forth abroad; and thou shalt have a Paddle upon thy Weapon, and it shall be when thou wilt ease thyself abroad thou shalt dig therewith, and shalt turn back and cover that which cometh from thee. For the Lord thy God walketh in the Midst of thy Camp; therefore shall thy Camp be holy, that he see no unclean Thing in thee, and turn away from thee." *Deuteronomy*, chap. xxiii. verses 12, 13, 14.
- [143] The *British* Soldiers in *Germany* used sometimes to hurt their Health by eating great Quantities of raw unripe Apples, Plumbs, and other unripe Fruits; but the foreign Troops had a much better Method of using such Fruits: They commonly boiled or stewed them, and eat them with Bread, or with their Meat, which in a great Measure corrected their bad Qualities.
The Orders in the *French* Camp, prohibiting the Men from eating unripe Fruit, were strictly complied with every-where in *Germany* during the late War.
- [144] See the Treatise published by Dr. *Luc. Anton. Portius* in 1686, *de Militis in castris sanitare tuenda*, part. ii. cap. vi. In this Book we have many useful Things mentioned relative to the Health of Soldiers.
- [145] Dr. *Lind* relates a Number of Experiments of his having distilled Sea Water in different Manners, as recommended by others; and concludes, that the best Way of getting fresh Water from Salt, is to distil the Sea Water by itself, without any Mixture; and he proposes having a Still Head to the Coppers or Iron Pots in which the Meat is dressed aboard a Ship. *Ibid. note to p. 84, &c.*
- [146] During the Campaign in *Hungary*, in the Year 1717, Count *Boneval* preserved both himself and Family from Disorders, by taking himself, and making all his Domesticks take, two or three Times a Day, a small Quantity of Brandy, in which Bark had been infused, at a Time when all the Rest of the Army were infected with malignant Disorders. A Regiment in *Italy* continued healthy by the Use of the Bark, when the Rest of the *Austrian* Army, who did not pursue the same Method, were greatly annoyed with Sickness. See *Kramer.* quoted by Dr. *Lind*.
- [147] *Observat.* part. i. chap. iii.

WHENEVER Men are seized with Distempers, they ought immediately to be separated from those in Health, and either sent to the Regimental^[148] or General Hospital.

There is no Part of the Service that requires more to be regarded than the Choice of proper Places for Hospitals, and the right Management of them, on which the Health and Strength of an Army often depends; for in wet unwholesome Seasons, if infectious Disorders get into the Hospitals, which possibly might have been prevented by proper Care, they often weaken an Army in a very short Time far more than the Sword of the Enemy.

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We have no Account of the particular Manner in which the Antients took Care of their Sick and Wounded in Times of War; for although we read in *Homer*^[149] of Surgeons or Physicians attending the *Grecian Camp*, and in *Xenophon*^[150] of *Cyrus's* having appointed Physicians to his Army; and we learn from *Tacitus*^[151] and *Livy*^[152], that the wounded *Romans* were received into the Houses of the Nobility, and had Physicians to attend them, and were furnished with Fomentations and other proper Remedies; and from *Justin*^[153], that the *Lacedemonians* followed the same Method: yet these Authors make no Mention of the particular Oeconomy or Manner in which these Hospitals were conducted.

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The Hospitals commonly wanted for an Army acting on the Continent, are,

1. One in the Rear, to follow their Motions, so as to be always ready to receive the Sick from Camp, which is called the Moveable or Flying Hospital. 2. One or more, at some Distance, in Towns, to receive such of the Sick as can be moved from the Flying Hospital, when they are obliged to go from one Place to another; or when a greater Number of Sick is sent to them than they can easily take Care of^[154].

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Each of the Hospitals ought to be provided with Physicians, Surgeons Mates, Purveyors, or Commissaries, and others, to attend and take Care of the Sick.

Besides the physical People who attend the Hospital, one or two Physicians ought to go along with the Army to attend the Commander in Chief, and the General and Staff Officers, in Case of Sickness; and an Apothecary, provided with a small Chest of Medicines, ought to attend at Head Quarters to make up the Prescriptions of the Physicians.

A Number of Hospital Surgeons also, with Mates, ought to attend the Army, to be ready in Case of an Action. These ought to be attached to the Suite of the Commanders of the different Corps or Brigades, and to be quartered or encamped with them. And each Surgeon should be provided with a Waggon or some Horses loaded with a proper chirurgical Apparatus, as Instruments, Bandages, Lint, and other Things necessary for taking Care of the Wounded.

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A small Quantity of Medicines, some Wine, Rice, portable Soop, &c. and Utensils for a small Hospital, and two, three, or four hundred Sets of Bedding, should be carried about with the Army, in Case of an Action, for the Use of the Wounded, till they have Time to receive Assistance from the Flying Hospital. Some of the Bedding ought to be carried on Horseback, so as to be at Hand when any of the Surgeons are sent with Detachments that are going upon an Attack.

To prevent crowding the General Hospitals in Winter Quarters, every Regiment ought to take Care of their own Sick, and to have proper Hospitals fitted up for them.

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Dr. *Pringle* has laid down some very good Directions with regard to the Choice of Places fit for Hospitals, and the Method of preventing infectious Disorders in them; and we find many excellent Hints of this Kind in Dr. *Lind* and Mons. *du Hamel's* Treatises on the Means of Preserving the Health of Seamen, and some likewise in Dr. *Brocklesby's* late Treatise on military Disorders.

In the Time of Service the Commander in Chief generally orders the Hospitals to be established in Towns or Villages that least interfere with the military Operations, to which the Sick and Wounded can most easily be conveyed; and which he can best protect from the Insults of the Enemy^[155].

In Towns, the Places fittest for Hospitals are public Buildings, which have large dry airy Apartments, situated on a high Ground, where there is a free Draught of Air, and a Command of Water.

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In Winter, those Houses, which have open Fire Places in the Rooms, are always preferable to such as have close Stoves, or no Fire Place at all; for an open Fire Place serves to keep up a free Circulation of Air in a Room, as well as to keep it warm. And for the same Reason, where nothing but Stoves can be got to warm the Wards, the Wynd Stoves, which open into the Room or Ward, are vastly preferable to the close ones.

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Where there are no public Buildings, private Houses answering nearest to the above Description are most proper for Hospitals. In general, Houses with small Rooms make but bad Hospitals; and very Damp and close Places ought by all Means to be avoided.

In Summer, when the Moveable or Flying Hospital is ordered into Villages, large Barns, and the largest airy Houses, are the best.

Churches, situated on a dry high Ground, make good Summer Hospitals; and in Winter, when Necessity obliged us sometimes to use them in *Germany* for this Purpose, they were found to answer very well, when we had Bedsteads or Cradles for the Men to lie upon, and the Wynd Stoves to keep them of a moderate Heat.

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In making Choice of Houses for Hospitals, particular Regard ought to be had to the Privies or Necessaries; because, where their Smell is offensive, there is always Danger of infectious Disorders. If, therefore, there be no proper Conveniencies of this Kind about an Hospital, such ought to be contrived so as to prevent any Danger from their putrid Effluvia. If there be a River near the Hospital, the Necessaries may be made above it at a Place where there is a rapid Stream below. In Villages deep Pits may be dug in the Ground behind the Hospital, and Seats made over them, as in Camp; and a thick Lay of Earth be thrown above the Fœces every Morning, till the Pits are near full, and then they must be filled up, and others dug to supply their Place.

When once the Places are fixed upon for Hospitals, every Ward ought to be made perfectly sweet and clean; first, by scraping and washing with Soap and Water, and afterwards with warm Vinegar; and then they ought to be fumigated with the Smoke of wetted Gunpowder and of Aromatics, and afterwards well dried and aired by lighting Fires, and opening the Windows, before any Sick are admitted.

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After this the Beds ought to be laid; in doing of which great Care should be taken not to crowd the Wards too much, as nothing corrupts the Air so much, or so soon brings on infectious Disorders. Dr. *Pringle* says, the Beds ought to be laid so thin, that a Person unacquainted with the Danger of bad Air, might imagine there was Room for double or triple the Number. In high lofty Apartments, and in Churches, and other large Places, the Beds may be laid much closer together than in Rooms with low Cielings. In Churches, or such Places, thirty-six square Feet, or a Square of six Feet by six, may be allowed for each Man; but in common Wards we must allow from forty-two square Feet, *i. e.* six by seven Feet, to sixty-four square Feet, or eight by eight, according to the Height of the Cieling, the Airyness of the Place, and the Nature of the Diseases of the Patients.

The Bedding most fit for Hospitals, is Palliasses and Bolsters filled with Straw, Sheets, and Blankets, as they can easily be washed. Feather Beds and Matrasses are apt to retain Infection, and cannot be easily cleansed. In the fixed Hospitals, Bedsteads or Cradles may be set up for laying the Bedding on: But in the Moveable or Flying Hospital the Bedding must be, for the most part, laid on the Floor.

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When once the Beds are laid, and the Sick arrive, some of the Gentlemen belonging to the physical Department ought to attend, to distribute the Sick properly through the Hospitals.

All the Surgery Patients, such as have Wounds, Ulcers, Sores, the Venereal Disease, &c. should be separated from the Rest, and put either into particular Wards by themselves, or into an Hospital fitted up for that Purpose under the Direction of the Surgeons.

Those labouring under infectious Fevers and Fluxes, should each of them be placed in good airy Wards by themselves, where the Beds are laid much thinner than in the other Wards of the Hospital. If the Flux Wards have a Privy near them, where the Men can ease themselves, without being offensive either to their own Ward, or any other Part of the Hospital, they are so much the fitter for such Patients. In the Hospital I attended at *Bremen*, the Flux Ward had a Necessary that opened into the River *Weser*, and at *Natzungen* a deep Pit was dug in the Field about twenty Yards from the Barn where the Flux Men lay, which kept these Wards always sweet.

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Patients that have got the Itch, or any other infectious Distemper, ought likewise to be put into separate Wards by themselves; and at all Times a Place should be set apart for those who may be taken ill of the Measles or Small-Pox. A House separated from the other Hospitals, with a distinct Set of Nurses and other Attendants, bids fairest to prevent the Infection from spreading.

When once the Sick are properly ranged, the next Care must be to prevent infectious and malignant Disorders from being generated, and from spreading amongst the Sick; which is principally to be effected by keeping the Sick and the Hospital extremely clean and well-aired, and the Wards as sweet, and free from putrid and offensive Smells, as possible.

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Every sick Man, as soon as he arrives at an Hospital, should be washed with warm

Water, or if there is a warm Bath, or bathing Tub, to be put into it; and afterwards be supplied with a clean Shirt^[156] well-aired before he be put to Bed; and his own dirty Linen should be immediately carried to the Wash-House: And every Morning each Nurse ought to carry a Bucket full of warm Water, and a Piece of Soap and a Towel, round to each of her Patients, and make them wash their Hands and Face, and their Feet, when dirty.

Every Morning all the Wards ought to be scraped and swept, and afterwards sprinkled with warm Vinegar; and when dirty, they ought to be washed after the Fires are lighted.

Every Thing in the Wards, and about the Sick, should be kept as clean as possible; the Chamber-Pots and Close-Stools ought to be carried away as soon as used, and immediately emptied and washed before they be brought back. [368]

The Windows of the Wards ought to be kept open to admit fresh Air Morning and Evening, for a longer or shorter Time, according as the Weather will permit.

If the Wards are close, and the Cieling too low, Dr. *Pringle* advises to remove some Part of them, and to open the Garret Story to the Tiles^[157]; and if the Opening of the Windows is not sufficient to air the Wards, Ventilators of different Kinds, such as those mentioned by Dr. *Hales* and Dr. *Pringle*, may be used, especially when the Weather is hot. [369]

In Winter, Fires should be lighted in all the Wards where it can be done.

In foreign Countries, when we meet with Hospitals where there are no Places for open Fires, but only close Stoves, different Contrivances may be used to renew the Air. Ventilators of different Kinds may be used, or Openings made in the Doors and Windows. In Winter 1761-62, some of the Wards in the Hospital at *Bremen* which I attended had such Stoves. In order to keep up a free Circulation of Air in those Wards, I directed large Holes to be cut in the lower Part of the Door in each Ward, and two Grooves to be made on the Outside of the Door, above and below the Hole, parallel to each other, in which a Board slid; by means of which, the Hole could be either quite covered or only in Part, or left entirely open; and I directed a Casement, about eight or nine Inches square, to be made in the upper Corner of each Window. After the Fires were lighted, upon removing the Board which covered the Hole in the Door, and opening the little square Windows, a Current of fresh cool Air rushed into the Ward by the Door, while the heated foul Air found an Exit by the Windows. In very cold Weather, the Opening of the small Windows was sufficient; but in mild Weather, and in Summer, it was necessary to keep both open. [370]

The Wards should be daily fumigated by Means of Aromatics, or wetted Gunpowder thrown on burning Coals, put in an Iron Pot or Chaffern, or with the Steams of warm Vinegar placed in the Middle of the Ward. Dr. *Lind* says, that although Cleanliness and a pure Air contribute much to prevent infectious Disorders, or to check them, yet that they of themselves are not always sufficient; but that he seldom or never knew a proper Application of Fire and Smoke to be unsuccessful in producing the happy Consequence of effectually purifying all tainted Places, Materials, and Substances^[158]. [371]

In all Military Hospitals, at least in the fixed ones, one Ward ought to be always kept empty; and whenever a malignant Fever, or any other infectious Disorder, breaks out in any Ward, the Men ought to be removed into this empty one; and the foul Ward purified, by washing and cleaning it well with Soap and Water, and then with warm Vinegar; and afterwards purifying it with Smoke, in the same Manner as is practised in his Majesty's Ships of War; and Fires should be lighted daily, and the Windows kept open for some Time, before any Sick be again admitted into it.

As soon as any Patient dies, the Body ought to be removed to the Dead House; and the Bedding he lay upon should be carried away immediately, and not used again till it has been smoked, well-aired, and washed. [372]

All the Linen of Patients in Fevers, Fluxes, and other infectious Disorders, ought to be changed often; and all the foul Linen and foul Bedding of the Hospital should be smoked with the Fumes of Brimstone, or of wetted Gunpowder, in a Place set apart for that Purpose; and Dr. *Lind* advises to steep them first in cold Water, or cold Soap Lees, before putting them in warm Water; as it is dangerous for any Person to receive the Steam that may at first arise, where this Precaution is not used.

All the Cloaths, of Soldiers who die in Hospitals, ought to be sent to the Smoke House, and be well fumigated, and afterwards aired, before they are put up in the Store-House.

The next Thing to be considered about a Military Hospital is the Diet of the Patients, which should consist of good wholesome Provisions, that can be purchased easily, and at a cheap Rate^[159]. [373]

Good Bread^[160] is a standing Article of Provisions for an Hospital in all Countries

and in all Climates; and a certain Quantity of it ought to be distributed to each Man daily.

The Breakfast and Supper in most Military Hospitals must be made of Water Gruel or Rice Gruel; as either Rice or Oatmeal can be got in most Places, and are very portable.—Water Gruel is in general preferable to the Rice Gruel, because most Patients nauseate the Rice Gruel, after eating it for some Days, but not the Water Gruel, as every Person, who has attended the Military Hospitals, must have experienced. Where both Rice and Oatmeal can be had, Rice Gruel may be used two or three Times a Week by Way of Variety.

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But although Rice Gruel is not so proper for constant Use, yet Rice should always make an Article among the Stores for an Hospital, as it is useful for making Rice Water for Drink; and it can be boiled or ground, and made into a light Pudding, and in short may be used in a Variety of Forms to make a good and wholesome Food for the Sick.

Oatmeal is cheaper than Rice, and can be procured almost every-where in *Europe*, where Armies make Campaigns; as Oats make such a great Article in the Forage for Horses. And a sufficient Quantity can at any Time be ground into Meal for the Use of the Sick, at the Mills which are employed for making Flour for the Bakery, if there be none nearer the Hospital.

In Countries where neither Oatmeal nor Rice can be had, *Indian* or some other Corn, which is known to be wholesome, and which the Country affords, may be employed in their Place.

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When fresh Meat can be got, the Men who are on full Diet, and the Nurses and other Servants about the Hospital, should have Meat for Dinner; and the Meat that is boiled for them ought to make Broth for the Sick who are kept on a low or middle Diet. Some Barley or Rice should be added to the Broth; and a small Quantity of Carrots, Turnips, or other Vegetables, boiled along with them, will make it more agreeable to the Taste.

On Expeditions where nothing but salted Meat can be had, a Quantity of portable Soop should always be carried out for the Use of the Sick; which with Water and some Barley, and fresh Vegetables, when they can be got, will make a good Soop or Broth. On such Occasions, the Dinner ought to consist of Soop and Bread, or of light Puddings made of Flour or of Rice, of boiled Rice or Barley, or of Panado, &c.

Nurses and recovered Men may be allowed salted Meat twice or thrice a Week.

The common Drink of Military Hospitals ought to be Rice and Barley Water, with a small Proportion of Spirits and Sugar. Small Beer is a good Drink where it can be easily procured; as is Wine and Water, or a very small Negus, or very weak Punch in warm Climates.

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Besides this Diet, extraordinary Indulgences may be occasionally allowed to particular Patients, as Wine, Brandy, Sugar, Milk. And the Physicians and Surgeons ought to have a discretionary Power to order a Vegetable or any other proper Diet for Patients in the Scurvy, or any other particular Complaints.

The Established Diet of a Military Hospital may be,

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	<i>Breakfast.</i>	<i>Dinner.</i>	<i>Supper.</i>
Full Diet,	<p>One Pint of Water or Rice Gruel.</p> <p>Water Gruel made with 3 or 4 Ounces of Oatmeal, a little common Salt, and with or without a little Sweet Oil, and two Spoonfuls of Wine.</p> <p>Rice Gruel made with two Ounces of Rice, one Spoonful of</p>	<p>One Pound of boiled fresh Meat.</p>	<p>As Breakfast.</p>

	fine Flour, a little common Salt and Sugar.		
Middle Diet,	Ditto.	One Pint of Broth, half Pound of boiled Meat.	Ditto.
Low Diet,	Ditto, or according to the Patient's Appetite.	One Pint of Broth, or half a Pint of Panado, with two Spoonfulls of Wine, and a Quarter of an Ounce of Sugar.	Ditto.

The daily Allowance of Bread to be one Pound to each Man.

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The common Drink for those on full and middle Diet to be Rice or Barley Water, with two Spoonfuls of Brandy to each Pint, and a Quarter of an Ounce of Lump Sugar; small Beer, or very weak Punch; or Wine and Water, two Ounces of Wine to a Pint of Water, and a Quarter of an Ounce of Sugar. The Quantity not to exceed three Pints *per* Day.

Those on low Diet to have Rice or Barley Water as above, with or without Wine or Brandy.

The Diet Boards hung up in the Hospitals may be made with the following Columns, nearly as they were with us in *Germany*.

Regiments.	Mens Names.	Diet			Wine. $\frac{1}{2}$ Pints.	Brandy. Ounces.	Milk. $\frac{1}{2}$ Pints.	Sugar. Ounces.
		F.	M.	L.				

When such Diet Boards are kept in an Hospital, and the Mens Names and Regiments are once wrote down, the Patients may with very little Trouble be put upon the full, middle, or low Diet, with so much of the above-mentioned Extraordinaries as may be judged proper.

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If any Thing else be wanted for the Sick, the Physician ought to give a particular Order in Writing for it, the Columns here marked being only for such Things as are most frequently wanted.

It should be a general Rule in all Military Hospitals, that, when a Party of Sick arrives, every Man may have immediately a Mess of Water Gruel given him, and afterwards be put on low Diet till it is ordered otherwise by the Physician or Surgeon who attends him.

It is not to be supposed that the Diet here mentioned can be strictly kept to in all Parts of the World; for it must often be varied according to the Difference of the Climates, and to the Provision of the Countries where the Scene of War may be.

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Whenever a Moveable or Flying Hospital is to attend an Army, a Quantity of Bedding, and of all Utensils for forming an Hospital, ought to be put up in the

Waggons, together with Provisions of different Kinds, such as Oatmeal, Rice, Sago, Brandy, Wine, Sugar, &c. A Butcher with a Stock of live Cattle, and a Baker with a proper Quantity of Flour for making Bread ought constantly to attend; and a Number of empty Waggons should likewise be always in Readiness, to transport the Sick when the Hospital moves, or when a Party is to be sent to the fixed Hospitals.

When Troops go upon an Expedition, besides the common Hospital Ships, another Ship ought to be properly fitted up for the Reception of sick Officers^[161]; and every Hospital Ship ought to be supplied with all Sorts of Provisions, and other Necessaries fit for forming an Hospital, before they leave *England*.—And one or more armed Vessels loaded with Provisions, Wine, and all Sorts of Necessaries for the Sick, ought to attend them; or if the Expedition be intended for the warm Climates, these Vessels ought to go before the Fleet to take up Wine and Fruits, such as Lemons, Oranges, &c. Vegetables of different Kinds, and a live Stock for the Use of the Sick.

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All Hospitals attending Expeditions should carry out among their Stores a Number of large Tents for lodging the Sick and Wounded immediately on making good their Landing. Where a Siege is expected which will take up Time, and where no Accommodations for the Sick can be had till the Siege is over, a Ship or two, with Boards, and other Necessaries for building large Sheds, or temporary Hutts, for the Sick, as proposed by Dr. *Brocklesby*, ought to go along with the Fleet, or meet them at the Place of their Destination. Such thatched Sheds, or Hutts, are very necessary in the warm Climates, as the perpendicular Rays of the Sun, beating upon Canvass, make Tents intolerably hot. When any of our own Settlements happen to be near the Place attacked, a fixed Hospital may be established there; either in Houses, if proper ones can be found; or in temporary Sheds or Hutts erected for that Purpose; and some Vessels, properly fitted up, may be kept going with the Sick and Wounded, and bringing back the recovered Men.

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At every Military Hospital a Serjeant's Guard ought to mount; and Centinels be placed at the Doors of the Hospital, 1. To prevent all Visitors, who have not proper Leave, from coming into the Hospitals; as such People oftentimes crowd the Wards, disturb the Sick, and are apt to catch infectious Distempers, and to spread them among the Troops. 2. To take Care the Patients do not go out of the Hospital without having a Ticket^[162] of Leave for that Purpose, signed by the Physician, Surgeon, or Apothecary, belonging to the Hospital. 3. To prevent spirituous Liquors, or other Things of that Kind, being clandestinely carried into the Hospital.

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The Serjeant of the Guard, attended by the Ward Master, ought, every Morning, to go round the Wards to call a Roll, and see that every Man is in his Ward; and to do the same at Night before the Hospital Doors are shut, and at this Time to order every Person out of the Hospital who does not belong to it. And the Serjeant, every Morning, ought to report to the Physician, Surgeon, or Apothecary, every Man's Name who was found to be absent at Roll-calling; and whether he found every Thing regular and in good Order in going his Rounds.

Every large Military Hospital ought to have one Head Nurse, and a sufficient Number of other Nurses, to attend and take Care of the Sick.

Orders to the following Purport, hung up in every Military Hospital, would serve to shew the Nurses and Patients what their Duty is, and to maintain Regularity and good Order through the whole Hospital.

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Matron, or Head Nurse.

Every Matron, or Head Nurse, is to go round all the Wards of the Hospital at least twice a Day, Morning and Evening; to see that the Nurses keep their Wards clean; that they behave themselves soberly and regularly, and give due Attendance to their Patients; and to examine the Diet of the Patients, and see that it is good and well dressed; and if she finds any Thing amiss, to report the same to the Physician, Surgeon, or Apothecary, of the Hospital.

Common Nurses.

1. The Nurses are to give due Attendance to their Patients; and to keep them always as neat and clean, as the Nature of their Distempers will admit of; to give them their Diet regularly; to be particularly careful to see them take the Medicines ordered by the Physicians, according to the Directions given; to report to the Physician, Surgeon, or Apothecary, any Faults or Irregularities which any of their Patients may have committed; and to acquaint the Ward Matter and Head Nurse of the Death of any of their Patients as soon as it happens, that proper Care may be taken of their Cloaths and Effects.

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2. They are to keep their Wards extremely clean, to sprinkle them every Morning with Vinegar, and to fumigate them with the Smoke of wetted Gunpowder, or of Frankincense, or any other Aromatics that may be thought proper; in fair Weather to keep open the Windows of their Wards, twice or thrice a Day; for a longer or shorter

Time, as the Weather will permit; to attend at the Steward's Room for the Provisions of the Patients at the Hours appointed for that Purpose; and to pay implicit Obedience to the Matron, or Head Nurse, in what relates to their Duty; and punctually to obey all Orders they receive from the Physician, Surgeon, or Apothecary, of the Hospital.

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3. They are to keep themselves clean and decently dressed, and to observe the strictest Rules of Sobriety; remembering, that if any one is found intoxicated with Liquor, that she is immediately to be sent to the Guard, and afterwards discharged.

4. They are not to absent themselves from their Wards, unless when employed in the Discharge of their Duty; nor to go out of the Hospital to which they belong, without having a Ticket of Leave signed by the Physician, Surgeon, Apothecary, or Head Nurse, belonging to the Hospital.

5. They are not to throw Nastiness of any Kind out at the Windows, but to carry it to the common Necessaries, and to empty the Chamber Pots and Close-stools as soon as used, and be careful to wash them before they bring them back.

6. They are not, upon any Pretence whatever, to alter the Diet ordered by the Physicians or Surgeons to the Patients on the Diet Boards; nor to suffer their Patients to use any other Diet than what is allowed by the Hospital; nor are they to bring, or allow others to bring, Meat, spirituous Liquors, or other Things of that Kind, into their Wards, except what is allowed by the Physicians or Surgeons. Whenever any Thing of this Kind is found in any of the Wards, it ought immediately to be thrown into the common Necessary; and if it be found in the Custody of a Nurse, she ought to be confined in the Guard, or discharged.

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7. Nurses guilty of great Neglect of Duty, or of getting drunk and using their Patients ill, or of stealing, or concealing or taking away the Effects of Men who die in the Hospital, are to be immediately sent to the Guard, and reported to the Commanding Officer of the Place, that they may be tried by a Court-Martial, and be confined, whipped, or otherwise punished, as the military Law directs; all Followers of Armies on foreign Service being equally subject to the military Law as the Soldiers themselves.

Patients.

1. All sick Soldiers, on their Arrival at a Military Hospital, are to be washed all over with warm Water, or to go into a warm Bath; and afterwards to wash their Face and Hands every Morning, and their Feet occasionally, with warm Water and Soap, brought round every Morning by the Nurses for that Purpose; and they ought to comb their Head every Day. If they be too weak to wash and comb themselves, it is to be done by their Nurses.

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2. Every Patient is to be shaved and have clean Linen twice a Week, or oftener if requisite.

3. They are punctually to obey the Directions given them, and to take the Medicines ordered by the Physician; and none to be allowed to go out of the Hospital without a Ticket of Leave signed by the Physician, Surgeon, or Apothecary, of the Hospital.

4. They must commit no Disorder or Riot, but in all Respects behave themselves well.

5. If any Man disobeys the Orders he receives from the Physicians or Surgeons, or is irregular in Conduct, gets drunk, and commits Riots in the Hospital, or is found guilty of Theft or other Crimes, the same is to be reported to the Commanding Officer of the Place, and he to be tried by a Court-Martial, and punished as soon as his Strength will permit.

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In conducting the Military Hospitals, we found that it was always right to discharge the Patients from the sick Hospitals as soon as they were recovered, and to send them either to Billet, or to a convalescent Hospital; because recovered Men are always the most riotous; besides they crowded the Hospitals, and were in Danger of catching fresh Disorders from those who were sick; and therefore the recovering Men in every Hospital ought to be reviewed once or twice a Week by the Physician or Surgeon, and the Names of such Men as are well enough, to be marked; in order that they may be sent the next Day to the convalescent Hospital, or to Billet. A Return of those marked for Billet ought immediately to be sent to the Officers on convalescent Duty.

When a convalescent Hospital is established, it ought to be put under proper Regulations; the following are those which I drew up for that established at *Osnabruck* in *April 1761*, and which were found to answer the Purpose intended.

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Regulations for a Convalescent Hospital.

1. That this Hospital be entirely occupied by such Men as are recovered from Diseases; that no Men be sent there but those whose Names are returned to the Purveyor's Office by the Physician or Surgeon of the Hospital.

2. That all the Patients shall be upon full Diet, unless in particular Cases it be ordered otherwise by the Physician or Surgeon.

3. That all the Patients shall breakfast, dine, and sup, at regular stated Hours, in the Hall appointed for that Purpose: Breakfast to be ready at nine, Dinner at one, and Supper at seven o'Clock in the Evening.

4. That no Patient shall carry up any Victuals into the Wards appointed for sleeping in; and if any Patient does not attend at the regular Hours of Meals, no Allowance of Victuals shall be made him in the Place of such Meals, unless he has been absent on Hospital Business, or been confined to Bed by Sickness.

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5. That as soon as the Men are come down Stairs to Breakfast, the Wards in which they sleep shall be cleaned out and sprinkled with Vinegar, and the Windows opened to air them.

6. That the Doors of this Hospital shall be locked every Night at eight o'Clock, and no Man be allowed to come in or go out after that Time. The Doors to be opened again at seven o'Clock in the Morning.

7. That the said Hospital is to be visited two or three Times a Week by the Physician, Surgeon, and Apothecary, who are to see that the above Orders are complied with; to examine the Diet, and take Care that every Thing is carried on properly; and to prescribe for any little Disorders the Men may be affected with.

8. That one of the Hospital Mates be appointed to visit this Hospital daily, to administer any Medicines which may have been prescribed by the Physician; to apply any Dressings ordered by the Surgeon; and to acquaint the Physician or Surgeon if any of the Men be so bad as to require their Attendance, or to be sent back again to the Sick Hospital.

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9. That for the better executing these Regulations, orderly Serjeants or Corporals be appointed for the Care of the Men; who shall mount a Guard of six or more of such of the Patients of the said Hospital as are fit for this Duty—That the Serjeants are to call a Roll of all the Patients regularly three Times a Day, before Breakfast, Dinner, and Supper; to see that the Men behave themselves soberly and decently; and that they keep themselves clean, and commit no Riots; and to confine in the Guard such as commit Riots and other Irregularities, or whom they find drunk, or who stay out all Night; and to report the same to the Officer on Duty.

10. That an Officer on convalescent Duty do visit the said Hospital daily at the Times of Roll-calling, to see that every Thing be carried on properly; and to receive the Reports from the Serjeants, and give what Orders he may think proper for the better regulating the said Hospital.

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11. That if at any Time it should happen that there are more Convalescents than the Hospital can hold conveniently, a Review be made of all the Patients, and the strongest and most healthy be sent to Billet.

12. That a Review be always made, when any Party is going to join the Army, to pick out the Men who are fit to join their Regiments.

The Physical Officers employed in the Military Hospitals, are Physicians, Surgeons, and Apothecaries.

No Person ought to be appointed a Physician to the Army, or Military Hospitals, without previously undergoing the same Examination at the College of Physicians, as those do who enter Fellows and Licentiates of the College, that none but proper Persons may be employed. On such Examinations the Physician General to the Army ought to be allowed to sit as one of the Censors of the College.

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The Surgeons are all obliged to pass an Examination at Surgeons Hall before they are appointed, and the Apothecaries ought in like Manner to pass an Examination at Apothecaries Hall.

The Mates employed in the Service ought, previous to their Appointment, to be examined both in Surgery and Pharmacy, as the Service commonly requires their acting in both Branches.

The Direction of all Military Hospitals ought always to be committed to the Physicians, who have the immediate Care of Hospitals.

When an Army is acting on a Continent, and there is a Number of Hospitals in different Places, the Physician who attends the Commander in Chief ought to be made Physician General and Director of the Hospitals, with proper Appointments; and all Orders from Head Quarters ought to go immediately thro' this Channel.

Every other Physician at the different Hospitals ought to direct every Thing about the Hospital which he attends, and his Orders ought to be punctually obeyed; and he ought to keep up a constant Correspondence with the Physician General; acquainting him from Time to Time with the State of the Hospital, and what is wanted for it; and he ought punctually to obey whatever Orders he receives from the Physician General.

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If there be separate Hospitals for the Surgery Patients, the eldest Surgeon ought to direct every Thing in the Hospital he attends; and when any Thing is wanted for his Hospital, to report the same to the Physician General.

The directing and purveying Branches ought never to be entrusted to the same Person, as the Temptation of accumulating Wealth has at all Times, and in all Services, given Rise to the grossest Abuses, which have been a great Detriment to the Service, as well as to the poor wounded and sick Soldiers, and has occasioned the Loss of many Lives. And therefore neither the Physician General, nor any of the Physicians or Surgeons of the Army, or any other Person concerned in the Direction of the Military Hospitals, ought ever to act as Purveyor or Commissary; nor ought they ever to have any Thing to do with the Accounts, Contracts, or any other Money Affairs relating to the Hospital; and if ever they be found to intermeddle in these Affairs, they ought to be immediately dismissed the Service.

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The purveying or commissariate Branch ought to be entirely distinct from the physical. The Purveyors or Commissaries ought punctually to obey whatever Orders they receive from the Physicians or Surgeons; to provide every Thing for the Hospital; to keep regular Accounts of all the Men who come into, or go out of the Hospitals; and from Time to Time to make Returns to Head Quarters of all the Men in Hospitals; and their Accounts ought to be controuled by such Persons as the Government may think proper.

Every Physician and Surgeon of a Military Hospital ought to visit the Sick at regular stated Hours, and the Mates to attend and go round with them, and receive and execute their Orders.

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Every Mate ought to have a certain Number of Patients allotted him, for whom he is to make up all Medicines, dress all Sores, and execute whatever Orders he receives from the Physician, Surgeon, or Apothecary. That the Mates may know and execute their Duty, proper Orders in Writing should be hung up in the Apothecaries Shop for that Purpose. The following are those which I gave out at all the Hospitals I attended in *Germany*.

Orders for the Mates.

1. That all the Gentlemen do attend at the Apothecaries Shop every Morning at eight o'Clock, to assist in making up the common Medicines of the Day, and afterwards to go round the Hospitals with the Physicians and Surgeons.

2. That every Mate have a Book for writing the Prescriptions of the Physicians in, which is to be kept in the following Order.—First, to mark the Patient's Name and Regiment; then the Day of his Entry into the Hospital and his Disorder; then the Prescriptions of the Physician; and after all the Day of his Discharge, or of his Death. *Ex. gr.*

[398]

John Clarke, 20th Regiment. *Jan.* 1. Fever.

Jan. 1. V. S. unc. x.—H. salin. cum pulv. contrayerv. 4^r. die.—2. Emplast. vesicat. dorso, &c.

Discharged or dead *Jan.* 28.

3. That every Mate make up himself the Physician's Prescriptions for his own Patients, and afterwards go round and administer them, or give them to his Patients with proper Directions; that he bleed his own Patients, and dress any slight Sores they may have, which do not require their being sent to the Surgery Hospital.

4. That every Mate go round amongst his Patients in the Evening, to see that every Thing is well conducted, and to report to the Physician or Apothecary if any Thing extraordinary happens.

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5. That two of the Mates attend all Day at the Apothecary's Shop to receive any Sick that may arrive, and to place them properly; to make up what Medicines they may immediately want; to order each of them a Mess of Water Gruel; and if any Thing extraordinary occurs, to send an orderly Man to acquaint the Physician or Apothecary with the same. The orderly Mates to make up likewise for Officers, or others, all Prescriptions sent to the Apothecary's Shop through the Day.

A Joint of Meat, roasted or boiled, for Dinner, and a Bottle of Wine, was allowed to the orderly Mates, by Lord *Granby's* Order, that they might not absent themselves from their Duty.—Where there was Conveniency for it, a Mate lodged in the Hospital.

The Apothecary ought to take Care of the Medicines; to go round the Hospitals in the Morning before the Time of the Physician's visiting; to see that the Wards are in proper Order; that the Nurses and other Servants have done their Duty; to examine into the State of the Sick, and to see that the Provisions are good; and make a faithful Report of all these Things to the Physician when he arrives.—To take Care that the Mates prepare in the Morning the Medicines that are commonly wanted for the Day; and that they afterwards make up faithfully the Prescriptions of the Physician; to go round the Hospital again in the Evening, to see that the Sick have got their Medicines regularly; and to make the same Enquiries as in the Morning.

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The Apothecary should always be lodged near the Hospital, to assist in Case of any Accidents happening, or of Sick arriving at the Hospital.

When there are any strong infectious Disorders in Military Hospitals, the physical Gentlemen may use the following Precautions to guard themselves against Infection.

1. Never to visit the Sick with an empty Stomach; but to eat Breakfast before they go into the Hospital.

2. To have a Suit of Cloaths reserved for visiting the Hospital, and a waxed Linen Coat to wear above them in going round the Wards; and as soon as they have come out of the Hospital, to wash and change their Linen and Cloaths.

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3. Before they go into the Wards, to order that they be well cleaned out, and sprinkled with Vinegar, and afterwards fumigated, and aired by opening the Windows, or by Working the Ventilators.

4. If the Infection be very strong, to take a Glass of the spirituous Tincture of the Bark just before they go into the Hospital.

5. To put small Rolls of Lint, dipped in camphorated Spirits, up the Nostrils, and to direct a Vessel, with warm camphorated Vinegar, to be carried round, and held near the Patients they are examining.

6. In examining Patients affected with the Petechial Fever, or any other malignant Distempers, to stand at some little Distance, and ask what Questions they may think proper; and when they come near, to feel the Pulse, and examine the Skin, not to inspire while their Head is near the Patient's Body; but after being fully satisfied in these Points, to retire a little, and ask what other Questions may be necessary.

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It would be right to establish some military Rank for every commissioned Officer of the Hospital on Service, and to settle the same Subordination in the physical as in the military Department. By these Means, the Service would be carried on with greater Order, and more Advantage to the Sick.

And it would be right, in Times of War, to add a Clause in the Mutiny Bill to allow any military Officer on convalescent Duty to call in the commissioned physical Officers to assist in making up a Court-Martial, when there are not a sufficient Number of military Officers in a Place, to try convalescent Soldiers guilty of Crimes. For in Times of Service, very often a sufficient Number of military Officers cannot be spared to be on Duty at the different Military Hospitals; and at all such Places the Convalescents are generally very disorderly, when they know that there is not a sufficient Number of Officers to form a Court-Martial for punishing them. Where-ever there are a sufficient Number of military Officers, no physical Officer ought ever to be called upon as a Member of a Court-Martial.

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Men, in Time of Service, are often apt to saunter in and about Hospitals, and there learn all Manner of Debaucheries, and lose all Sense of Discipline; and therefore, to keep up Order and Decorum, there ought to be, at every Fixed and every large Military Hospital, a military Inspector or Commander, an Officer of known Activity and Probity; and a Number of Officers on convalescent Duty sufficient to form a Court-Martial whenever required.

The Duty of the Military Inspector, or Commander, should be, to take Care of all Convalescents on Billet; to see that the Officers under him do their Duty, and maintain the same Regularity and Discipline among the Men belonging to their respective Corps, as if they were with their Regiments; and that the Men attend the Parade and Roll-calling; and that they always appear neat and clean.

He ought, from Time to Time, to visit the Hospitals; to see if they are kept clean; to enquire if the Men behave well, if the Diet is good, and the Officers, Nurses, and Servants, do their Duty; and if he finds any Thing amiss, to report the same to the Physicians and Surgeons of the Hospital, or to the Purveyor or Commissary, or others, under whose Department it may be, that the same may be immediately rectified; and if he finds that the superior Officers of the Hospital overlook such Abuses, notwithstanding his Representations, to report the same immediately to the Head Quarters.

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He ought to order one of the Officers on convalescent Duty to visit the Hospitals daily, to make the Enquiries above-mentioned, and to give him a Report of the same

in Writing.

The Purveyor or Commissary ought to make a Return to him twice or thrice a Week of every Man admitted into, or discharged from, the Hospitals, or who dies in them; marking in the Return the Name of every Man, and the Company and Regiment he belongs to; that he may report the same to the Officers of the different Brigades or Regiments.

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The Military Inspector ought to have the Power of providing Billets for all Officers and Soldiers about Hospitals; and the Names of all Men to be discharged from Hospitals should be sent to him the Day before they are discharged, that he may provide Billets for them; and next Day the Men ought to march from the Hospitals to the Parade, to receive their Billets, and the Orders of the Military Inspector, and of the Officers of the Corps they belong to.

The Military Inspector ought to see that the Arms of the sick Men, and the Arms and Cloaths of those who die and are lodged in the Magazines, be properly taken Care of; and that the Stores of the different Regiments be properly looked after.

As the Service often makes it necessary at Military Hospitals, where the Number of Sick is great, to employ the convalescent Soldiers^[163] as orderly Men and Servants about Hospitals, all Men thus employed ought to have a special Leave from the Military Inspector for so doing; and no Man should be employed in any Capacity as a Servant about an Hospital, who at that Time is on the Books as a Patient. And all Men employed about the Hospital ought to be reviewed once a Week by the Military Inspector, and likewise whenever a Party of Convalescents is going to join the Army, or their Regiments; that no Man may be allowed to remain with the Hospital, after he is fit to do Duty in his Regiment.

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When the Military Inspector is absent, the eldest Officer on convalescent Duty ought to act in his Place.

Every Officer sent on convalescent Duty ought, as soon as he arrives at the Place where the Hospital is, to wait on the Commandant, or Military Inspector; to acquaint him of his Arrival, and to receive his Commands. He ought then to go to the Purveyor or Commissary's Office, to get a List of all the Soldiers who are in or about the Hospital, and belong to the Regiment or Brigade he is employed for, wherein those on Billet are distinguished from those in Hospitals. The next Day he ought to parade all those marked on Billet, to see if the Number of Men agrees with the List given him, and to examine in what State each Man is, and how he is employed; and then he ought to go round the Hospitals, attended by an orderly Serjeant, to see all the Men in the Hospitals, and to know if the List given him at the Purveyor's Office was right; and afterwards he ought to send every Day a Serjeant or Corporal to see the Men in Hospitals, and to report to him when any Men are discharged or die.—And he ought to procure from the Military Inspector a Return of all the Men of his Corps, who are either admitted into, or discharged from Hospitals, on the Days when such Returns are made. He ought to make all his Men on Billet appear regularly on the Parade at Roll-calling, and to oblige them to keep themselves clean and their Arms in good Order, and to endeavour to preserve the same Regularity and Discipline as when they are with their Regiments. And whenever a Party is to be sent to join their Regiments, he ought to have all his Men particularly examined; and those Men who are found to be perfectly recovered, should be sent to their Regiments.

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If every Officer on convalescent Duty conform to these Directions, no Man can ever be detained without his Knowledge in or about Hospitals, as he must always know where every Man is, in what State of Health, and how he is employed; and may at any Time be able to make a Return to the Brigade or Regiment for which he is employed, of every Man who is admitted, discharged, or dies in the Hospital.

FINIS.

FOOTNOTES:

[148] Some of the regimental Surgeons in *Germany*, when they took the Field, had always some spare Tents carried along with their Medicine Chests; and when any of their Men fell sick in Camp, and they could get no House for a regimental Hospital in Villages, they ordered these Tents to be pitched, and had the Ground within well covered with Straw and Blankets, and then put the Sick into them, and there took Care of them till they found an Opportunity of sending them to the Flying Hospital.

[149] *Homer* mentions *Podalirius* and *Machaon*, sons of *Æsculapius*, as two excellent Physicians or Surgeons in the *Grecian Army*. Vid. *Iliad*, lib. ii. Physic and Surgery

were antiently exercised by the same Persons.

- [150] Vid. *Xenophon. de Institut. Cyri.* lib. i. et viii.
- [151] *Tacitus*, after giving an Account of 50,000 People being killed by the Fall of an Amphitheatre at *Fidena*, during the Time of a Shew of Gladiators, has these Words: "Ceterum post recentem cladem, patuere procerum domus, fomenta & medici passim præbiti; suit urbs per illos dies, quanquam mæsta facie veterum institutis similis, qui magna post prælia saucios largitione & cura sustentabant." Vid. *lib. iv. Annal.* § 63.
- [152] In *Livy* we find the following Passage: "Neque immemor ejus quod initio consulatus imbiberat, conciliandi animos plebis, saucios milites curandos dividit patribus. Fabiis plurimi dati, nec alibi majore cura habiti." Vid. *lib. ii. cap. xlvi.*
- [153] *Justin* mentions the same Thing of the *Spartans* after their Defeat at *Sellasia*—"Patentibus omnes domibus saucios excipiebant, vulnera curabant, lapsos reficiebant." Vid. *lib. xxviii. cap. iv.*
- [154] When Parties of Sick or Wounded are to be sent from Camp, or from one Hospital to another, Care ought to be taken that they are placed properly in the Waggon; that they have proper physical People, Nurses, &c. to attend them; as well as Provisions, and other Necessaries, so as to be in no Danger of wanting any Thing while they are on their Journey.
- [155] The *Roman* Generals seem to have sent their Sick and Wounded into Towns, in the same Manner as is done by those of the present Time. For we read in *Cæsar's Commentaries* of this Method having been practised on more Occasions than one. In the sixty-second Chapter of the third Book, *de Bello Civili*, we have the following Passage: "Itaque nulla interposita mora, sauciorum modo & ægrorum habita ratione, impedimenta omnia silentio prima nocte ex castris *Apolloniæ* præmisit, ac conquirere ante iter confectum vetuit. His una legio missa præsidio est."—And immediately after, in chap. lxxv. "Itaque præmissis nunciis ad Cn. Domitium Cæsar scripsit, & quid fieri vellet ostendit: præsidioque *Apolloniæ* cohortibus iv. *Lissi* i. tres *Orici* relictis; quique erant ex vulneribus ægri depositis; per Epirum atque Arcarniam iter facere cæpit."
- And in the twentieth chapter, *de Bello Africano*, we read: "*Labienus* saucios suos, quorum numerus maximus fuit, jubet in plaustris deligatos *Adrumentum* deportari."
- It would be a right Measure, in the Beginning of every War, to settle by a Cartel that military Hospitals on both Sides should be considered as Sanctuaries for the Sick, and mutually protected; as was agreed upon between the late Earl of *Stairs*, who commanded the *British* Troops, and the Duke *de Noailles*, who commanded the *French* in the Campaign in *Germany* in the year 1743. See *Dr. Pringle's Preface*.
- [156] Every military Hospital ought to have a Number of Shirts belonging to it, for the Use of the Sick who arrive without having clean Linen with them. As soon as their own Shirts are washed and dried, or that new ones are provided by their Regiments, the Hospital Shirts ought to be taken from them.
- [157] In Wards which are too close, it has been found that one or two square Holes (of about six or eight, or ten Inches diameter), cut in the Cieling, and a Tube made of Wood fitted to it, and carried up into the Chimney of the Ward above, so as to enter above the Grate, is one of the best Contrivances for procuring a free Circulation of Air; as the foul Air, which is lightest, and occupies the highest Part of the Ward, finds a free Exit by these Tubes: We have such Tubes now fixed in several of the Wards in *St. George's Hospital*. A Hole cut above the Door of the Ward, or in the upper Part of the Windows, and one of what are called the *Chamber Ventilators* fixed in it, will answer, where Holes cannot be conveniently cut in the Cieling.
- [158] *Dr. Lind* tells us, that the Ships of War in his Majesty's Service are purified by Fire and Smoke, and gives the Process by which it is done; and he says, that he never heard of any Ship, which, after being carefully and properly smoked, did not immediately become healthy for the Men.—See *First Paper on Fevers and Infection*.—And he observes, that these Steams and Smoke, which are inoffensive to the Lungs, besides correcting the bad Quality of the Air, produce another good Effect; which is, to make both the Patients and Nurses desirous of opening the Doors and Windows for the Admission of fresh Air. *Ibid.* p. 51.
- [159] The *French*, and many other Nations, give their Patients Meat Soops in acute Diseases, and after capital Operations; and they allow them but little Bread or other Preparations of Vegetable Substances: But these Meat Soops without Bread do not nourish the Patient sufficiently, and tend too much to the Putrescent; and this is one Reason why more Sick die in the *French* than in the *British* Hospitals.
- [160] On Expeditions where a Siege is expected, a Quantity of Flour ought to be carried out, and a Number of portable Ovens for baking bread for the Sick, which may be put up after the Troops have made good their Landing.
- [161] If there be no Ship fitted up for the Reception of sick Officers, those who are taken ill on Expeditions must be in a most miserable Situation; as there is no Place to receive them in the common Hospital Ships, they must remain almost without Assistance in a crowded Cabin amongst People in Health; as was the Case in some of our Expeditions during the late War.
- [162] At every Hospital there ought to be a Number of printed Tickets lying ready to be filled up and signed by the Physicians and Surgeons, and no Man ought to be allowed to go out without a Ticket so signed.

[163] In the *French* Hospitals there are always a Number of Men who attend their Sick who belong to the Hospital, so that they have no Occasion to employ their Convalescents, as we are often obliged to do, where the Sick are attended by Nurses, who are commonly Soldiers Wives, and not so capable of doing such laborious Work as the Men.

*** END OF THE PROJECT GUTENBERG EBOOK AN ACCOUNT OF THE DISEASES WHICH WERE MOST FREQUENT IN THE BRITISH MILITARY HOSPITALS IN GERMANY ***

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