

here endeavour to lay down the measures proper to be taken for this end, with that minuteness and accuracy which the importance of the subject, and the preservation of so many valuable and useful lives, justly demand ; and at the same time shall, as much as possible, avoid offering any thing that may be judged impracticable, or liable to exception, on account of the difficulty or disagreeableness of complying with it. And, *lastly*, I shall propose nothing dictated merely from theory ; but shall confirm all by experience and facts, the surest and most unerring guides.

What I propose is, first, to relate the effects of several medicines tried at sea in this disease, on purpose to discover what might promise the most certain protection against it upon that element.

The medicine which succeeded upon trial, I shall afterwards confirm to be the surest preservative, and most efficacious remedy, by the experience of others.

I shall then endeavour to give it the most convenient portable form, and shew the method of preserving its virtues entire for years, so that it may be carried to the most distant parts of the world in small bulk, and at any time be prepared by the sailors themselves : adding some farther directions, given chiefly with a view to inform the captains and commanders of ships and fleets, of methods proper both to preserve their own health, and that of their crews.

It will not be amiss further to observe, in what method convalescents ought to be treated, or those who are weak, and recovering from other diseases, in order to prevent their falling into the scurvy ; which will include some necessary rules for resisting the beginnings of this evil, when, through want of care, or neglect, the disease is bred in a ship.

As the salutary effects of the prescribed measures will be rendered still more certain, and universally beneficial, where proper regard is had to such a state of air, diet, and regimen, as may contribute to the general intentions of preservation or cure ; I shall conclude the precepts relating to the preservation of seamen, with shewing the best means of obviating many inconveniences which attend long voyages, and of removing the several causes productive of this mischief.

The following are the experiments.

On the 20th of May 1747, I took twelve patients in the scurvy, on board the *Salisbury* at sea. Their cases were as similar as I could have them. They all in general had putrid gums, the spots and lassitude, with weakness of their knees. They lay together in one place, being a proper apartment for the sick in the fore-hold ; and had one diet common to all, *viz*, water-gruel sweetened with sugar in the morning ; fresh mutton-broth often times for dinner ; at other times puddings, boiled biscuit with sugar, &c. ; and for supper, barley and raisins, rice and currants, sago and wine, or the like. Two of these were ordered each a quart of cycler a-day. Two others took twenty-five gulls of *elixir vitriol* three times a-day, upon an empty stomach ; using a gargle strongly acidulated with it for their mouths. Two others took two spoonfuls of vinegar three times a-day, upon an empty stomach ; having their gruels and their other food well acidulated with it, as also the gargle for their mouth. Two of the worst patients, with the tendons in the ham rigid, (a symptom none of the rest had), were put under a course of sea-water. Of this they drank half a pint every day, and sometimes more or

less as it operated, by way of gentle physic. Two others had each two oranges and one lemon given them every day. These they eat with greediness, at different times, upon an empty stomach. They continued but six days under this course, having consumed the quantity that could be spared. The two remaining patients, took the bigness of a nutmeg three times a-day, of an electuary recommended by an hospital-surgeon, made of garlic, mustard-seed, *rad. raphan.* balsam of Peru, and gum myrrh ; using for common drink, barley-water well acidulated with tamarinds ; by a decoction of which, with the addition of *cremor tartar*, they were gently purged three or four times during the course.

The consequence was, that the most sudden and visible good effects were perceived from the use of the oranges and lemons ; one of those who had taken them, being at the end of six clays fit for duty. The spots were not indeed at that time quite off his body, nor his gums sound ; but without any other medicine, than a gargarism of *elixir vitriol*, he became quite healthy before we came into Plymouth, which was on the 16th of June. The other was the best recovered of any in his condition ; and being now deemed pretty well, was appointed nurse to the rest of the sick.

Next to the oranges, I thought the cyder ¹ had the

¹ Extract of a letter from Mr Ives :—

I judge it proper to communicate to you, what good effects I have observed in the scurvy, from the use of cyder and sea-water, during the last cruise I made in the western squadron, with my honoured benefactor Admiral Martin. But as I do not pretend to have taken notice of any thing, more than merely a palliative benefit from them, I think, without mentioning particular cases, it will be sufficient for me to inform you, that, in our preceeding cruise with the western squadron, his Majesty's ship *Yarmouth*, of 70 guns and 500 men, was not only troubled with the scurvy in common with other ships, but, in spite of all my endeavours, lost in it a proportioned number of men. Upon our return from that

best effects. It was indeed not very sound, being inclinable to be aigre or pricked. However, those who had taken it, were in a fairer way of recovery than the others at the end of the fortnight, which was the length of time all these different courses were continued, except the oranges. The putrefaction of their gums, but especially their lassitude and weakness, were somewhat abated, and their appetite increased by it.

As to the *elixir of vitriol*, I observed that the mouths of those who had used it by way of gargarism, were in a much cleaner and better condition than many of the rest, especially those who used the vinegar; but perceived otherwise no good effects from its internal use upon the other symptoms. I indeed never had a great opinion of the efficacy of this medicine in the scurvy, since our longest cruise in the *Salisbury*, from the 10th of August to the 28th October 1746 ; when we had but one scurvy in the ship. The patient was a marine, (one Walsh) ; who, after recovering from a cruise, I took an opportunity to represent to the Admiral, that as vegetable juices of all sorts were from experience found to be the only true anti-scorbutics, and I had myself formerly experienced the good effects of apples, it was reasonable to presume that cyder must certainly be of service. This suggestion agreed with some accounts the Admiral had received from others ; and he with great readiness bought, and put under my care, several hogsheads of the best South-Ham cyder. During the next cruise, each scorbutic patient had daily a quart or three pints of cyder; and as many of them as I could prevail on, took twice a-week three quarters of a pint of sea-water in a morning. In all other respects I treated them as I used to do people in the scurvy ; which you well know, from the conversation which has often passed betwixt us on this subject, was with squill vomits, pills composed of soap, squills, garlic, &c. *elixir vitriol*, and other medicines suited to the different stages and symptoms of the malady. In one word, we had this cruise as many scorbutic patients as any other ship in proportion to our complement of men. But although all the rest buried a great many, some to the number of 20, others 30, 40, 50, and upwards ; yet the *Yarmouth* did not bury more than two or three ; and these at the latter end of the cruise, all our cyder having been expended for a week or ten days before. Upon our arrival at port, we sent to the hospital a great many in very dreadful circumstances.

quotidian ague in the latter end of September, had taken the *elixir vitriol* by way of restorative for three weeks ; and yet at length contracted the disease, while under a course of a medicine recommended for its prevention.

There was no remarkable alteration upon those who took the electuary and tamarind decoction, the sea-water, or vinegar, upon comparing their condition, at the end of the fortnight, with others who had taken nothing but a little lenitive electuary and *cremor tartar*, at times, in order to keep their belly open ; or a gentle pectoral in the evening, for relief of their breast. Only one of them, while taking the vinegar, fell into a gentle flux at the end of ten days. This I attributed to the genius and course of the disease, rather than to the use of the medicine. As I shall have occasion elsewhere to take notice of the effects of other medicines in this disease, I shall here only observe, that the result of all my experiments was, that oranges and lemons were the most effectual remedies for this distemper at sea. I am apt to think oranges preferable to lemons, though perhaps both given together will be found most serviceable.

It may be now proper to confirm the efficacy of these fruits by the experience of others. The first proof that I shall produce, is borrowed from the learned Dr Mead.¹

'One year when that brave Admiral Sir Charles Wager commanded our fleet in the Baltic, his sailors were terribly afflicted with the scurvy : but he observed, that the Dutch ships then in company were much more free from this disease. He could impute this to nothing but their different food ...

¹ *Discourse on the scurry*, p. 111

A TREATISE OF THE SCURVY

IN THREE PARTS

*Containing an inquiry into the Nature, Causes,
and Cure, of that Disease
together with a Critical and Chronological View
of what has been published
on the subject*

BY

JAMES LIND, M.D.

Fellow of the Royal College of Physicians
in Edinburgh

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LIND'S TREATISE ON SCURVY

*A Bicentenary Volume
containing a reprint of the First Edition of
A TREATISE OF THE SCURVY
by James Lind, M.D.
with Additional Notes*

EDITED BY

C. P. STEWART, PH.D., D.SC.

AND

DOUGLAS GUTHRIE, M.D., F.R.C.S.E

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CONTENTS

	PAGE
EDITORS' FOREWORD	V
A TREATISE OF THE SCURVY BY JAMES LIND, M.D.	
Preface	5
PART I	
CHAP.	
I A critical history of the different accounts of this disease	11
II. Of its several divisions, viz. into scurvies cold and hot, acid and alkaline, &c.	38
III. Of the distinction commonly made into a land and sea scurvy	52
IV. Of the scurvy being connate, hereditary, and infectious	64
PART II	
I. The true causes of the disease, from observations made upon it, both at sea and land	69
II. The diagnostics, or signs	113
III. The prognostics	133
IV. The <i>prophylaxis</i> , or means of preventing this disease, especially at sea	137
V. The cure of the disease, and its symptoms	178
VI. The theory	201
VII. Dissections	227
VIII. The nature of the symptoms, explained and deduced from the foregoing theory and dissections	232

PART III

CHAP.		PAGE
I.	Passages in ancient authors, supposed to refer to this disease; together with the first accounts of it	249
II.	<i>Bibliotheca scorbutica</i> : or, A chronological view of what has hitherto been published on the scurvy	262
	Appendix	349
	A Chronological Index of Authors	352
	An Alphabetical Index of Authors, &c.	355

ADDITIONAL NOTES—BIOGRAPHICAL
AND TECHNICAL

I.	The Third Edition of the <i>Treatise</i> By C. P. Stewart, PH.D., D.SC., Reader in Clinical Chemistry, University of Edinburgh	361
II.	The Lind Tradition in the Royal Naval Medical Service By Surgeon Vice-Admiral Sir Sheldon F. Dudley, K.C.B., M.D., F.R.C.P., F.R.C.S.E., F.R.S., Medical Director-General of the Royal Navy, 1941-5	369
III.	James Lind and Some of His Contemporaries By Douglas Guthrie, M.D., F.R.C.S.E., Lecturer in History of Medicine, University of Edinburgh, and A. P. Meiklejohn, M.A., B.SC., D.M., M.R.C.P., Senior Lecturer in Nutrition, University of Edinburgh	387
IV.	Scurvy in the Nineteenth Century and After By C. P. Stewart	404
V.	The Chemistry of Vitamin-C By E. L. Hirst, M.A., D.SC., LL.D., F.R.S., Professor of Organic Chemistry, University of Edinburgh	413
VI.	The Role of Ascorbic Acid in the Human Body By A. P. Meiklejohn, C. P. Stewart, and R. Passmore, M.A., D.M., Senior Lecturer in Physiology, University of Edinburgh	425

ILLUSTRATIONS

JAMES LIND, M.D.

Frontispiece

From an engraving by I. Wright from a painting by Sir George Chalmers, Bart. (1783). The engraving forms the Frontispiece to the copy of Lind's *Essay on Diseases incidental to Europeans in Hot Climates* in the library of Haslar Hospital. The signature is from Lind's letter to Sir Alexander Dick.

FACING PAGE

TITLE-PAGE OF THE FIRST EDITION i

H.M.S. *SALISBURY* 359

LETTER FROM JAMES LIND TO SIR ALEXANDER DICK 391

In this letter, dated 18th May 1758, Lind resigns the Treasurership of the Royal College of Physicians of Edinburgh on his appointment as Physician to Haslar Hospital.

GENEALOGY OF JAMES LIND PAGE
388