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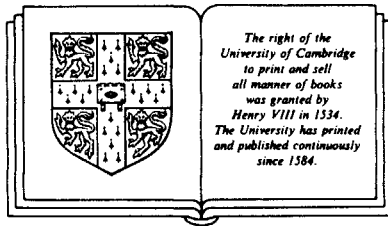
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THE HISTORY OF SCURVY AND VITAMIN C

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Preface

If we exclude straightforward famine, scurvy is probably the nutritional deficiency disease that has caused most suffering in recorded history.

This book sets out to describe the work of a relatively small number of people who tried to understand the cause of this strange disease and to find the means of its prevention and cure. It is a story that can be followed without any special background in science, and illustrates the historical development of a scientific approach to a practical problem. We see the repeated assertion of theory after theory, which at first seemed only to impede progress, but eventually led to a dramatic success. We also see a succession of eminent people playing the roles of heroes or villains in this story, sometimes with surprising casting.

No attempt has been made to catalog every outbreak of scurvy, or to delve into either the detailed changes seen in the tissues of a sufferer or the exact biochemical functions discovered for the vitamin that finally emerged. Rather, the book sets out to record the arguments and the logic, and the observations on which they were based, that led to the various theories, and finally to the isolation and synthesis of vitamin C (ascorbic acid).

I have also tried to summarize the modern claims made for the use of ascorbic acid at very high levels, and the most important evidence for and against the practice, without giving any personal opinion in the matter.

Any writer on a subject such as this is in debt to, and becomes filled with respect for, the work of earlier scholars. In this field, James Lind in the eighteenth century and Hirsch and Mahé in the nineteenth century have given us examples of the objective reporting of other people's observations and conclusions. Of the writers in this century, I have felt particularly indebted to Keevil, Lloyd, and Coulter for their four-volume work, *Medicine and the Navy 1200–1900*, to Stewart and Guthrie for their bicentennial edition of Lind's 1753 *Treatise*, to R. E. Hughes for his reassessments of old remedies, and to Surgeon Vice-Admiral Sir James Watt for his writings on

the medical problems of eighteenth-century exploration at sea. In a book of this kind, one cannot keep telling the reader that one agrees with another reviewer's interpretation of a primary source; in my effort to avoid this, I am aware that I may have given the reader a distorted view, by citing others mainly when venturing to disagree with them on a point.

Again, collecting material for this book has taught me to appreciate even more the work of many generations of scholars, librarians, and donors, who have built up our present library resources so that it is now possible to have such ready access to past writing. I am particularly indebted to the University of California Library system with its excellent Interlibrary Loan Service and to the Wellcome Institute for the History of Medicine, the Royal Society of Medicine in London, and the Scott Polar Institute in Cambridge for advice and the use of their libraries.

I am most grateful to Dr. John Heilbron and his colleagues for providing a congenial working environment for this project in the Office for the History of Science and Technology at Berkeley. My wife, Antonina, has helped me in translating from Latin, and my colleagues, Marc Schelstraete and Janet Eatherton, in translating from Dutch and Danish, respectively. Others who have gone out of their way to provide specific points of information include Professor H. H. Draper of the University of Guelph, Dr. D. H. Hornig of Hoffman-La-Roche, Basel, and Dr. S. Nagy of the Florida Department of Citrus. Finally, Gwen McIntosh cheerfully did the major work of putting the handwritten manuscript and bibliography, with its successive revisions, onto a word processor.

To reduce the bulk of footnotes, I have used the same footnote number more than once within a chapter if a single note documents more than one item.