PREFACE TO
THE SCIENCE OF ASCORBATE

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This is a book about the science of vitamin C (ascorbate), with particular emphasis on its use for treating and preventing disease. Our aim is to help people understand the controversy that currently surrounds this vitamin.

A large number of publications advocate the use of vitamin C supplements for good health and, in higher doses, as a treatment for disease. In this book, however, it is not our intention to promote the use of vitamin C as a treatment for any particular condition. In the event that a reader wishes to try vitamin C as a treatment for some condition, we must suggest that they first consult a physician. Medical guidance is essential for the treatment of significant disease and, for example, it is necessary to have an accurate diagnosis in order to determine the appropriate treatment.

While high doses of vitamin C are normally safe, there are exceptions in certain disease states and genetic conditions. There may also be dangers in treating some forms of cancer; reports suggest that in some patients it may kill the tumour too quickly, producing necrosis and toxicity. In particular, medically qualified practitioners should carry out the administration of intravenous sodium ascorbate.

Nutritional supplementation, on the other hand, is a matter of personal choice; doctors often have little training in this area. The purpose of this book is to allow readers to reach an informed judgement about the health claims made for vitamin C. When considering large dose supplements, it is wise to ensure that the person does not have one of the few contraindications, such as iron overload or kidney disease. While medical assistance is important in treating disease, our view on supplementation is that until doctors have carried out the necessary research, they would do well to resist pontificating about a person's right to good nutrition.

The Nobel Prize winning physicist, Richard Feynman, used to say that if you really understood something you could explain it in a simple way. Our aim in this book is to present a straightforward and balanced account of the complex actions and potential uses of vitamin C. In some parts, the biochemistry is complicated, although we have tried to make it as simple as possible without introducing error. We hope that intelligent members of the public will be able to read the book without too much effort, even if they have not had a scientific education. We have also taken account of the needs of medical practitioners, who may be interested in the subject. Although the arguments are sophisticated, we have tried to represent them as clearly and simply as possible. We assume that scientists who read the book will be able to fill in the finer detail for themselves.

We have tried to make a difficult subject readable, while maintaining a high degree of accuracy. Many references are included, which should make it easier for the reader to follow up specific points. In referring to research papers, we have sometimes used the first or main author's name to represent a research group, as using et al or "and colleagues" disrupts the flow.

We hope the other members of these research groups will not be offended; we do not mean to imply that a collaborative effort is the result of one person's work.

In most cases, we have referenced specific research papers but occasionally we have included only a representative example. We have largely limited the discussion of specific illnesses to heart disease, infections and cancer: the largest killers in the industrial world. The list of diseases that may be influenced by vitamin C supplementation or treatment is much larger.

The primary aim of this book is to provide insight into an area of nutrition where rigorous science is generally lacking. Vitamin C was controversial long before Linus Pauling started to promote its use. Despite this, we still await well-designed experiments to determine the biological properties of the vitamin. Several researchers have suggested to us that the reason for this is that the questions are not particularly interesting, or are unlikely to produce positive results. To these, we would point out that it is unscientific to assume the results of experiments before they have been performed.

Others suggest that commercial, institutional and financial forces actively prevent such research, at the expense of a sick population. Some critics have gone as far as to describe the actions of these influences as genocide. Our aim is to present a wide-ranging evaluation of the facts, so that the reader may come to their own conclusions.