

Preface

This book has a curious history. It evolved, like its subject, from a much simpler beginning. Both the authors have had long-standing common interests in the proteins and processes of oxygen transport in animals. During a sabbatical year that KvH spent in the laboratory of HD, our discussions broadened to encompass the much deeper question as to how oxygen transport, and indeed oxygen utilization, were related to the evolution of life. As we considered the geological and paleontological evidence, it became clear that changes in the earth's atmosphere and biological evolution have been, and continue to be, interrelated in complex and fascinating ways. Furthermore, these relationships have important implications for human health and humanity's future.

Thus, the book grew outward from its original focus on oxygen transport, sometimes into areas in which we must confess less confidence than we would like. But, we must ask the reader's indulgence, for we feel that the fascination of the whole story such that it is vital to try to tell it.

One of us (KvH) wishes to express his thanks to the Alexander von Humboldt Foundation, whose generous support allowed the sabbatical in the Decker laboratory. Later, both started the book at the stimulating environment of the Marine Biological Laboratory at Woods Hole where HD spent his sabbatical.

Some readers may find Chapter 1 daunting, with too much dry chemistry. Skip it if you wish! Although we feel that it provides a useful background for the rest of the book, most of the following Chapters can be read intelligently without this material.

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