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This book is based on a series of lectures delivered under the auspices of the University of Siena. The contents reflect and delineate the author's biochemical research. In particular, the book focuses on the special role played by bound carbohydrates in nature. The complexity of these enigmatic compounds is examined through special case studies including glycoproteins and the metabolism of sialic acids. This book will be of interest, not only to those working in biochemistry and molecular biology, but also to those in the pharmaceutical industry. It provides an entertaining and first hand account for researchers and graduate students.

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For Eve

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Preface

This short book does not pretend to be a scrupulously documented, comprehensive survey of our vast and expanding knowledge of the bound carbohydrates; it is neither a broad survey nor is it detailed. The reader is often referred to a review that covers a topic under discussion so that full credits are not given in detail. I have covered only those topics with which I have grappled trying to acquire new information by experimentation and analysis. I include other subjects because they have, over the years, intrigued me. For the most part, what is presented here is the subject matter of six lectures presented to the Italian Academy of Sciences at the University of Siena, Italy, 27–30 April 1992. I am particularly grateful to Professor Baccio Baccetti of the University of Siena for his kind invitation and to IBM and the University for their support.

What I present closely reflects and delineates my career in biochemical research at the National Institutes of Health, Bethesda, MD and then at the University of Pennsylvania and the Wistar Institute, Philadelphia, PA. The pattern of thinking and the experimental approach of a research worker is often strongly influenced by a first experience in research: an imprinting process. So it was with me when I began to work in the 1950s in the laboratory of J.M. Buchanan at MIT establishing some reactions involved in purine biosynthesis. Those were exciting days, immersed as I was in the lore of enzyme reactions and intermediary metabolism, and from this source evolved my subsequent interests and biases. I hope that this small book captures some of the flavor of my daily concerns.

LEONARD WARREN
Philadelphia, April 1992

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