terest to the professionals. Here is a short summary of new directions and aspirations at a technical level that gives the lie to the oft-expressed supposition that the fertile imagination goes first, usually by age 30.

The writing has an engaging quality, conversational, if not chatty, rather than studied. One gets the impression that the manuscript was, at least in part, created in recording sessions. Less satisfying is the fact that sometimes a sequence of episodes is not smoothly joined, so that on occasion the author's unabashedness makes the treatment seem more discrete than discreet. Maxwell Evarts Perkins would no doubt have enjoyed coping with the manuscript. A collection of 25 photographs lends a personal touch in another dimension.

The book captures the spirit and tenor of scientific interaction in a succinct and piquant manner. It will not, however, meet the historiographer's criteria for a well-documented publication; the author remarks that he has never kept notes or a diary of any kind. But no one will deny that here is a fascinating kaleidoscope of an exciting time.

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Agglutinins and Precipitins

Receptor-Specific Proteins. Plant and Animal Lectins. EDWIN R. GOLD and PETER BALDING. Excerpta Medica, Amsterdam, and Elsevier, New York, 1975. xiv, 440 pp., illus. $51.95.

Interest on the part of biomedical researchers in the properties and uses of lectins has led to a large body of literature dealing with a diversity of organisms and spanning the areas of virology, microbiology, biochemistry, oncology, and cell biology. Gold and Balding have attempted to unify the literature in a single text. In so doing, they group these proteins under the heading "receptor-specific proteins," a term whose definition they find elusive but which in most cases discussed refers to proteins of a non-immunoglobulin-like structure capable of agglutinating particulate matter or specifically precipitating with soluble substances.

In order to make the monograph readable to a wide audience the authors begin by defining important terms and abbreviations used in the book. The body of the text consists of chapters that discuss receptor-specific proteins of viruses, prokaryotes, algae and related organisms, plants, Protozoa and Porifera, and invertebrates, the Mollusca being accorded a chapter of their own. A chapter on immunoglobulin and immunoglobulin-like proteins of lower vertebrates is included to lend continuity to the discussion of the relationship of receptor-specific proteins to immunoglobulins of higher vertebrates. Each chapter is introduced with a taxonomical account of the group it deals with. This is followed by a historical account of research on the receptor-specific proteins of the group, after which the authors give a brief overview. Gold and Balding often include tables summarizing the properties of proteins discussed. The literature covered for the viral, plant, and mollusk agglutinins and precipitins is extensive, though, as the authors admit, the chapter on plant lectins is incomplete. The coverage extends only into 1973, but addenda to each chapter summarize pertinent research reported through 1974.

The strength of this book lies in its scope. It represents the first attempt to bring together the research literature on agglutinins and precipitins from organisms of different kingdoms and phyla, and it may facilitate exchange of information among researchers oriented toward different groups of lectins or agglutinins.

The weakness of the book lies in its unevenness. The authors include a brief descriptive statement about the relationship of sialic acid to acetylneuraminic acid, but neglect to describe the structural characteristics of the A, B, H, and MN blood group determinants. Similarly, they write a lengthy discourse on the derivation of the term "pili" in the discussion of bacterial agglutinins, but give little explanation of the terms and events presented in a schematic diagram relating the effects of concanavalin A and succinylated concanavalin A on the mobility of lymphocyte receptors. For the most part Gold and Balding represent the findings in the literature with fidelity, but they rarely note or comment on inconsistencies or conflicting reports. For example, there is no discussion of the work that calls into question the validity of the x-ray crystallographic model of concanavalin A advocated by G. M. Edelman, a model that is a central element in their presentation of plant lectins.

Though the authors, particularly Gold, have experience with agglutinins and precipitins from many sources, this large, diverse literature would better have been treated by individuals expert on the particular categories of proteins covered or on their specific structural, functional, or biological properties.

In general, this text is a good source of general information about these proteins, but must be read with a critical eye.

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Atmospheric Physics

Atmospheres of Earth and the Planets. Proceedings of an institute, Liege, Belgium, July 1974. B. M. MCCORMAC, Ed. Reidel, Boston, 1975. viii, 456 pp., illus. $65. Astrophysics and Space Science Library, vol. 51.

This volume is a collection of 32 review papers on atmospheric physics based on lectures presented at what was apparently the last of a series of annual international institutes held at various European sites. The success of these institutes is demonstrated by the number of eminent researchers McCormac, who organized them, managed to attract. I have little doubt that this volume could prove in time to be a minor classic in its field.

The articles cover six major subject areas: physical processes, structure and composition, laboratory measurements of rate coefficients, modeling, optical observations, and the atmospheres of other planets. An introductory summary emphasizes the new developments in each area. The collection will be quite useful to graduate students and others just entering the field and to physicists and chemists who want authoritative and up-to-date summaries of atmospheric physics.

Although most of the articles concentrate on recent advances, the collection is especially remarkable for several in-depth articles on physical processes. J. C. G. Walker gives a basic discussion of vertical structure; D. M. Hunten has written a clear discussion of vertical transport and the concept of eddy diffusion; C. B. Leovy discusses radiative and dynamical heating and cooling; H. Kohl summarizes ionospheric winds and the role of electric fields; R. P. Wayne and F. Kaufman present basic discussions of reaction-rate theory and laboratory techniques respectively; E. E. Ferguson reviews the *D*- and *E*-region chemistry of positive and negative ions; G. Kockarts and J. S. Nisbet develop the concepts of models of the neutral atmosphere and the ionosphere, respectively. Each of these articles is clearly written (or has been skillfully edited).