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## Discoveries in Photosynthesis

"**Life Is Bottled Sunshine**" [Wynwood Reade, *Martyrdom of Man*, 1924]. This inspired phrase is a four-word summary of the significance of photosynthesis for life on earth. The study of photosynthesis has attracted the attention of a legion of biologists, biochemists, chemists and physicists for over 200 years. **Discoveries in Photosynthesis** presents a sweeping overview of the history of photosynthesis investigations, and detailed accounts of research progress in all aspects of the most complex bioenergetic process in living organisms. Conceived of as a way of summarizing the history of research advances in photosynthesis as of millennium 2000, the book evolved into a majestic and encyclopedic saga involving all of the basic sciences. The book contains 111 papers, authored by 132 scientists from 19 countries. It includes overviews; timelines; tributes; minireviews on excitation energy transfer, reaction centers, oxygen evolution, light-harvesting and pigment-protein complexes, electron transport and ATP synthesis, techniques and applications, biogenesis and membrane architecture, reductive and assimilatory processes, transport, regulation and adaptation, Genetics, and Evolution; laboratories and national perspectives; and retrospectives that end in a list of photosynthesis symposia, books and conferences. Informal and formal photographs of scientists make it a wonderful book to have. This book is meant not only for the researchers and graduate students, but also for advanced undergraduates in Plant Biology, Microbiology, Cell Biology, Biochemistry, Biophysics and History of Science.

### From the reviews:

"This book is a unique example of the tale of the historic development of a fascinating branch of contemporary science as told by the protagonists themselves. Professor Govindjee and his co-editors have done a magnificent work by producing an impressive lively picture of how the knowledge on Photosynthesis progressed during the twentieth century. The book will be of great value not only for the specialists of the subject but also for students and scholars interested in understanding the essence of the trial and error process governing modern science."

(*Giovanni Giacometti, Professor Emeritus of Physical Chemistry, Dept. of Chemical Sciences, University of Padova, Italy*)

"The book 'Discoveries in Photosynthesis', edited by Govindjee, J. Thomas Beatty, Howard Gest and John F. Allen, is a remarkable Encyclopedia of Research in Photosynthesis, its discoveries, and its difficulties during the last century. Biologists, biochemists, physicists and molecular biologists were involved with their successes, as well as their failures, in putting together today's overall picture of this uniquely important physiological process, on which life on this planet depends. This book should not be missed by anyone interested in photosynthesis: It is a must for all libraries around the World."

(*Giorgio Forti, Professor of Biology, University of Milano, Italy*)

"A wonderful collection of the most interesting articles on all aspects of photosynthesis. The personal perspectives are delightful, it is truly a "must own" book for its focus on the personal historical context surrounding most of the important breakthroughs in photosynthesis research."

(*Douglas Bruce, Professor of Biological Sciences, Brock University, St. Catharines, ON, Canada*)

p.t.o.

"Discoveries in Photosynthesis, edited by Govindjee, J.T. Beatty, H. Gest and J.F. Allen, is a splendid compendium of the great leaps forward in the research on photosynthesis, paralleling the advances in technology for the study of the life sciences in general. From the early use of isotopes to the electron microscope, the mechanisms of solar energy conversion are defined by over 100 authors—A must reading for scholars in the field of plant sciences & of microbiology, as well as those interested in the history of science."

(*R. Clinton Fuller, Professor Emeritus, Department of Biochemistry, University of Massachusetts, Amherst, USA*)

"Congratulations on another volume in the Advances in Photosynthesis and Respiration (AIPH) series. Govindjee's mentor Eugene Rabinowitch wrote the story of photosynthesis in the 1940s and 1950s. No one could ever hope to do that again; the amount of information is just too vast for any one person to ever hope to do a proper job of giving the real state of knowledge. However, Govindjee has really duplicated Rabinowitch's accomplishment in the only way it could be done nowadays, by enlisting editors who are experts in areas of the field and having them in turn enlist expert authors. When I look at the AIPH books on my shelf I am struck with how effectively they collectively summarize the field. I am continually impressed with how Govindjee has added new books to the series that make sense and really provide the level of detail that is needed."

(*Robert Blankenship, Professor of Chemistry and Biochemistry, Arizona State University, Tempe, USA*)

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