al satisfactions of a job well done, while emphasis is given to recognition from the public, from peers, and from posterity. Despite the obvious and constant reliance of theory on observation, the former is presented as the more worthy activity.

The book is aimed at a general audience. The authors expect it will prove most useful to college students taking introductory astronomy courses for nonscience majors.

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Symbioses

The Biology of Symbiotic Fungi. RODERIC COOKE. Wiley, New York, 1977. xii, 282 pp., illus. $22.95.

Fungal symbiosis is currently of much interest in biology. Cooke has presented this important, but often misinterpreted, phenomenon in a timely and concise book for undergraduate and postgraduate students.

Dealing with both animals and plants, Cooke defines the concepts of fungal symbiosis broadly, in line with modern thinking and research on the subject. He writes in the preface that he has accepted "de Bary's original broad concept of symbiosis as meaning simply 'living together.' " The difficulties and fallacies of past concepts of symbiosis are discussed, as well as the problems inherent in modern approaches.

The book begins with a section on concepts of fungal symbiosis, in which the classification of symbiotic fungi is discussed. There are sections on antagonistic, neutral, and mutualistic symbioses with animals, on antagonistic and mutualistic symbioses with plants, and on interfungal symbioses. Cooke gives "rather more detail" about the symbioses between fungi and animals than he does about the symbioses between fungi and plants because, as he says, the former "are the least familiar, and the literature concerning them is frequently not easily available."

Each chapter treats a specific type of fungal symbiosis, with discussions, for the most part clear and to the point, of the taxonomy and morphology of the fungus and the ecological, physical, and physiological aspects of the symbiotic relationship. Although slightly skewed in favor of the physiological, the discussion is reasonably well balanced between the different aspects of these unique relationships. In addition, many chapters include discussions of the use and potential use of certain symbiotic fungi as biological control agents.

The majority of the chapters are illustrated with line drawings, photographs, and electron micrographs, although many of the photomicrographs and electron micrographs are poorly reproduced—an unfortunate flaw in an otherwise error-free book.

Cooke writes in the preface that the book is intended to be a concise treatment of fungal symbiosis that draws together literature from a large number of sources, many of which are not readily accessible. He has succeeded in his goal.

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Steroid Hormones

Biochemical Actions of Progesterone and Progestins. Papers from a meeting, New York, May 1976. ERLIO GURPIDE, Ed. New York Academy of Sciences, New York, 1977. vi, 450 pp., illus. Paper, $41. Annals of the New York Academy of Sciences, vol. 286.

Although publications derived from conferences often lack coherence and immediacy, those responsible for this volume have assembled a series of generally timely papers of high quality on specific research projects concerned with progesterone-protein interaction, steroid hormone receptors, and the consequent mechanisms of action.

Of special note are the papers from O'Malley's group, one of which indicates that chick oviduct progesterone receptors have a molecular weight of 200,000 and a structure of two dissimilar steroid binding subunits. There are also papers on the effect of progesterone receptors on transcription and the interaction of progesterone receptors with chromatin. The report from Schimke *et al.* on ovalbumin synthesis raises questions about the hypothesis that steroid hormone action is directed solely through transcription of specific messenger RNA's and indicates possible alternatives through control of utilization of mRNA's.

There is a section on studies of progesterone receptors in breast cancer, including attempts to use these receptors in addition to estrogen receptors as a basis for selecting patients for hormonal therapy.

Recent work on the regulation of receptor synthesis and replenishment by hormonal manipulation is covered in a series of papers that introduce additional factors that play a role in the control of steroid hormone action. It has been shown that estrogen stimulates progesterone receptor protein formation and that progesterone then decreases cytoplasmic estrogen receptors as well as its own receptor. An understanding of the synergistic and antagonistic interactions of these two steroids may be emerging.

The remaining papers in the volume cover studies, at various levels of biological organization, of a wide range of progesterone effects, including action in the central nervous system, action during pregnancy, and glucose and lipid metabolism in humans.

In all, the book is representative of some of the best work being done on progesterone binding and action. Unanswered questions and controversies are evident from the range of papers and the short discussions that follow each. Reading the volume is a convenient way to survey the state of the field.

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Advances in Enzyme Regulation. Vol. 15. Proceedings of a symposium, Indianapolis, Sept. 1976. George Weber and Catherine E. Forrest Weber, Eds. Pergamon, New York, 1977, xvi, 452 pp., illus. $60. *To order this book circle No. 386 on Readers' Service Card.*

Air Pollution. Phytotoxicity of Acidic Gases and Its Significance in Air Pollution Control. Robert Guderian. Translated from the German by C. Jeffrey Brandt. Springer-Verlag, New York, 1977. viii, 130 pp., illus. $24.80. Ecological Studies, vol. 22. *To order this book circle No. 362 on Readers' Service Card.*

Annual Review of Birth Defects, 1976. Proceedings of a conference, Vancouver, B.C., Canada, June 1976. Daniel Bergsma and R. Brian Lowry, Eds. Liss, New York, 1977. 4 parts, illus. Part A, Numerical Taxonomy of Birth Defects and Polygenic Disorders. xiv, 164 pp. $20. Part B, New Syndromes. xvi, 268

(Continued on page 809)