and more laborious than was thought originally. The chapters on the mechanism of formation and action of interferon likewise reflect the complexity of these processes.

The problems inherent in the assays used to measure interferon activity are discussed at length. An argument is made for calibrating laboratory reference interferons against national research standard interferons, so that potencies of all interferons from one animal species could be given in terms of a common "international unit" and results from different laboratories could be compared directly. This is undeniably the ideal goal. Unfortunately, the book does not deal with the question whether, with the current state of the art of interferon assays and without a rigorously defined reference unit, it might be better to report uncorrected titers with comparisons with national standards rather than merely corrected titers.

Considerable information is provided about interferon inducers, especially the nonviral inducers which have been receiving increased attention for potential clinical development. The synthetic polyribonucleotide inducers of antiviral resistance had not been discovered in 1966 when the previous edition was published; the antiviral, toxic, and other pharmacologic properties of this group of inducers are discussed extensively in the new one. The treatment of low-molecular-weight interferon inducers, such as tilorone, is also quite inclusive through the literature of 1971. The relationship of these nonviral inducers and interferon to growth of viruses and other agents (*Chlamydia*, Protozoa, *Rickettsia*, and bacteria) is covered in detail. Several contributors emphasize the pleiotropic effects of these nonviral inducers; the close relationship of inducers and interferon to the reticuloendothelial system and the immune system is noted. There is an excellent discussion of the relative advantages and disadvantages of the use of inducers and of exogenous interferon in treatment of viral diseases in humans.

Of particular value is the chapter on interferon, tumors, and tumor viruses. Here M. N. Oxman has attempted, with considerable success, to provide a critical review of available information concerning the interactions of interferons and inducers with tumor cells and with oncogenic viruses and the factors that must be considered in designing and evaluating experiments investigating these interactions. The general conclusion is that tumor viruses, like other viruses, vary in ability to induce interferon and in sensitivity to its action. The interferon system itself appears likely to be one of several host defenses that contribute to natural resistance to viral neoplasia, and interferon inducers or exogenous interferon preparations should be considered for controlled studies in selected cancer patients.

Research on interferon is still growing rapidly, and, as K. H. Fantes writes in one chapter, "new findings have often uncovered new difficulties instead of overcoming old ones." However, a volume of this nature provides the opportunity for reflecting on the overall progress that has been made over the last 16 years. The contributors have attempted, with varying degrees of success, to come to grips with the expanding and conflicting literature. At times the reader (particularly if he is not directly in the field) would benefit from greater attempts at clarification and evaluation of the available information. However, the volume is the most complete source available of general information about interferon. Finter and the other contributors can be assured that it will serve as a valuable reference.

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Parasites

The Coccidia. *Eimeria, Isospora, Toxoplasma,* and Related Genera. DATUS M. HAMMOND and PETER L. LONG, Eds. University Park Press, Baltimore, and Butterworths, London, 1973. x, 482 pp., illus. $24.50.

This book is concerned with members of the order Eucoccidiorida, which contains protozoan parasites of man and of domestic and wild animals and birds. From an economic standpoint this is an important group to the livestock industry, particularly cattle and poultry producers. Research in the past three years has confirmed the coccidian nature of the ubiquitous parasite *Toxoplasma gondii.* This parasite and *Isospora* species are pathogens of man.

The book contains 10 chapters, each by a well-known researcher who summarizes his own work and that of others in the field. The chapters cover history and taxonomy, host and site specificity, life cycles and development, ultrastructure, cytochemistry, and physiology and biochemistry of the Coccidia, as well as cultivation in avian embryos and cell cultures, pathology, pathogenicity, immunity, and techniques used for the study of Coccidia. One chapter deals with *Toxoplasma* and related organisms.

In the preface Datus Hammond states that the book is an attempt to provide an up-to-date coverage of the general aspects of the Coccidia and their relationships with their hosts. This objective has been well accomplished. Although most of the information has been published elsewhere, a comprehensive review of the biology of the Coccidia has not been attempted since 1934. To my knowledge this is the first time that a detailed history of the flux of the taxonomic status of the Coccidia has been written, and the chapter on techniques is also the first review of its subject. In the preface it is stated that no detailed consideration is given to chemotherapy because the subject could not be adequately covered in a single chapter. It is unfortunate that chemotherapy is not considered in an otherwise comprehensive review.

The book is well done in that errors or misstatements are rare. Figures are used throughout the book, and most of them are of high quality, especially the photomicrographs and electron micrographs. The book will prove useful not only to researchers dealing with Coccidia but to other biologists as well. I regret that such an excellent review of the literature on the Coccidia was not available when I began to work with this important group of parasites.

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Books Received

Abstract Algebra. A First Course. Larry Joel Goldstein. Prentice-Hall, Englewood Cliffs, N.J., 1973. xiv, 336 pp., illus. $11.95.

ACFAS. 41e Congrès. Résumés des Communications. Association Canadienne-Française pour l'Avancement des Sciences, Montreal, 1973. 160 pp., illus. Paper, C$1.50. Annales de l'ACFAS, vol. 40.

Acoustics. Historical and Philosophical Development. R. Bruce Lindsay, Ed. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1973. xiv, 466 pp., illus. $24. Benchmark Papers in Acoustics.

Advances in Heterocyclic Chemistry. Vol. 15. A. R. Katritzky and A. J. Boulton, Eds. Academic Press, New York, 1973. xxii, 350 pp., illus. $28.50.

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