Edited by Salvatore Butera
Norwich, United Kingdom: Caister Academic Press, 2006. 309 pp., illustrated. $220.00 (hardcover).

This book is edited by Salvatore Butera with a foreword by Robert Schooley. It comprises an ambitious, broad-ranging review of the many factors impacting HIV disease outcomes. Because the book is titled HIV Chemotherapy: A Critical Review, it may be anticipated by some readers that this work would be exclusively devoted to the details of individual antiretroviral drugs and include their specific safety and efficacy profiles. Instead, this useful review focuses on the broader aspects of HIV infection and therapy from a perspective that is closer to that of an HIV researcher than that of a primary care physician; for example, there are chapters on the implications of the HIV-1 mutation rate for drug resistance and fitness, immune-based therapies, the clearance of cellular reservoirs, and cellular factors as targets for HIV chemotherapy.

The individual authors write with authority on their various topics. The style is very readable, being generally factual and terse, and the work is generally well referenced. The book is divided into 4 sections: issues in clinical management, issues related to drug resistance, implementation of antiretroviral programs in developing countries, and new antiviral targets. Certain chapters merit specific comment. The chapter “Progress in Treatment” by Marks and Gulick provides a very thorough and timely review of the evolution of HIV antiretrovirals from the beginning of the earliest HIV therapeutics through the current phase of more-potent combination antiretrovirals. Daucher and Dybul write on antiretroviral treatment interruption. As a therapeutic strategy, this has largely fallen out of favor because of the findings of the Community Programs for Clinical Research on AIDS 064 study and subsequent studies. However, it continues to be studied in the context of HIV research. The chapter provides a useful summary of the hypotheses underlying treatment interruption and the outcomes of specific early studies.

The chapter “Entry Inhibitors and Beyond,” written by Derdeyn and Hunter and colleagues, is particularly timely given the current intense focus on new targets for HIV therapeutics, such as viral entry and the process of integration. The chapter provides a clear, detailed, and very useful review of the viral processes involved and the emergence of the early compounds directed against these targets. An anticipated disadvantage of this latter review is that this field is moving so quickly that some elements of this section may become outdated relatively quickly.

The chapter on HIV-1 phenotypic and genotypic drug resistance by Palmer is relatively modest in its scope and depth, concentrating largely on the technical features of distinct resistance technologies, rather than on the clinical applications of these technologies. The chapter by Nkengasong and Weidle on implementing antiretroviral therapy in developing countries, by comparison, deals less with the potential merits of specific drug strategies but is more forward looking. It focuses largely on the potential hurdles faced by implementation of large-scale testing, therapy, and disease monitoring. The following chapter from Bulterys on the use of antiretroviral drugs to prevent mother-to-child HIV-1 transmission in resource-poor regions with a high prevalence of HIV infection nicely summarizes the recent data regarding this highly important intervention and also discusses potential large-scale implementation strategies.

One trade-off for the smaller size of the book is the relative paucity of illustrations. This is a minor criticism, however. Missing from the review are discussions of the impact and relevance of pharmacokinetics, non-B HIV clades, and transmitted drug resistance. These topics might have fit quite nicely with the broad-ranging nature of the review. That said, the book will be very useful to those individuals who are experienced in the fields of both HIV treatment and research who wish to review familiar topics and broaden their understanding of others.

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The Comprehensive Sourcebook of Bacterial Protein Toxins
Edited by Joseph E. Alouf and Michael R. Popoff

The title of this book says it all—this volume is encyclopedic, thorough, and as complete as any book of this type could be. This revised edition has 62 chapters written by 137 international authors and coauthors, 55% of whom are new contributors. I teach an advanced course on bacterial toxins to science sophister students. This is a source book for all, including everyone from microbiologists to
cell biologists, biochemists to physiologists, and medical students to postgraduate students.

In the first chapter, Joseph Alouf reviews 116 years of toxinology in his own inimitable style. The book is then divided into 5 sections. Section 1, comprising 10 chapters, deals with general areas of toxinology, such as mobile genetic elements and pathogenicity islands, genetic regulation, toxin secretion, toxin receptors, intracellular trafficking, and commonalities and differences in the interactions of toxins with the actin cytoskeleton, mitochondrial, and Rho GTPases. All of the contributors of these chapters have made painstaking efforts to pull together strands of information in a highly readable manner.

Section 2 deals with toxins acting in the intracellular compartments of eukaryotic cells. A skillfully crafted chapter sets the scene on adenosine diphosphate ribosylating toxins, emphasizing their molecular, functional, and evolutionary aspects. This is followed by 4 erudite contributions on diphtheria toxin, toxins of *Escherichia coli* and *Pseudomonas aeruginosa*, cholera toxin, and heat-stable enterotoxins, and *Bordetella pertussis* toxins. Two chapters follow on Shiga toxins and anthrax toxins. Neurotoxins are dealt with in 2 chapters. I especially liked the treatment of the molecular pathophysiology, molecular biology, and cell biology of botulinum and tetanus toxins. Of particular note, however, is the drawing into these chapters of other toxins with distinct neurotoxin activities, such as *Clostridium perfringens* e-toxin. The remaining contributions in this section cover a potpourri of toxins, from large clostridial cytotoxins to *Helicobacter pylori* vacuolating toxin and *Escherichia coli* heat-stable enterotoxin b.

Section 3 deals with toxins other than superantigens that act on the surface of target cells. The opening chapter draws together the paradigms in this field of toxinology. The scope of the section is very broad, even though 5 chapters are devoted to cholesterol-dependent cytolyisins (formerly thiol-activated cytolysins), 3 chapters are devoted to α-helix and β-barrel pore-forming toxins, 1 chapter is devoted to phospholipases, and 2 chapters are devoted to RTX toxins. I enjoyed reading about toxins that I knew little about (e.g., *Bacteroides fragilis* toxins and *Enterococcus faecalis* cytolsin), all without the effort of having to do literature searches myself.

The section devoted to superantigens comprises 5 chapters, not just on the staphylococcal and streptococcal toxin superantigens, but also on the superantigenic toxin of *Yersinia pseudotuberculosis*. The final chapter on comparative structures of superantigenic toxins crystallized these features in my mind.

The final section is really in 2 parts, the first covering clinical and immunological aspects of bacterial toxins and the second covering the use of toxins prophylactically, therapeutically, and as molecular probes. I was immediately attracted to chapters dealing with aspects that I particularly enjoy teaching to sophisticated students, including use of toxins as molecular and cell biological tools, engineering bacterial toxins for use in medical and research applications, engineered bacterial toxin vaccines and adjuvants, toxins as biological weapons, and medical applications of botox.

If I have to express a word of disappointment, it is to the publisher, rather than to the editors. This volume deserved color illustrations. This is particularly true of the illustrations showing molecular structures and the illustrative diagrams of modes of action.

This book is a pièce de résistance. The editors are to be congratulated on producing a revised edition with vitality. They have successfully met all of the challenges posed in knitting diverse contributions together. *The Comprehensive Sourcebook of Bacterial Protein Toxins* will be an authoritative reference work for many years. Every medical school and university library must have a copy. For the individual purchaser, it will be a worthwhile investment and a treasure trove of information.

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Dr. Erle Robertson, editor of *Epstein-Barr Virus*, has aptly provided an up-to-date account of the history of and current developments in Epstein-Barr virus (EBV) research. In chapter 1, the founding scientist, Dr. Anthony Epstein, recounts the events of the early years leading to the discovery of the virus that now bears his name. The reader is taken on a historical journey that begins in the mid-1950s, when British surgeon Dr. Denis Burkitt first described a tumor of the jaw that was prevalent among young children living in equatorial Africa. Dr. Epstein initiated the search for a viral agent after noting that incidence patterns of the tumor correlated with those observed for climate-dependent arthropod-borne diseases. In chapter 2, Dr. Harald zur Hausen describes the EBV seroepidemiological studies undertaken by Drs. Werner and Gertrude Henle in their laboratory in Philadelphia; in 1968, these studies led to the identification of EBV as the causative agent of infectious mononucleosis. During the next 37 years, EBV research burgeoned, largely because of the thrill generated by the discovery of herpesvirus particles in cells from Burkitt lymphoma tissue and the unique observation that EBV could immortalize human B cells in vitro. An entire section of the book, comprising 7 chapters, summarizes the current knowledge on EBV latency as it relates to cell transformation. Leading laboratories, including that of Dr.