

anthrax." All too often, however, the author associates these viruses with conscious purpose, imbuing them with undesirable mysticism. He writes of "a life form that is attempting to convert the host into itself," a virus that "is trying, so to speak, to crash into the human species." And when the Reston virus proved to be harmless after all, the author suggests that "Something very strange was going on here. Nature had seemed to be closing in on us for a kill, when she suddenly turned her face away and smiled. It was a Mona Lisa smile..." Such flourishes obscure and sensationalize the very serious issue of global emerging infections.

*The Hot Zone*, in short, is a gripping story that is worth reading if only for the human drama of the Reston crisis, little known to the public in the fall of 1989. The author's description of the first filovirus outbreaks in Africa, though not definitive, at least make for timely reading in light of the recent Ebola epidemic in the Zairean town of Kitwit. There are few slow passages in Preston's prose, but one comes away with the feeling that a more thoughtful discussion of the issues involved in emerging infections would have made the book both more informative and provocative.

Phillip Cheng  
Medical Student  
Yale University School of Medicine

MEDICAL HERPETOLOGY. By Steve Grenard. Pottsville, Pennsylvania. Reptile & Amphibian Magazine (a Division of NG Publishing, Inc.), 1994. 160 pp. \$19.95 paperback.

As the author points out early in his introduction, this book is not about sick frogs, lizards, turtles and snakes. Indeed, the subtitle reads: *Amphibians and Reptiles—Their Influence on, and Relationship to, Human Medicine*. In reality, the book emphasizes the role of herpetology in the basic biomedical sciences at least as much as its relation to clinical medicine and public health.

The book is divided into nine chapters. The first seven are organized along taxonomic lines: "Frogs and Toads," "Salamanders and Newts," "Turtles and Tortoises," "Lizards, Alligators and Crocodiles," and "Snakes" (parts One and Two). The last two chapters, "Signs, Symptoms, Sequelae of Venomous Snakebite," and "Treatment of Venomous Snakebite," are the only ones likely to contain information (at least vaguely) familiar to the average clinician. These chapters contain largely common-sense material (e.g., disinfection and debridement of wounds or use of anti-venom). Nevertheless, many therapeutic myths are debunked, and students and practitioners in non-endemic areas are certain to learn a great deal.

The first seven chapters are what make this book unique. They consist of an encyclopedic review of the recent advances in biomedical knowledge attributable to the study of reptiles and amphibians. The text is dense, and there is much of it, as this book includes no illustrations. The author adeptly lightens the reading by dividing the chapters into some 92 short subsections ranging in length from a single paragraph (e.g., "Snake Venom Treatment of Vasomotor Rhinitis") to a few pages (e.g., "Effects of Venoms on Coagulation").

Topics are, by necessity, diverse. There is information on amphibian polypeptides with antibiotic activity; salamanders as models for spinal regeneration; crocodylians as models for cardiac surgery; and frogs, turtles and lizards as hosts of various zoonoses. Expectedly, much attention is devoted to snakes, and in particular, the biochemistry and pharmacology of their venoms. Venom consists of scores of separate chemical fractions, which vary from species to species. Many of these possess powerful biological actions,

and the pharmaceutical implications are vast: for example, the development of a widely used type of antihypertensive agent, angiotensin-converting enzyme inhibitors, derived from snake venom research.

Grenard is to be commended on his succinct thoroughness and attention to detail. Every organism is identified by its common and taxonomic name. Facts are quantitative rather than qualitative wherever possible. The bibliography, researched by David Katz, is extensive and very much up to date. It is only unfortunate that not more than two authors are listed for every reference.

The only major criticism that I hold against *Medical Herpetology* is its lack of objective criticism towards much of the research presented. Conclusions are often more optimistic than warranted. The author's enthusiasm for herpetology's impact on human medicine gives the reader the impression that every research avenue is likely to yield a major breakthrough. History and common sense tell us that this is not so. Happily, when one is intrigued but skeptical about something mentioned, many relevant citations will direct the curious to the primary sources of controversy.

*Medical Herpetology* is a book full of facts and figures that range from the clinically relevant to minutiae medica, from important investigations to cocktail-party fare. It is original, scholarly and fulfills its mandate entirely, although it may at times test your credulity (e.g., the Australian Gastric Brooding Frog). The book is highly recommended to physicians, scientists and students fascinated by, or even only curious about, these underrated animals. As the author puts it, the book is "...the logical culmination of [...] medical and herpetological interests." I am grateful to budding herpetologist Dane Trembath for bringing it to my attention.

Kevin F. Kwaku  
M.D./Ph.D. Student  
Columbia University

AN INTRODUCTION TO GENETIC ENGINEERING. By Desmond S.T. Nicholl. Cambridge, United Kingdom, Cambridge University Press, 1994. 168 pp, illustrated. \$39.95 hardcover, \$16.95 paperback.

With the ever-increasing number of recombinant DNA methods, newcomers to the field may become overwhelmed by the proliferation of terminology and techniques. This book sets out to demystify a full range of genetic engineering technology developed over the past twenty years. Beginning with a basic introduction to DNA structure, it quickly moves into more advanced topics such as plasmid and bacteriophage vectors. Subsequent chapters describe cloning strategies, including polymerase chain reaction (PCR), and screening techniques such as restriction mapping and Southern blotting. The last chapter concerning current examples of gene manipulation—transgenic plants and chimeric animals—makes for particularly fascinating reading.

The book's purpose is to be brief, yet all-encompassing, in its survey. Its structure reflects that purpose: a few paragraphs for each technique or technology. There is a surprising amount of detail found in each section, such as a debate over the benefits of using pBR322 versus pAT153 as cloning plasmids. On the other hand, many major topics such as PCR and restriction fragment length polymorphisms receive short-shrift as they are delegated only a couple of paragraphs each. The basic concepts of each technique, however, are described adequately and clearly, with a fine section on suggestions for further reading, which includes the standard texts.