from the almost trivial to important reviews of specific problems (for example, how does a wave break?).

Although the book suffers from some of the inconsistencies of notation inevitable with diverse authorship, the more substantial papers are very clear and usually self-contained. This worthwhile book could be used in an advanced interdisciplinary course in beach dynamics.

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Herpetological Compendium

Rattlesnakes. Their Habits, Life Histories, and Influence on Mankind. LAURENCE M. KLAUBER. Second edition. Published for the Zoological Society of San Diego by the University of California Press, Berkeley, 1972. Two volumes, boxed. xlviii, 1534 pp., illus. $50.

The thirty or so species of rattlesnakes include the most spectacular poisonous serpents of North America. The present encyclopedic compendium again makes available a useful summary of information on these beautiful and terrible animals, the sound and venom of which have fascinated man since his arrival in the New World.

This is the second edition of a work first published in 1956 and out of print for some time. Revision was started, but was never completed because Klauber's death intervened. Mainly it is the taxonomic and paleontological sections that have been brought up to date, but a 24-page addendum to the bibliography includes other topics as well. Numerous new illustrations of various species have been added, but these are now printed on mat rather than glossy paper, losing something in the reproduction.

The approach to the subject represents Klauber's intention to interest "the casual seeker for the facts of rattlesnake life." This is not surprising, as Klauber was an electrical engineer who spent 43 years with the San Diego Gas, Electric Light and Power Company, ultimately retiring as chairman of the board. He only became interested in herpetology in 1920, at the age of 37. His contributions to this subject started modestly with short notes on species found in local areas and progressed with the development of new collecting methods. The extensive samples thus accumulated led him to the study of geographical variation, and in turn to a pioneering application of statistical methods to the meristic characters of reptiles. Although he regarded these and other incisive herpetological studies merely as an avocation, his contributions were widely read and were most influential on the "professionals" in the field.

Though Klauber may have addressed these well-written volumes to the "casual seeker of fact" they will be an extremely useful resource for a much wider audience. In particular, the sections on behavior, populations and ecology, venom glands, and folklore are of significant interest. Klauber's approach does, of course, have inherent limitations. One mainly looks for discussions of the morphology and physiology of these animals. The style of presentation also poses problems. Klauber went to incredible lengths to garner literature and written opinions; he tabulated opposing views on even the most minor of topics. The result leaves one with a discerning but most discursive treatment, more suitable for leisurely reading than as a quick reference. Though some trivial aspects unquestionably receive too fulsome a treatment, one wishes that there were equally useful compendia for other North American reptiles.

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Persistent Insects

The Mosquito. Its Life, Activities, and Impact on Human Affairs. J. D. GILLETT. Doubleday, New York, 1972. xx, 358 pp. + plates. $9.95.

Man is tracking down the last of the great whales; he is slashing tracks through the Amazon forest; he is studying the landscape of Mars. Who needs a book about anything so insignificant as the mosquito?

Yet I suppose there will always be a place for a good adventure story. And what could be more exciting than the discovery that yellow fever, malaria, and several other human scourges are transmitted by mosquitos? The story is now an old one, but it is told here with gusto and with many a novel facet. Gillett is a fine raconteur, and he dips into his own experiences for a variety of stories that will be new to most readers.

Then, too, there are probably some who have read all of the many sex manuals on the market and are still left with a profound ennui. They may enjoy reading how the male *Opifex* mosquito uses his claspers "like a can-opener" to split the pupal skin of the female and copulate before she has emerged. Or the details of artificial insemination in *Aedes aegypti*, possible because "male mosquitos share with us an increased tendency to mate after losing their heads."

Presumably there are still a few whose sense of beauty has not been thoroughly corroded by contemporary art and music. They will admire the colored plates in this book: for mosquitos are indeed things of beauty. Those whose admiration is for the machine will learn that the elaborate behavior of the mosquito is programmed in its genes. "A single cell . . . is infinitely more complex than the most sophisticated piece of hardware devised by man. Even the modern electronic computer is a model of naiveté by comparison."

Probably there are only a few thoroughgoing cynics like myself who derive pleasure from the fact that even though man has thoroughly subjugated the natural world, there are still creatures capable of pricking his ego and sneaking off with a bit of his blood, which they quietly convert to mosquito eggs. Gillett is not quite so perverse as to say that, but he feels sure that man "is not so easily going to dispose of the mosquitos; it seems he is going to have to share this planet with them and with many other six-legged creatures for a long time to come. How long may, perhaps, depend on whether in the meantime he also succeeds in disposing of himself, in which case the mosquitos will carry on regardless as indeed they did for the fifty million years or more before man first began to provide a change of diet and extra breeding places for them."

I conclude that we did, after all, need a book on the mosquito, and that the author has performed that rarest of feats: he has written a book that is authentic and fact-laden, yet a delight to read. Bravo, Professor Gillett. (And to any mosquitos that may happen to read this: bravissimo.)

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