



Contrasts in Behavior. Adaptations in the Aquatic and Terrestrial Environments.

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strategies are developed, and how theorists battle over issues.

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BEHAVIOR OF MARINE ANIMALS: CURRENT PERSPECTIVES IN RESEARCH. Volume 3: Cetaceans.

Edited by Howard E. Winn and Bori L. Olla. Plenum Press, New York. \$37.50. xxi + 438 p.; ill.; index. 1979.

The twelve chapters in this book deal with the biology and natural history of various cetacean species. One chapter reviews the use of radio telemetry in studying cetaceans; another reviews mysticete sounds; four deal with sound behavior of pilot whales, bottlenosed dolphins, beluga, and blue and humpback whales, another with the use of fluke photographs to reidentify humpback whales; the remaining five chapters concentrate on natural history of Dall's porpoises, right whale dolphins, bottlenose whales, humpback dolphins, and sperm whales.

To my mind, various factors contribute to making the book less than exciting reading for the student of cetacean behavior. It is a diverse collection of papers which, for the most part, do not deal very much at all with the behavior of the marine mammals concerned. Moreover, the contributions were written more than five years ago and only some of the papers were recently updated. Thus, some of the fine ethological studies done on cetaceans in the past several years have not been included. I think that the individual chapters would have been better published in scientific journals appropriate to their subject matter. Each paper is a worthwhile contribution to science but, together, they do not fulfill the promise of the book's title.

A noteworthy exception to the above criticisms is the paper by Graham Saayman and Colin Tayler, "The Socioecology of Humpback Dolphins (*Sousa* sp.)." It is without doubt one of the finest insights to dolphin behavior published to date. The authors link their work on marine mammals to what is known about terrestrial mammals, and thus present a relevant and readable account.

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SEX, HORMONES AND BEHAVIOUR. Ciba Foundation Symposium 62 (New Series), held in London, 14-16 March 1978.

Ciba Foundation. Excerpta Medica, Amsterdam; Elsevier/North-Holland, New York. \$41.00. viii + 382 p.; ill.; contributor and subject indexes. 1979.

It is difficult in a brief review to do justice to the breadth of the fourteen papers and discussions that are contained in this volume. The papers range widely in subject matter — from Frank Beach's warn-

ing against too simplistic an acceptance of animal models for human sexuality to E. B. Keverne's discussion of social variables affecting hormone levels in the talapoin monkey, to P. Hertoft and T. Sorensen's clinical impressions of transsexuals. With only a few exceptions, the quality of the papers is excellent; some are controversial and some are straightforward presentations of newly collected data. The thrust of the symposium was to facilitate interactions between clinicians and animal researchers. Given the complexities of that goal, it was well met. Readers should pay particular attention to the discussions that follow the papers. In contrast to many such efforts, they are very well done and of high quality.

I strongly recommend this book to clinician and researcher alike. Clinicians should not avoid the book for fear of being overwhelmed by technical detail and researchers should not fear that the papers have been so watered down as to be of little value. To have achieved such a careful balance speaks very highly of the symposium's organizers.

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CONTRASTS IN BEHAVIOR. Adaptations in the Aquatic and Terrestrial Environments. A Wiley Interscience Publication.

Edited by Ernst S. Reese and Frederick J. Lighter. John Wiley & Sons, New York. \$27.50. xiii + 406 p.; ill.; systematic, author, and subject indexes. 1978.

The stated objective of this volume's editors is to compare the behavioral adaptations of animals in terrestrial and aquatic environments. The book, however, is much more limited in scope. In general, comparisons are restricted to those between bony fishes and other vertebrates. The twelve contributions in this volume come from some of the most active workers in fish behavior, and include clearly written discussions of aggression, communication, feeding, and thermoregulation, with a special emphasis placed on mating and parenting behaviors. Most contributions are reviews of empirical studies, often with an attempt to test hypotheses but with little emphasis on developing new theory. Most articles have large numbers of references and there are few technical errors.

Papers of special note include Loiselle and Barlow's review of mating aggregations in fishes (and their perhaps overzealous attempt to analogize these with avian leks), Hobson's discussion of schooling, and Warner's review of sequential hermaphroditism. Most of the remaining papers provide valuable reviews of natural history and adaptations in fishes, and all of these deserve attention if one has even a general interest in fish behavior.

The contrasts in behavior proposed by the editors provide no real framework for organizing the topics presented, coherence resulting primarily from the organism being compared and not from any concep-

tual framework. A few authors were able to apply effectively the notion of contrasts between terrestrial and aquatic environments; for example, see Le Boeuf's comparison of terrestrial carnivores and pinnepedes. In the only paper not primarily focused on fishes, he compares behavioral adaptations in groups of recent common ancestry, an option not available to most other authors. In other cases, contrasts are made between groups so different that attributing behavioral differences to gross variations in habitats seems simplistic (for instance, in Chapter 11 comparisons are made between organisms of the African savanna and those of a tropical reef). In most of the remaining papers the authors, perhaps rightly, focus on specific problems and allow the discussion of aquatic and terrestrial adaptation to become a secondary concern. They should avoid empty comparisons and the tendency to cite material from secondary references for topics outside their area of specialization.

Argumentation concerning the selective basis of behavior is weak in some papers. This includes the uncritical use of group advantage arguments (pp. 298, 333) and the failure to explore some of the more likely adaptive reasons for the behaviors under discussion. For example, courtship behavior is considered in the context of species recognition with little appreciation for its likely role in intraspecific mate discrimination (Chapts. 4, 5, 10, but see 1). The most serious problem with this volume, however, results from the long delay between when these papers were completed, almost four years ago, and when this volume appeared. This delay is all the more significant because fishes have gained an important role in the theoretical discussion of courtship and parenting behavior, yet for a volume appearing so recently there is surprisingly little discussion of these ideas by the people best qualified to deal with them.

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NEUROENDOCRINE CORRELATES IN NEUROLOGY AND PSYCHIATRY. *Proceedings of the International Symposium, held in Rome, December 8-9, 1978. Developments in Neurology, Volume 2.*

Edited by Eugenio E. Müller and Alessandro Agnoli. Elsevier/North-Holland Biomedical Press, Amsterdam and New York. \$46.25. viii + 304 p.; ill.; author index. 1979.

This is a series of twenty-three papers divided between the following general areas: Neurotransmitter systems: organization and function (2 papers); Neurotransmitter control of the adenopituitary (5 papers); and Neuroendocrine correlates in neurology and psychiatry (16 papers). Contributions are largely experimental reports relating the interactions of brain neurotransmitters and pituitary hormones.

SYNOPSIS OF NEUROANATOMY. *Third Edition.*

By Howard A. Matzke and Floyd M. Foltz. Oxford University Press, New York. \$5.95 (paper). x + 175 p.; ill.; index. 1979.

As stated in their preface, the authors have attempted to provide a valuable and needed contribution to the neuroanatomical literature, namely "a clear, concise and yet comprehensive account of neuroanatomy." To this end, they have put together a generally serviceable book that should be of aid to beginning students in the study of the brain. Any book, however, which attempts to present concisely the fundamentals of neuroanatomy to the novice is automatically beset by difficulties. Neuroanatomy is such a fact-laden discipline, owing to the complexity of the subject matter, that the presentation of neuroanatomical information to the uninitiated can be overwhelming. Authors writing an introductory book can circumvent this difficulty by presenting fundamental neuroanatomical data in a context that emphasizes the general organizational principles of the nervous system. Even such an approach, which necessarily and rightly eschews the inclusion of much detail, requires the author to present several clear and concise introductory chapters that give an overview of the nervous system so as to give the subsequent presentation of organizational principles in later chapters a frame of reference. The initial chapters (1-3) of the present book generally fail to build a proper foundation. The discussion and figures that present gross and microscopic neuroanatomy are insufficient. The beginning student is thus not fully prepared to deal with information presented in the later chapters.

In a more general vein, the text may at times be confusing for the beginning student, particularly with regard to the cranial nerves and the functional columns of the cranial nerve nuclei. The line drawings accompanying the text are often inadequate in detail (e.g., the chapter on the cerebellum). Although this book is a revised edition, it still seems outdated in some respects. No mention is made of the ascending aminergic pathways in the chapters on reticular formation and brainstem. Little space is devoted to synaptic mechanisms (i.e., transmitter functions). Finally, I am distressed by the outdated ideas presented about brain evolution. The latter failing, however, is not unique to the book under review.

To end on a more positive note, I feel that this book is useful for the introductory student, though not as much so as the authors might have wished, and certainly not as useful as *Mantner's Essentials of Clinical Neuroanatomy and Neurophysiology*.

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VISUAL PSYCHOPHYSICS AND PHYSIOLOGY. *A Volume Dedicated to Lorrin Riggs.*