

## BOOK REVIEW

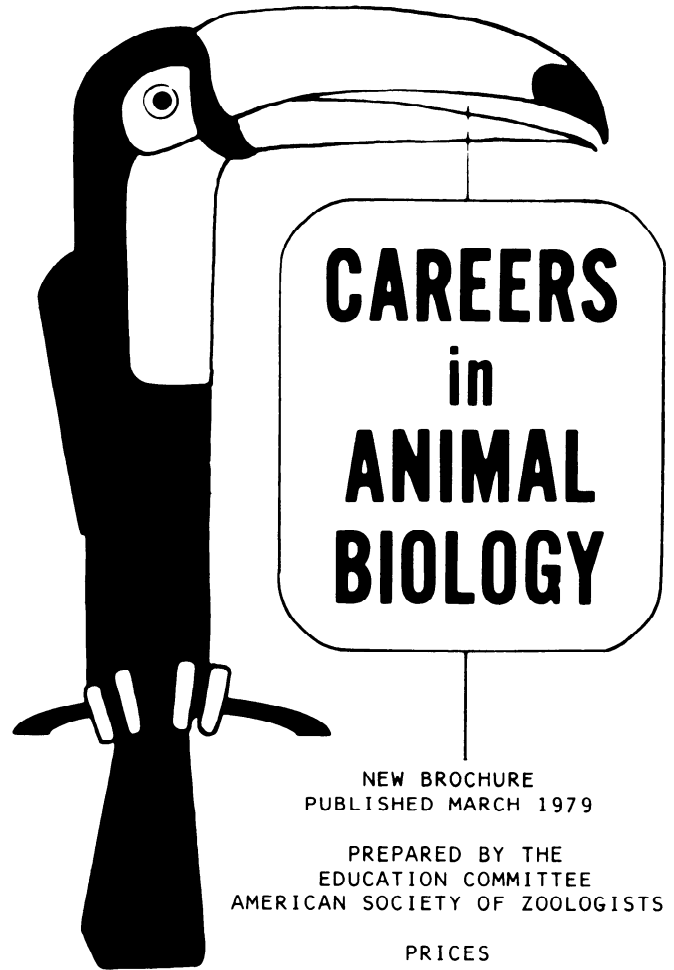
*Introduction To Physiology: Volume 4.* Hugh Davson and M.B. Segal. Grune & Stratton, New York, 1978. 621 pp., tables, illus. \$24.50

Davson and Segal, distinguished scholars from England, present a complete up-to-date account of how the body controls posture and locomotion. In a well organized fashion, they broaden our knowledge of basic muscle and nervous mechanisms covered in earlier volumes. Hundreds of salient references on some 2000 aspects of neurophysiology as well as many excellent illustrations provide a solid basis for study. Figure explanations under the photographs and drawings tell a delightful story independent of the main text. The reader will enjoy seeing "How the horse runs and how two elephants flee from a hedgehog". The great depth and experience of the authors, as they meander through broad facets of anatomy and physiology, makes us aware of the years required to compile and write a book of this caliber. Many classical studies show us how we arrived at our present status in physiology without our being bogged down in details that obscure the basic progress. The distinction between general, mammalian and clinical physiology disappear as subjects move from physics and chemistry to clinical syndromes. Complex aspects of neurophysiology integrate into a whole organism that has a strong basis in anatomy.

The book's exhaustive nature forces readers to be serious students of physiology. They must be fond of the subject and have a good grasp of anatomy to fathom the heavy material presented. The title, Volume 4: "Introduction to Physiology" misleads us because of the book's advanced character. When the "going gets tough" one can "browse and skip" for best results. The defining of difficult terms reveal concern for the reader but long sentences one after another, weak verbs and many prepositions create poor reading. In my opinion, 90 word sentences become hard to handle. One encounters repeating of critical areas such as the role servo-action plays in correcting movements already centrally planned. The limitations, exceptions and opportunities in physiology receive much attention which would appeal to medical, dental and graduate students. I do not recommend this text for beginning nurses, pre-medical students or paramedical students. A few topics include: Patterns of behavior; muscle activation; sensory apparatus; spindle and tendon-organ control; brain control; neural organization of locomotion.

The reader learns how basic experimental information contributes to a wide spectrum of applied physiology. Experimental findings demonstrate how motor cortex damage produces spasticity which has important clinical implications. Motor defects may impair the executing of tasks seen in growth and mentally retarded children. Many examples show the physiological relationship of body parts. In steering a car, for instance, the authors mention that the corrective feedback come from the eyes. If your car moves a certain distance off-course, a wheel turn makes the required adjustment. Sophisticated animal models were presented for students to study clinical situations. These educational and research models pin point the necessity of laboratory animal preparations in teaching physiology. Davson and Segal's new outlook should bear much fruit in many fields for many years to come. Students will have a common ground to launch an attack upon the physiological unknown.

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