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mechanisms. Also, worthy of note are the appended sections on prefixes, suffixes, and combining forms plus a novel seven-page atlas of regional anatomy.

This book should prove to be a fine competitive publication in the field of combined anatomy and physiology. It is intended for college-level readership, but would furnish excellent supplementary reading material in advanced secondary school courses.

*Raymond E. Henzlik*  
Ball State University  
Muncie, Ind.

### Physiology

**CONSCIOUSNESS AND CREATIVITY: TRANSCENDING SCIENCE, HUMANITIES, AND THE ARTS**, by Bill Romey. 1975 Ash Lad Press (P.O. Box 396, Canton, N.Y. 13617). 278 p. \$5.00 softback.

Bill Romey's latest book is must reading for folks interested in student-centered education. For that matter, it is good reading for anyone interested in any kind of education. The book is a collection of essays, many of which are stream-of-consciousness commentaries on a wide range of topics. The essays playfully take the reader through things that have been on Romey's mind since the 1972 publication of *Risk, Trust, Love: Learning in a Humane Environment*.

The essays are grouped into five overlapping sections: "A Flow of Consciousness," "The Ash Lad Hypothesis and Other Ideas in Creativity," "Hunting for Routes to Knowing," "Dealing with Institutional Inhibitors to Consciousness, Creativity and Knowing," and "Growing Pains." The flavor of the book immediately comes through in such essay titles as "Teaching as Consciousness Therapy," "Creative Activity Transcends the Disciplines," and "Models, Fantasy and Multiple Working Hypotheses."

Romey brings a rich background to his writing. He completed an undergraduate language major, served in the Navy, did graduate work in geology, taught both geology and science education at Syracuse University, did research in Norway, worked for three years on the staff of the Earth Science Curriculum Project (ESCP), and is now chairman of the Department of Geology and Geography at St. Lawrence University in Canton, N.Y. This background is repeatedly reflected in his writing as are his experiences with his wife, children, friends, and associates over the years.

As I reflect upon the book, I find that it is "gentle on my mind." Romey's comfortable mixtures of reminiscing, soul searching, and "serious" thought contribute to his aim of sharing himself with the reader. He wants readers to accompany him through his triumphs, despairs, and experiences so as to share with the process of his own consciousness and creativity. If you are looking for stuffy pontifications and elaborate rationalizations about the way things are or ought to be in education, this book may not be for you. If you are, on the other hand, interested in sharing in the life of a fellow science teacher struggling with himself and others to develop more humane and student-centered educational experiences, by all means, read this book. It may be not only a book but also a mirror reflecting your own expanding consciousness and creativity. Besides all that, much of the reading of Romey's book is just plain fun!

*Elwood B. Ehrle*  
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### Zoology

**THE WILD CANIDS: THEIR SYSTEMATICS, BEHAVIORAL ECOLOGY, AND EVOLUTION**, ed. by Michael W. Fox. 1975. Van Nostrand Reinhold Co. (450 W. 33rd St., New York 10001). 496 p. \$19.95 hardback.

The contributors of this anthology are distinguished scientists specializing in behavioral psychology, ecology, and animal and human sociology. Topics covered range from chromosomes of the Canidae to hunting techniques, methods of communication, and

evolution of social behavior. The emphasis is on behavior and ecology, but there are chapters on classification, genetics, and biochemistry.

*The Wild Canids* provides the most thorough coverage of the subject available. It combines original research in field and laboratory. It will inform the lay naturalist and function as a reference for field biologists, ethologists, and ecologists. The discussion of habitat will be useful in wildlife management and conservation; and because it mentions lines of research still open to us, it could stimulate research into areas not yet understood.

The book has an extensive list of references in addition to an author and subject index. Knowledgeably and attractively written, it belongs in the reference library of any serious lay naturalist or professional biologist.

*Richard H. Kruse*  
Ankeny High School  
Ankeny, Iowa

**PRACTICAL STUDIES OF ANIMAL DEVELOPMENT**, by F. S. Billet and A. E. Wild. 1975. Halsted Press (605 Third Ave., New York 10016). 259 p. \$15.00 hardback.

This book will be a valuable reference for teachers of courses that utilize animal embryos and for students wishing to do projects. It could be used as a laboratory manual only if it were extensively supplemented with local material. The book's emphasis is on methodology; it assumes the availability of a standard embryology text. Techniques are clearly and completely outlined. The use of British species is a disadvantage, as are the restrictions placed on the authors by the British Cruelty to Animals Act. Chapters are devoted to laboratory experiment and tool-making; echinoderms and ascidians; molluscs, annelids, and nematodes; insects and crustaceans; fish; amphibia; birds; and mammals. Each chapter includes a list of selected references.

*Norman S. Kerr*  
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**ESSENTIAL INVERTEBRATE ZOOLOGY**, by M. S. Laverack and J. Dando. 1974. Halsted Press (605 Third Ave., New York 10016). 205 p. Price not given.

The purpose of this book is indicated both by the title and in the introduction ("Apologia"), where the authors state that they have tried to compress the materials of standard textbooks on invertebrate zoology into concise form. This purpose has been attained with a high degree of success, and the book is a valuable, convenient reference for both teachers and students. Classification and anatomy are succinctly delineated both by description and well-exe-

cuted line drawings. In addition, structure is related to function in admirable fashion. In spite of its brevity, the treatment is not elementary: it is both sophisticated and up to date.

Certain faults are perhaps unavoidable in this compressed format. One is that the book is not completely self-sufficient. For example, the terms suctorians, radiolarians, and foraminiferans are used but not defined, nor do they appear in either figure legends or text in the section on protozoan classification. The reader will have to resort to another textbook or an unabridged dictionary. Also, there is no general index to supplement the systematic indexes. A large number of technical terms are introduced and well defined, often by context, and an index of these would have been useful.

*Url Lanham*  
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Boulder

**EMBRYOS AND HOW THEY DEVELOP**, by Marie M. Jenkins. 1975. Holiday House (18 E. 56th St., New York 10022). 194 p. \$6.95 hardback.

This book will well serve the young reader as an introduction to the fascinating world of embryonic development. With simplistic clarity and unencumbered skill, Jenkins explains a myriad of processes normally occurring in developing tissue.

Beginning with genome duplication and regulation, then developmental patterns, Jenkins phylogenetically describes different developmental facets of representative organisms. The book concludes with a very nice section dealing with human development. Also included are discussions about genetic defects, endocrinology, and multiple births.

Revealing photographs are professionally presented, and an introduction to the metric system, a glossary, and a suggested reading list are provided. This book is highly recommended for juvenile readers and those uninitiated in embryology.

*Stephen J. Kleinschuster*  
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Fort Collins

**MAMMALS OF THE WORLD**, by Ernest P. Walker and associate. 3rd ed., 1975. Johns Hopkins University Press (Baltimore 21218). Vol. 1 and 2, 1568 p. \$37.50 hardback.

The two-volume set describes the numerous members of the class Mammalia. For each of many examples included there are appropriate descriptions: common name, order, family, genus, and species. A type specimen's description of a species for each genus which is reported includes species characteristics, length of head, and tail (if any). All units are given in the metric system. Coloration, fur characteristics, skull characteristics, and dentition are reported for each type species. Additional similar forms related to the type specimen are listed and described.

Reported to list more than 1,075 genera of mammals including those which are considered endangered, the book includes representatives from the marsupials to man. The information on man is sketchy, which is, of course, a necessity in a work that treats so many diverse forms. The illustrations leave something to be desired; several do not clearly represent the characteristics of the species described. This can be overlooked, however, since there are so many fine photographic reproductions of species.

The two-volume set is probably too expensive to be included in the high

school teacher's personal library. Neither book in the two-volume set is complete alone as a library acquisition; so, if a school orders, it should opt for both volumes. The two volumes are important, useful, and functional additions to any library. The information included does not make for easy reading, but reference books seldom do. I highly recommend this work for the biology reference shelf in life science libraries—high school through university graduate school.

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University Park

**DEVELOPMENT OF VERTEBRATE ANATOMY**, by Joy B. Phillips. 1975. C. V. Mosby Co. (3301 Washington Blvd., St. Louis 63103). 480 p. \$14.50 hardback.

In the "old days" undergraduate biology majors took such courses as botany, zoology, comparative anatomy, embryology, and vertebrate taxonomy. More recently the curriculum has also included such courses as genetics, cell biology, molecular biology, and environmental biology, plus biochemistry and physical chemistry, leaving the student little time to take the more "traditional" courses. Therefore there is now an attempt to condense and combine topics previously found in several courses. This textbook was designed to fuse embryology and comparative anatomy.

The book is divided into three sections: an introduction to vertebrate classification, early developmental processes, and organogenesis of vertebrate systems. In each chapter the author attempts to summarize histology, embryology, physiology, and comparative morphogenesis. Experimental studies



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