Animal Physiology: Adaptation and Environment, Fifth Edition. By Knut Schmidt-Nielsen. New York: Cambridge University Press, 1997. 607 pp. $54.95.

Animal Physiology by Knut Schmidt-Nielsen has been a classic in its field since its first publication in 1975. During my undergraduate years, I remember using an older edition as a supplement to an introductory biology course. I look back on the Schmidt-Nielsen text as a source of clear exposition for principles that govern life. Like the past edition, the fifth edition, is also an excellent textbook to learn basic concepts, yet if you could find an older edition it may suffice.

The textbook claims to have been extensively updated “in taking into account recent developments in the field.” However, most of the references cited at the end of each chapter tend to be older, and there are no annotations that discern between the seminal or less important papers.

True, numerous new references and figures were added. However, the use of color to highlight illustrations and text is not as effective as it could be since the book only relies on different shades of blue, which is not much of an improvement over the older editions. Perhaps a CD-ROM supplement animated in Flash could help in presenting some of the discussion on oxygen dissociation curves or how glycoprotein acts as antifreeze for the Antarctic fish Trematomus borchgrevinki.

Despite these minor points, all editions have their key strengths in their conciseness and lucidity. With interesting and appropriate amount of detail, Knut Schmidt-Nielsen’s textbook from chapter to chapter maintains a focus on the fundamental principles of animal physiology. As in the previous editions, these principles — oxygen, food and energy, temperature, and water — are introduced and developed. It covers the basic principles with greater clarity than its competitors and is the only textbook of its type to place function clearly in relation to environment.

Like some other single-author textbooks, Animal Physiology treats the student to a user-friendly and cohesive story that delightfully reveals the essentials for all those studying physiology or zoology.

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Developmental Biology (Book and CD-ROM), Sixth Edition. By Scott F. Gilbert. Sunderland, Massachusetts: Sinauer Associates, 2000. 749 pp. $94.95.

Upon first skimming through the Developmental Biology, it became apparent that Scott F. Gilbert’s book is a gem of a book to own, read, and use as reference for beginning students. The text examines each major topic from basic description to perspectives of evolution and development of behavior as well as the mechanisms, with clear explanations and gorgeous diagrams. This textbook is a must-own for those embarking into the discipline of developmental biology.

From the anatomy, life cycles, experiments, ethics, and model organisms such as Drosophilia and C. elegans, the text treats the reader to stunning diagrams and fascinating explanations. Not only is its stunning layout a work of art, but also its colorful organization aids in the understanding and recall of the material. The Gilbert text’s masterly use of color and efficient layout of information can serve as a paragon for undergraduate texts. For example, its developmental explanation of reciprocal transplants with French and U.S. flags is not only creative, but it has imprinted a memorable impression that will last.

Not only is the text an enlightening work of art, the vade mecum CD-ROM