Book and Software Reviews

The Cell: A Molecular Approach, Second Edition. By Geoffrey M. Cooper. Sunderland, Massachusetts: Sinauer Associates, 2000. 689 pp. $89.95.

The field of cell biology is changing so rapidly that cell textbooks often face obsolescence even before hitting the shelves. In response, some authors attempt to cope with explosion in cellular knowledge by including as many mechanisms and details as possible, which may satisfy the discriminating technical user who wants the most current findings. However, for the beginning student, the lucid and concise explanations of the general concepts in the second edition of The Cell: A Molecular Approach, published in 2000, offers a great course text for an introductory cell biology course.

The strength of Cooper’s text is found in its coherent voice that is often found in single-author books. In the field of cell biology, specialization is stressed so it is not uncommon to find textbooks written by multiple authors. Although the multi-author approach offers an expert view on individual subjects, it sometimes lacks the interconnections that a single talented author may gracefully make.

Compared to the first edition, the second edition of The Cell retains the organization, themes, and special features of the original, but it has been completely updated in major areas of scientific progress, including: genome analysis; chromatin and transcription; nuclear transport; protein sorting and trafficking; signal transduction; the cell cycle; and programmed cell death. However, when comparing the second edition of The Cell with books such as Lodish’s Molecular Biology of the Cell, it becomes clear that advanced students, even those taking an introductory biology course, The Cell lacks the depth and detail that an exacting student may demand. The text’s lack of depth may leave some students with unanswered questions. Perhaps the book may be best complemented with a good molecular biology textbook. The extra explanations can make up for the missing depth of Cooper’s text.

Finally, many other cell biology textbooks offer accompanying CD-ROMs that animate the processes that govern life. Specifically, the use of Flash-enabled animations that would bring to life The Cell’s clear colorful and diagrams would be a definite welcome supplement to the next edition of The Cell.

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The Culture of Animal Cells: A Manual of Basic Technique. By R. Ian Freshney. New York: Wiley-Liss, 2000. 600 pp. $79.95.

During this summer, one of my Ph.D. rotations required some tissue culture work. Fortunately, I chose to review R. Ian Freshney’s Culture of Animal Cells: A Manual of Basic Technique, and now I can vouch that the book was helpful in allowing me to see beyond the recipes used in
the lab to developing an understanding of cell culture.

Now in its fourth edition, *Culture of Animal Cells* presents the techniques, equipment, practices, and principles needed to place animal cells into tissue culture. In its comprehensiveness, it provides technical explanations that help eliminate some of the guess work in tissue culture.

This book is written for people with no previous experience, as it provides a concise general background pertinent to the growth of animal cells in tissue culture such as reagents, lab layout, necessary equipment, water quality, selection of media and growth chambers, steps starting with whole animal material, observing and staining cultured cells, and common contaminants.

Finally, this book is an excellent choice for the serious beginner. Its well-laid out and comprehensive chapters will certainly allow even experts benefit because of its recent publication. Labs that intensively make use of cell culture, will find *Culture of Animal Cells* a helpful reference and great training source.

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*Handbook of Neurosurgery, Fifth Edition.* By Mark S. Greenberg. New York: Thieme Medical Publishers, 2001. 975 pp. $69.00

Walk into any typical academic hospital, and you will find a barage of residents with their coat pockets brimming with large masses of seemingly useless paper. Their coats weigh heavy on their backs, and you see from the looks on their faces that they at some point all stopped to think how they could find a way to add more pockets onto their coats/paniers. In this tradition you will see the coveted editions of the *Washington Manual of Medical Therapeutics*, the *Ferri Practical Guide to the Care of the Medical Patient*, and various other handbooks related to the particular discipline studied by the rack holding that coat up. Indeed, the clinical handbooks serve as an invaluable guide to the nascent physicians, where they can look up very useful tidbits on clinical pathology and therapeutics through a simple flip through the pages. Neurosurgery is no exception.

The classic neurosurgical clinical handbook, oddly known as the *Handbook of Neurosurgery*, has been revised and updated in a new fifth edition. Most notable is the collaboration with Thieme Medical Publishers for this edition, broadening the scope of distribution. Previous editions had experimented with splitting the handbook into two volumes, one covering the theoretical aspects of neurosurgery, the other handling the clinical/therapeutic “need-to-know” material. The thinking was that one would be used for casual perusal during the copious amounts of free time available to the neurosurgical resident, and the other would be used for more daily clinical activity, i.e. the thing jammed into the coat pocket. The author and publisher in this edition have decided to go back to the original single volume format (Hmm, I wonder if one of the previous volumes consistently remained unread…). Although making for a more bulky book, and more sore neck muscles, the single volume format works better because you get the theory and treatment in one neat package (useful for those on-the-spot pimping sessions). There has apparently been a fair amount of pruning in order to make a more wieldy product, but in my opinion, the author has done a decent job of retaining the necessary detail. Much of what is left out is discussion of various surgical procedures, which Thieme will be consolidating and putting out as a separate book by different authors: *Fundamentals of Operative Neurosurgery* by Connolly, Choudri, and Huang.