this book is that it is written for everyone interested in virology, which also should include the seasoned virologist. For example, though my field of study is hepatitis C virus, I find intriguing how other viruses are similar to or differ from the virus I study. Those readers who wish to further study a virus mentioned in the book are referred to a list of current journal articles at the end of each section. Therefore, I envision this book on my shelf as a reference for years to come.

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Fundamentals of the Stem Cell Debate. Edited by Kristen Renwick Monroe, Ronald B. Miller, and Jerome Tobis. Berkeley, California: University of California Press; 2008. pp. 218. US $19.95 Paperback. ISBN: 9780520252127.

The collection of essays in *Fundamentals of the Stem Cell Debate* has arrived at a timely point in history. The successful induction of pluripotent stem cells from human fibroblasts and the impending regime change in Washington have raised the hopes and caught the attention of both supporters and opponents of embryonic stem cell (ESC) research. Editors Kristen Monroe, Ronald Miller, and Jerome Tobis have compiled an excellent primer on the practical, philosophical, and political aspects of America’s fracas over the ethics and justification of embryonic stem cell research.

The book begins with two chapters by Peter Bryant and Philip Schwartz, who offer an articulate scientific description of what embryonic and adult human stem cells are and then detail the current and potential applications of stem cells in medicine and research. Despite its depth, the material remains very understandable, although readers without a biological background may struggle with the ubiquitous scientific terminology.

*Fundamentals* also covers the ethical and religious implications of ESC research. A religious panel that includes Mahtab Jafari, Fanny Elahi, Saba Ozyurt, and Ted Wrigley discuss the concerns (or lack thereof) felt by various sects of Christianity, Buddhism, Hinduism, Islam, and Orthodox and Conservative Judaism, without offering judgment or validation of the presented beliefs. This analysis follows an excellent essay by Philip Nickel, who wrestles with what criteria are needed to define a person and give him “moral standing” and what should be done when disparate views collide in the public arena. The differing responses Nickel gives people opposed to ESC research on religious grounds and secular individuals feeling disgust toward it, however, are completely arbitrary.

The next three chapters continue to examine how federal and state policy does, and should, affect the progress of ESC research. Lawrence Goldstein focuses on the role states can play during the current climate and details the favorable stance toward embryonic stem cell research taken by California and the probable implications of this encouragement. Lee Zwanziger discusses the federal government’s stance on ESC research and what role science plays in determining policy. Sidney Golub examines the failure of federal and international statutes attempted against cloning, explaining why they failed, what caused them to be inappropriately framed, and how to improve them.

Finally, Ronald Miller returns to the ethics associated with every stage of stem cell research, from basic science to medical application, and the policy that decides funding opportunities for continuation of the research. He also addresses the issue of moral standing, but from an alternative viewpoint than Nickel. Instead, Miller discusses the various gradations of personhood a human has, as they progress from blastocyst to embryo to fetus.

Kristen Monroe and Ted Wrigley conclude the book by throwing in some well-crafted hyperbole linking ESC research to the fate of the nation and speculating on whether consensus will ever be possible. They restate the goal of their enterprise: to “present the central issues” of the stem cell
debate in a “comprehensive but accessible” manner. In this, I believe, they have succeeded.

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Molecular Biology of the Cell. 5th Edition. By Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter. New York: Garland Science; 2008. 1,268 pp. US $142 Hardcover. ISBN: 9780815341055.

Molecular Biology of the Cell. 5th Edition: The Problems Book. By John Wilson and Tim Hunt. New York: Garland Science; 2008. 1,587 pp. US $39.95 Paperback. ISBN: 9780815341109.

Despite its retro look, the information contained in the fifth edition of Molecular Biology of the Cell is anything but outdated. This book is a classic cell biology textbook appropriate for undergraduate level introductory cell biology courses and also can serve as a useful review and reference text for graduate students. Alberts et al. have updated this edition to include several hot topics such as epigenetic genome regulation, small non-coding RNAs, comparative genomics approaches, and new cancer treatments.

To keep pace with the advancing technological age, all the figures and tables within the text are provided in PowerPoint® and JPEG format on the CD that accompanies the book. The CD also contains helpful animations and videos that make some of the more difficult concepts come to life for the reader. The last five chapters cover special topics such as sexual reproduction, multicellular organisms, and the immune system and can be found on the CD as PDF documents. Although this format reduces the book to a more manageable size compared to the previous edition, unfortunately it does not lend itself to easy note taking for the interactive learner.

The authors do a superb job of highlighting the historical context of major discoveries and showcase a variety of standard cell biology techniques throughout the figures and text. Electron micrographs, X-ray crystal structures, and immunofluorescence images litter the pages and give readers a clear picture of the original data that first gave rise to the facts presented in the text. More recently developed techniques, including total internal reflection fluorescence (TIRF) microscopy, DNA microarrays, and in situ hybridizations, also are referenced to demonstrate the wide variety of approaches used by researchers to elucidate the intricate workings of the cell.

In addition to its thorough treatment of both fundamental and cutting-edge topics in cell biology, the authors have sought to encourage critical thinking skills through end-of-the-chapter questions. These require the reader to critically analyze the facts presented and then apply the underlying principles to similar biological problems. The Problems Book, which can be purchased separately, contains thousands of additional questions and answers in several different formats: “Definitions,” “Calculations,” “Data Handling,” and “Thought Problems.” These questions can be used to assess understanding of the material, as well as stimulate discussions about more advanced topics in cell biology.

Having used this book both as an undergraduate and as a graduate student, I found the newest edition of this book to maintain the informative and user-friendly quality of previous editions. I highly recommend this book to students and instructors alike who seek to learn the foundational concepts of cell biology. By linking past discoveries with the most recent findings in the field, Molecular Biology of the Cell leads the reader on a logical and expository journey through the microscopic world of the cell.

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