Introduction of derived formulae helps reinforce what each variable represents, contributes to the flow of the text, and presents a sense of coherence in the mathematical tools used in the field. Examples typically include step-by-step walkthroughs of how to use the equations presented — quite a boon for less mathematically apt students. Altogether, the vast majority of equations are utilized in such examples. While some could stand to have their derivations presented, the overall text provides excellent instruction on the use and utility of the included equations.

While hardly abject disappointments, the end-of-chapter sections may be the weak point of the text. Each chapter concludes with a summary and references for further reading, both of which are perfectly useful. They also have problems that revisit key concepts and equations presented in the chapter. However, very few of the exercises engage the reader in critical thinking. Many chapters also list software tools available to researchers, but they are rarely utilized in the problems. Since computations tools can be very daunting to use, an instructor may find it beneficial to develop exercises utilizing these programs.

A few omissions, such as an equations appendix, somewhat weaken the value of Conservation Genetics as a reference. With neither end-of-chapter nor end-of-book equations appendices, one must hunt through chapters to find an equation. A more minor omission is a Chi-square table. Since Chi-square analyses are a handy population genetics tool and the authors include Chi-square analyses in their text and problems, a table of Chi-square values would prove helpful.

As a textbook, Introduction to Conservation Genetics is quite well written. The flow of the text keeps a reader’s attention, the material is thoroughly covered and illustrated, and the mathematical tools are particularly well explained. While there are noted weaknesses, they are not egregious, and can be easily overcome by an interested student or a creative instructor. Indeed, both should find this text a useful foundation for the learning and teaching of conservation genetics.

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Cardiovascular Regeneration and Stem Cell Therapy. Edited by Annarosa Leri, Piero Anversa, and William H. Frishman. Malden, MA: Blackwell Publishing; 2007. 229 pp. US $146.95, Hardcover. ISBN: 978-1405148429.

Cardiovascular Regeneration and Stem Cell Therapy is a collection of journal-like articles compiled and edited by Annarosa Leri, Piero Anversa, and William Frishman. The book is a good compilation of current knowledge regarding the field of cardiac regeneration and stem cell therapy, but is clearly intended for an audience already familiar with the terminology. The text would make an appropriate reference or primer for both researchers and medical practitioners. The book, however, must be read with caution: The editors are confident that stem cells will become the treatment of choice for heart failure, and the only question that remains is whether to use bone marrow or cardiac-derived stem cells. They fail to adequately acknowledge the possible limitations of stem cell therapies and to objectively discuss the merits of competing techniques.

The book is broken into five parts, each consisting of several chapters. Each part attempts to convince the reader of some component of the editors’ doctrine, such as the plasticity of stem cells, the inherent regenerative capacity of the heart, and the bright prospects of stem cell therapy. The clear bias on the part of the editors is, however, greatly ameliorated by the quality of each individual chapter. The chapters flow from one to the other more cleanly than is usually the case with compilations, and each successive author builds on ideas and terms introduced in previous chapters. Of particular note is Part IV (Cardiac Progenitor Cells and Heart Failure), which follows a neatly logical progression starting with a focus on basic
biological research, moving into clinical research and trials, and finishing with an historical analysis of clinical approaches and disease prognoses given scientists’ increasing knowledge of risk factors.

The authors lay out the risks and drawbacks to stem cell-based approaches, along with a wealth of encouraging research. The chapters depend on both original research results and summaries of the current state of the field. The authors rarely ask the reader to take their conclusions on faith. Indeed, the best part of the book is the extensive use of diagrams, illustrations, and color images that help all readers get the gist of what’s going on. While some authors grow a little too dependent on clip art, the goal of all these diagrams — understanding — is universally achieved. Furthermore, the prose is clear and easy to understand.

The editors conclude the book with a final effort at defaming stem cells’ detractors and provide four options for cardiovascular regeneration: the use of embryonic stem cells, mesenchymal stem cells (derived from bone marrow), endothelial progenitor cells, or cardiac stem cells. Options other than stem cells are once again ignored, and any possible doubts regarding the ultimate success of stem cell therapy are not allowed to intrude. This provides an optimistic, if somewhat ostrich-like, conclusion to a satisfying collection.

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