

BOOK REVIEW #7

Clark, David P. and Lonnie D. Russell. *Molecular Biology: Made Simple and Fun*. Second Edition. 2000. vii + 486 pages; illustrations; tables; definitions in side panels; additional readings; glossary; index. Cache River Press Vienna, Illinois. Soft Cover. Price: US\$34.95. Available from Cache River Press, 2850 Oak Grove Road, Vienna, IL 62995.

Molecular Biology: Made Simple and Fun by Clark and Russell is an engaging, reader-friendly guide to molecular genetics and biotechnology. The book is intended for readers and students at a wide range of levels, from high school to college classes and beyond. The chapters are organized in a way that makes the textbook useful as an encyclopedic reference guide for readers who are well versed in the concepts of molecular biology. The majority of the chapters deal with topics emanating from the central dogma of molecular biology, that is DNA makes RNA makes protein. Several of these more conventional chapters deal with techniques used in molecular biology, such as enzymatic manipulation of DNA (Chap. 9), cloning procedures (Chap. 16), polymerase chain reaction (Chap. 17), and DNA sequencing (Chap. 23). Interspersed among these chapters are several chapters on special topics that give this book a lot of its charm. Chapters on human genetic diseases, transgenic organisms, forensic medicine, biological warfare, and the molecular basis of taxonomy are very well crafted and thoroughly treat subject areas that are normally glossed over in most textbooks on molecular biology.

The most striking aspect of Clark and Russell's tome is the intriguing presentation of the materials. Each chapter is chock-full of very funny, yet appropriate cartoons in addition to standard illustrations of molecular processes. The authors give well-deserved credit to Karen Fiorino for translating their ideas into the several hundred clever cartoons throughout the book. The text is well-integrated with the multitude of cartoons and diagrams and written in a way that will be appealing to high school students, non-science college majors, and non-scientists as a whole. The authors were able to do this without watering down essential information. Furthermore, chemical structures and macromolecular aggregates are accurately presented. Some molecular biology techniques and phenomena, which even biology graduate students find difficult to grasp, are presented in a manner that facilitates understanding.

Many chapters of *Molecular Biology: Made Simple and Fun* are able to stand alone. Achieving this was no small feat, considering the complexity of molecular biological processes. It is a credit to the authors, that they were able to take topics usually examined solely from a molecular or cellular perspective and relate them to whole organisms and populations. They did an excellent job of incorporating anecdotes and references from other arenas of human endeavor (history, religion, politics, law, philosophy, music), and skillfully used them to make points about particular molecular phenomena. Furthermore, they used these materials in a way that is irreverent but not mean spirited.

The final two chapters of this edition are especially noteworthy. Chapter 27 presents an up-to-date synopsis of three recent advances in molecular biology, namely cloning of mammals, the genetics of obesity, and protein splicing. In addition, Chapter 28 provides a very helpful guide for interpreting the meaning of a seminar or article by a molecular

biologist. This last chapter should be required reading for all graduate students in molecular biology who are beginning to read journal articles or attend seminars.

Molecular Biology: Made Simple and Fun is a must reference book for all citizens interested in gaining insight into molecular genetics and biotechnology. In light of the recent release of the human genome sequence information, the value of this book is now increased. This text is clearly suitable for use in college level biology courses for both non-majors and majors. The book's title is appropriate. Clark and Russell have put some "fun" into learning about molecular biology.

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