

BOOK REVIEW

The genome after 50 years after Watson and Crick Genomes 2

TA Brown (ed.)

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The major impact of the genome sequence is the understanding of what genes are, how they work, and what they cannot do. TA Brown has produced a very up-to-date and readable book that elegantly answers these questions. The book covers, in 16 chapters, the origin, the organization, and the expression of many genomes. The chapters are written very much with the undergraduate and graduate in mind, providing selected references and further reading that are given in a section at the end of each chapter. In addition, readers can find explicative technical notes and self-study questions. The book is divided into four parts. The first part sketches out some basic and recent facts about the human genome in structural and functional terms. This chapter leads the reader to the beginning of the postgenomic era. The second part represents a peculiarly arranged crash course in applied molecular genetics: studying DNA (Chapter 4), mapping genes (Chapter 5), sequencing (Chapter 6), sequence analysis, and comparative genomic (Chapter 7). Part three contains the most interesting and personal part of the book. Dr Brown, focusing on *accessing to genome*, provides a comprehensive overview on transcription, processing, and translation, under a modern and realistic vision. The last part contains

modern theories on genomes evolution, as derived by *molecular phylogenetics*. It is reasonable to believe that today's genomes, after so many years of evolution, have reached a complexity and efficiency not shared by their ancestors. In this respect, Chapter 16 provides an exhaustive analysis of the evolution of genes answering the question of how they arose. It is of interest that, in this chapter, a paragraph on the origins of the HIV genome and, consequently, the AIDS is also included. The book contains detailed, useful, and, sometimes, curious boxes giving a thorough analysis of the problem. Even in the highly technically language necessary to describe the most recent findings of genome studies, Brown manages to be admirably clear and explicit. His audience is anyone who is concerned with the increasing role that genomics plays in understanding ourselves. This book leaves the reader with a lot of open questions: Where to go next? Where is the program? Is DNA the program or the data? What is the engine? Are proteins only the data of the program, or are they the elements of the machine itself? That it leaves the reader with such questions is not a weakness of the book. Quite the contrary, it is a merit. I am sure that, in a new version of the book (a probable, Genomes 3??), Brown will answer to these questions.

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