Title:	Genome Duplication: Concepts, Mechanisms, Evolution and Disease.
Authors:	Melvin L. DePamphilis & Stephen D. Bell
Subject Area:	Genetic Processes
Description:	This text covers a range of topics revolving around the principles of genome duplication. This is linked to the three domains of life with further links to resulting genetic disorders and possible therapies.
Publishers:	Garland Science
Date/Edition:	2011
ISBN:	978-0-4154-4206-0
Level:	Undergraduate
Price:	

The first line of the preface of this book, "This book is dedicated to the premise that nothing is more fundamental to Life that the ability to reproduce." sets up the subsequent chapters nicely for the reader. With directions throughout the text and the extensive glossary the content is accessible and interesting throughout.

The book is aimed at undergraduate students and, in a very straightforward way, takes the reader through the basics of genetic replication, variations within these mechanisms and possible exceptions. Chapter 1 very clearly introduces the topic, highlighting the essential terminology and knowledge needed to completely follow the subject matter. Some prior knowledge is expected but these introductory sections are very well presented and the level of detail is such that anyone with an interest in this area should be able to at least grasp the theory behind the content. The links to further reading, mostly other textbooks, should then allow anyone to expand on the presented detail and ensure a detailed foundation in the topic. By the end of this initial chapter the reader is aware of the importance of, structures and roles of DNA within various organisms.

Chapter 2 then begins to link this information to the three domains of life. All subsequent chapters then refer across all three; bacteria, archaea and eukarya. Specific organisms from each domain are then focussed on throughout helping the

reader follow the content through the multiple chapters and relate each part back to the basics of each organism.

Subsequent chapters work through the various components and mechanisms involved in replication, synthesis, modification etc. The later chapters bring this all together with detail on the cell cycle, human disease and lastly, the evolution of these mechanisms.

The content is presented in a very straightforward manner and I particularly like the boxes presented throughout the text referring to experiments and data explaining how specific discoveries were made and their impact on the scientific knowledge of the day. With a personal interest in how these mechanisms/ processes are related to disease I focussed with interest on chapter 14 (Human Disease). Understanding of the content of this chapter does require the knowledge from the previous chapters but the detail and diagrams are very useful and comprehensively cover the detail I would have expected. The chapter ends with information on how our level of current knowledge is being investigated for possible therapeutic uses.

The final chapter, one of the shortest, closes the book by describing the evolutionary beginnings of these processes. Personally I feel this information may have been better placed throughout the previous chapters rather than as a stand alone chapter.

Each chapter finishes with a summary of the chapter which I sometimes found presented a clearer explanation of a topic than the original text. This is followed by references to additional reading and the literature cited within the text.

As a summary I feel that this book is a great addition to the bank of available books on this content and I would be very happy to refer students to this resource. The build up of knowledge as you progress through the book and the clear links to expanding this knowledge would allow the book to be applicable for various year groups across a relevant degree programme.

It is well structured, engaging and highlights the key points in a very straightforward and accessible way.

Scores

Academic Content	5
Usefulness to Student	5
Usefulness to Teacher	5

Meets Objectives	5
Accuracy	5

My Details

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