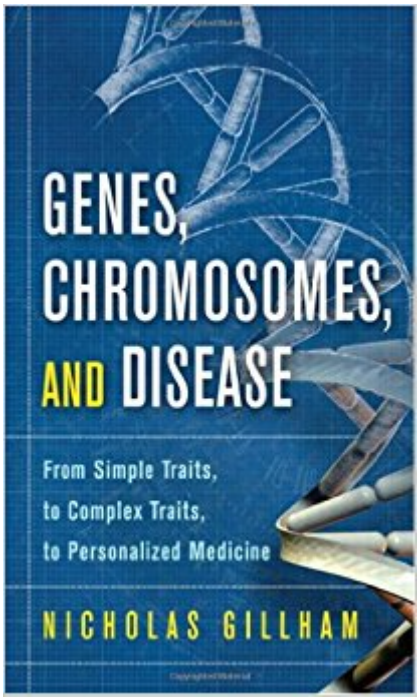
Genes, Chromosomes, And Disease: From Simple Traits, To Complex Traits, To Personalized Medicine (FT Press Science)



Synopsis

This very readable overview of the rise and transformations of medical genetics and of the eugenic impulses that have been inspired by the emerging understanding of the genetic basis of many diseases and disabilities is based on a popular nonmajors course, "Social Implications of Genetics," that Gillham gave for many years at Duke University. The book is suitable for use as a text in similar overview courses about genes and social issues or genes and disease. It gives a good overview of the developments and status of this field for a wide range of biomedical researchers, physicians, and students, especially those interested in the prospects for the new, genetics-based personalized medicine.

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Customer Reviews

This is a wonderful overview of the history of genetic research as it relates to disease, especially for individuals like myself who were humanities majors or not so scientifically inclined. There is a good bit of scientific jargon and the occasional table, but by and large this is a wholly accessibly text for anyone interested in the topic.In what is a relatively concise read, Professor Gillham details the ways in which geneticists hunt down disease genes, how diseases develop, and the interplay of risk factors that might lead to disease (susceptible genes, ethnicity, etc.). A particularly fascinating chapter deals with genes and behavior, and addresses issues such as bipolar disorder, alcoholism, and homosexuality. Gillham is not polemical, if that matters to you. He does not express an opinion

on these matters either way, only reports on the history and current research taking place.There is also a chapter dedicated to preventing genetic diseases. Gillham concludes with an eye toward the future, and muses on the potential future of personalized medicine. The implications are pretty fascinating.Highly recommended!

This is a very good book but not something I would pick up and read if you were a lay person interested in epigenetics. This is a book written for scientists or students of the genre. This is one of those books that is laden with scientific jargon and information and for the right crowd it is a great book. I think if you were interested in learning about this topic and you were not in the medical or research field this book might be a bit heavy for you.

A thorough and comprehensive look at the field of Genetics as it is today. I ordered this book for free and found it worth quite a bit more. Its normal price of $50 was a bit more than I would have normally been willing to pay for the privilidge. Since I am an electrical engineer by profession, I found sections that were well above my better than normal knowledge of genetics. These made it much harder to read. There is an extensive Glossary (you will need it unless you are a professional geneticist) plus the author's references and notes section, etc. I am still reading in Chapter 10 (of 10). If reading on a Kindle device (like my Fire) the Glossary references are are very easy to reach with just a click on the highlighted items. Makes it much faster to look up an unknown word or subject area.The chapters cover everything from the earliest efforts in Genetics to the current high tech equipment used to map the human genome. It covers in detail with good explanations of many (more than I ever imagined) genetic diseases and treatments. The detail sometimes gets difficult to follow due to the complexity of this field and the sheer volume of the vocabulary it contains. Again, the Glossary helps somewhat,but does tend to break up the process of reading the text. In other words, it is a difficult read for the average person not trained in Genetics. You can enjoy the book, however, but at times it becomes a challenge to get through many difficult and complex sections.This is a well researched and written book. The author is clearly knowledgeable in Genetics and does a good job of giving both professionals and novices a good look at this subject.

In this book, the author who is a researcher at Duke University gives a succinct yet comprehensive overview of the role of genetics in health and disease. Starting with some basic facts about genetics including the structure of DNA, chromosomes and mutations, Gilham then devotes individual chapters to exploring specific diseases and the role of genetics in specific traits.He makes it clear

that while the genetic causes behind diseases like sickle-cell anemia, Tay-Sachs disease and Klinefelter syndrome are well-understood, nailing down gene malfunctions in disorders like cancer, diabetes, heart disease and especially mental disease is much more complex because of the multifactorial nature of these problems. The genetic foundations of cancer however are much better understood than those of the others and the author has an extensive and lucid discussion of this aspect of what is an essentially genetic disease.The book ends with a cautiously optimistic view of personalized medicine in which drugs can be targeted to individuals based on their specific genetic makeup. However there is a wide gap still separating data from successful prediction. Separating correlation and causation is especially difficult since many genetic markers can be correlated with a specific disease but few or none may be causative. Gilham also discusses the influence of epigenetics in modulating the nature and progression of complex diseases. A complete understanding of the genetic basis of human disease can only come from knowledge of both genetics and epigenetics.Overall this is a readable overview of a field whose importance is only bound to grow as our understanding of genetics and disease grows by leaps and bounds in the twenty-first century.

The book builds a bridge from the early discoveries about heredity, chromosomes and genes to the present. Those interested in specific gene-related diseases will find information about the more common diseases and also some of the more rare ones where the discovery process has led to an understanding of gene function.A moderate understanding of chromosomes, genes and diseases is a prerequisite for the reader; however the author manages to skillfully thread back and forth between the deep technical complexities and providing an enlightening narrative so the reader is not lost. A few more illustrations and explanatory narratives in the early part of the book might be helpful - for example - if the reader does not understand what a codon does, frame shift reading of genes makes little sense. All in all, a very helpful and well documented book.

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