

Book Review

The Strongest Boy in the World: How Genetic Information is Reshaping Our Lives

By Philip R. Reilly

278 pp., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, 2006, ISBN 0-87969-801-2, \$29

Human and medical genetics texts are reasonably abundant in the popular science shelves of the local bookshop. Philip Reilly has added another one, and whilst it is an interesting and engaging text it is possible that he has missed an opportunity to move this field on slightly and reflect on post-genomic era research, ethics and controversies.

Reilly is qualified in law, medicine and has worked as a geneticist. He also ran a company offering genetic screening tests for a range of diseases to the public which allows him to approach this topic from a variety of perspectives, some of which may be unique amongst the popular science writers. He is also a passionate advocate for popular science. This, his latest book, draws on many of themes of his previous, and very popular, book, *Abraham Lincoln's DNA and Other Adventures in Genetics* (ISBN 0-87969-580-3) and he clearly feels that the revolution brought about by the human genome project has widespread implications which will affect all of mankind.

This book is arranged in four sections, each dealing with one area of modern life which has potential to be influenced by genetic technology; Humanity, Diseases, Animals and Plants and Society. The themes of the book focus on how knowledge of genetics has potential to influence the future development of society.

The potential impact of genetic technology is immense and although Reilly avoids detailed discussion on many of the big ethical and legislative debates he does illustrate some of the concepts by the use of anecdote. For example, in covering racial differences he tells the story of Kenyan men from the Kalenjin tribe who have won numerous World and Olympic middle and long distance running titles. The Kalenjin tribe number around three million individuals from a world population of some six billion. He asks what has produced this success and discusses how the answers lie in genetics. Returning to race further on in the book he discusses how genetics can be used to establish genetic identity and elucidate modern patterns of human migration.

Many of the diseases and clinical concepts presented in this book will not be novel to clinicians and scientists. Having said that the diseases used to illustrate medical genetics go beyond those frequently used in medical genetics teaching but also include the frequently described Huntington's Chorea which is probably a stock disease for any author of a book on genetics

for the lay readership. The story of its discovery manages to include fabulous wealth, exotic jungle tribes, interesting and unusual disease mechanism and, unfortunately, the profound lack of hope of a cure for sufferers. Reilly uses this as an opportunity to open up the issue on the ethical debates currently underway about stem cell research and therapy without offering much indication of his views or the real complexities of the arguments.

Outside of medical genetics the book is a success. The chapters on longevity, intelligence, DNA forensics, and plant breeding are engaging and provide thoughtful writing and potentially useful teaching material. The chapter which covers the current understanding of the evolution of mankind and puts *Lucy*, the Neanderthals, and the other *Homo* species in context in a lucid and frank manner is great and will surely stimulate further reading on human evolution.

This story provides a backdrop to a discussion on recent human migration and how genetics, in particular mitochondrial DNA has been used to explore ethnic heritage. Unfortunately however this is where a mistake has slipped into the text. Reilly describes mitochondrial DNA as being present in the cytoplasm (in fact it is in the mitochondria of course), and whilst this is obviously a minor error it is a jarring mistake probably made more prominent by the accuracy and lucidity of the rest of the text. There are one or two similar examples elsewhere.

The style of writing is easy to read and each chapter is sufficiently self-contained to allow the reader to dip into the book randomly. One of the strengths of Reilly's writing is that he avoids genetics jargon. There is very little about nucleotides, enzymes, messenger RNA and so on. When jargon is needed he manages to slip it in to the text unobtrusively. What *The Strongest Boy in the World* does not cover and which may be of interest to many readers of popular science is the science of the so-called post genomic era. The gap in the popular genetics market is surely for a book dealing with genomics, proteomics, DNA microarrays, pharmacogenomics and so on. This book does not really cover any of those issues although it does hint of what is to come.

There are now many excellent popular science texts on medical genetics, including an excellent one by Reilly. It is uncertain whether this, undoubtedly interesting and well written book, adds much more to the catalogue. However, for anyone approaching the genre for the first time, this book, with its predecessor is perfectly acceptable starting point. Would I give it to someone as a present to stimulate interest in genetics? No, I'd give them Matt Ridley's *Genome*.

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