



Invisible Kingdom: From the Tips of Our Fingers to the Tops of Our Trash, Inside the Curious World of Microbes

Idan Ben-Barak. Basic Books, 2009

What's it about?

Biofilms, antibiotic resistance, horizontal gene transfer, and the value of hand washing are among the vast range of topics Ben-Barak discusses in this introduction to microbes. His old and loose definition of the term encompasses bacteria, archaea, fungi, and protists. He also considers forms from the untidy border of life itself: viruses, transposons, prions, and Tasmanian devil tumor cancer. The fact-packed chapters reveal how microbes develop, behave, and evolve and how life on Earth would cease without them. "Bonus tracks" offer additional fascinating stories, such as that of the "corrupted blood" epidemic in the virtual World of Warcraft. The author often mentions how scientists have developed our understanding of microbes, and he frequently raises unanswered questions and conflicting interpretations. Readers will find his chatty and humorous text offers a fun way to acquire a vast store of intriguing details about the small wonders that inhabit our world and our bodies.

Who is this book for?

This book is for everyone. You don't have to have a science background to read or understand it. The author does a great job of explaining any terms that you might need to know and there is a glossary in the back but you probably won't need to use it.

Who wrote it?

Idan Ben-Barak holds degrees in medical science and microbiology from the Hadassah School of Medicine at the University of Jerusalem. His writing has been featured in *New Scientist*. He lives in Melbourne, Australia. This is his first book.

Why should we read it?

You can try to ignore microbes but they won't ignore you. Wouldn't it be better to understand them? But seriously, microbes can make you sick but they also bring you cheese and bread. They help to recycle nutrients back into the environment and even help us to digest our food. Increasingly, the study of microbes is also offering promising solutions to some of modern's life most difficult problems.



What can we talk about?

Antibiotics are becoming less and less effective. Why is this and what can be done about it?

What do you think of the various potential new therapies discussed in the book?
Do they fascinate or frighten you?

Discuss the role of sex as an evolutionary process, as well as its role in antibiotic resistance.
What is the benefit for microbes to engage in reproduction that includes genetic material that is not its own.

Why has it been difficult to find a cure for the common cold and why do we need flu shots every year?

What role does luck play in scientific discovery?

What does the author mean when he says “A eureka moment, however brilliant, is never enough.”

What do you think of the author’s explanation of why we like spices?

Did you laugh as you were reading this? Did you read the footnotes? What was your favorite footnote?

What does it mean to be alive?

Did you learn something by reading this book that you didn’t already know?

What are some other books like this I might like?

- ◆ *Invisible Allies: Microbes That Shape Our Lives* by Jeanette Farrell
- ◆ *Power Unseen: How microbes rule the world* by Bernard Dixon

Where can I find out more?

Microbe World <http://www.microbeworld.org/>

Meet the Microbes http://www.amnh.org/nationalcenter/infection/01_mic/01_mic.html

Fun and Useful Facts about Microbes <http://microbialgenomics.energy.gov/funfacts.shtml>

Microbe Scope <http://starcentral.mbl.edu/microscope/portal.php>