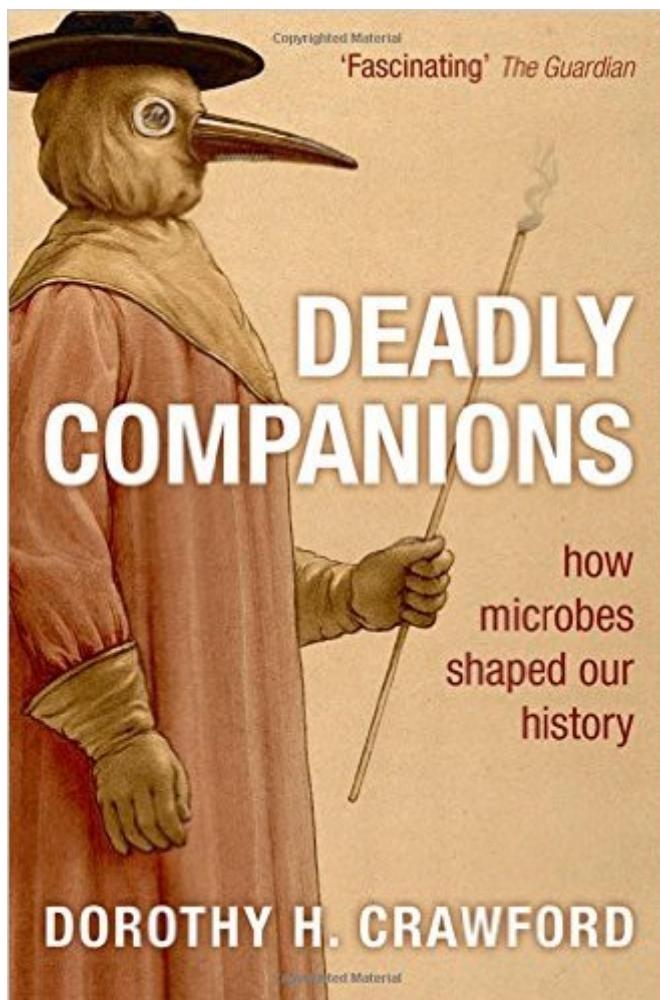


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# Deadly Companions: How Microbes Shaped Our History



## Synopsis

Combining tales of devastating epidemics with accessible science and fascinating history, *Deadly Companions* reveals how closely microbes have evolved with us over the millennia, shaping human civilization through infection, disease, and deadly pandemic. Beginning with a dramatic account of the SARS pandemic at the start of the 21st century, Dorothy Crawford takes us back in time to follow the interlinked history of microbes and humanity, offering an up-to-date look at ancient plagues and epidemics, and identifying key changes in the way humans have lived--such as our move from hunter-gatherer to farmer to city-dweller--which made us ever more vulnerable to microbe attack. Showing that how we live our lives today--with increased crowding and air travel--puts us once again at risk, Crawford asks whether we might ever conquer microbes completely. Among the possible answers, one thing becomes clear: that for generations to come, our deadly companions will continue to influence our lives. New in Paperback

## Book Information

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## Customer Reviews

Bacteria have a bad reputation. We think of them as causing illness, and that's correct, of course, but overwhelmingly they do not cause us harm. Without them, indeed, we could not digest our food, and elements could not be recycled into the environment. They have been performing this sort of vital service for around 600 million years. There are a million or so microbes we know about, and of them, only 1,415 are known to cause disease in humans, with the rest steadily chugging away to keep the world in balance. Those pathogenic ones are the main subject in *Deadly Companions*:

How Microbes Shaped Our History\_ (Oxford University Press) by Dorothy H. Crawford. A microbiologist, Crawford has written plenty of scientific papers, but here (as in a previous book about viruses) she writes for a popular audience to show how microbes, especially the ones that bother and kill us, have affected the humans that are interlopers in their world. We must never forget that most microbes are our companions and are not deadly, and that we live in a mutually beneficial partnership with millions of them. But it is their world: "We relative newcomers to the planet," ominously writes Crawford, "emerge from the safe environment of our mother's womb pristine, untouched by the infectious microbes, but within hours our bodies are colonised by swarms of them, all intent on living off this new food source." Microbes don't mean to hurt us, of course, and despite the upsurge of religious feeling that accompanies any plague, there is no reason to think that they are doing anything but their natural cycles without any supernatural tinkering to deliver lessons to afflicted humans. The great problem with infective microbes is that they can change faster than we can. Resistance to the antibiotics we have had for only a few decades is merely the most recent manifestation of their evolutionary adaptability, and there is no reason to think that any new generation of antibiotics is going to change this pattern. Crawford shows how different microbes afflicted us when we were hunter gatherers than did so when we changed to living in farming communities. Diseases have changed history. The ruler Crawford mentions that seems to have been most affected by them was Napoleon. He wanted to extend his empire into the New World, but mosquito-borne yellow fever decimated the troops within the Caribbean, and prevented his plan to move on to New Orleans and points north. It was not just the cold and starvation that kept Napoleon's troops from taking Russia. Louse-borne typhus took its toll, and without it, many historians think Napoleon could have gone on to conquer Europe. Crawford takes up bubonic plague, the potato blight fungus, cholera, smallpox and many more, explaining the natural cycle of each microbe, its vectors (mosquitoes, fleas, lice) and its reservoirs in the wild (snails, birds, cattle). It isn't all biology; Crawford points out that the major cause of microbe-related deaths is poverty, with a hugely disproportionate toll on poorer nations. The science she writes about, all with clarity and enthusiasm, is something new, especially compared to how long we have been going about with these microbial companions. Dealing with diseases scientifically has been regarded as impious; she quotes a 1722 sermon railing against smallpox vaccination "... because inoculation opposes the will of God, who sends disease (including smallpox) either to try our faith or to punish us for our sins." Science, however, is not going to keep us out of trouble; we have headlines these days about microbes that are resistant to our miracle drugs, and our own misuse of drugs against tuberculosis has resulted not in "multiply drug resistant" TB, but in "extensively drug resistant" TB, with

"completely drug resistant" TB looming in the future. Even if we were to invent the superdrug researchers jokingly call "gorillacillin", it would kill off our helper microbes as well as the villains, and history shows that even such a drug would be overcome by resistance eventually. It isn't hopeless, and Crawford has written a sobering but not a pessimistic book. We have won battles, and that's something to be proud of. But we will have to content ourselves with winning battles, for we will never win the war.

First, I would like to issue forth that I am giving this book 5 stars as it was a very good read (if one can tolerate an academic book), delving into both the historical and scientific side of our deadly friends. I do have problems with the book, the main point being that it was too short. Judging by the cover, I thought it would delve more into the plague doctors of the 17th century and into some of the medieval lore surrounding plagues. This was not so, as it took a very broad look at it, spanning over several millennium, only lightly touch the plague doctors, as well as other topics. It should be mentioned that, for the most part, it was a look at how these disease infected and affected Europeans and N. Americans, however she did get into the very depressing downfall of the great civilizations of South America, with some detail. I cannot hold shortness against the book as it is not meant to delve too deeply into any one topic and is designed to cover a wide range of issues, which it did very well, and giving the reader a tantalizing taste into this strange history. I found it a quick read (but not exactly light), and it did make me sad when I learned just how severe many of these diseases were, that I only knew by name. All in all, this is a fine book and worthy of anyone reading it that holds an interest in medicine, history, or both (as I do). Enjoy!

In *Deadly Companions: How Microbes Shaped Our History*, Dr. Dorothy Crawford tells the tale of how microbes have impacted human society throughout the ages. She begins with a basic description of the life cycle of bacteria and viruses and then proceeds to discuss the methods of transmission to the early hunter-gatherer societies. From there, she traces the evolution of microbes in conjunction with the growth of human civilization. Dr. Crawford's main purpose in this investigation is to evaluate mankind's future in relation to the microbes that have plagued us for centuries. While history has shown man fighting desperately to survive, modern technology has given us the tools to alter this war. However, even tools such as antibiotics, antiviral drugs, and vaccines have, on occasion, been rendered ineffective as microbes evolve and mutate far faster than we do. With that in mind, Dr. Crawford proposes that we find a solution in which we live in harmony with, rather than at odds to, the multitude of microbes. Structurally, Dr. Crawford

progresses chronologically starting with the infection of hunter-gatherers by malaria and ending with the recent epidemics of SARS and H5N1 Avian Flu. During each era of history, certain microbes were more prevalent and Dr. Crawford highlights these microbes in their historical context. I would highly recommend *Deadly Companions* to all readers. While the subject matter may seem to be quite "academic," Dr. Crawford does an excellent job of formatting the material for the general audience while still remaining objective and factual and captivating the mind through the last page.

After reading *Deadly Companions* I feel like I should be bathing in that germ killing gel that everybody carries in their pocket or purse. And after I meet somebody new, or who has recently traveled, I have this sudden urge to wash my hands, face, and take more Zicam. Good job telling us how we developed alongside microbes; how they impacted our development in useful and detrimental ways. But she seems to have written hastily. This could have been fleshed out a bit better, reaching a wider audience, if only she had taken her time and added more history and storytelling to the too short chapters. Not a book I would recommend to my college students. Perhaps something high-schoolers should read as part of biology class. A much better book to read is *Influenza!* about the 1918 Spanish Flu.

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