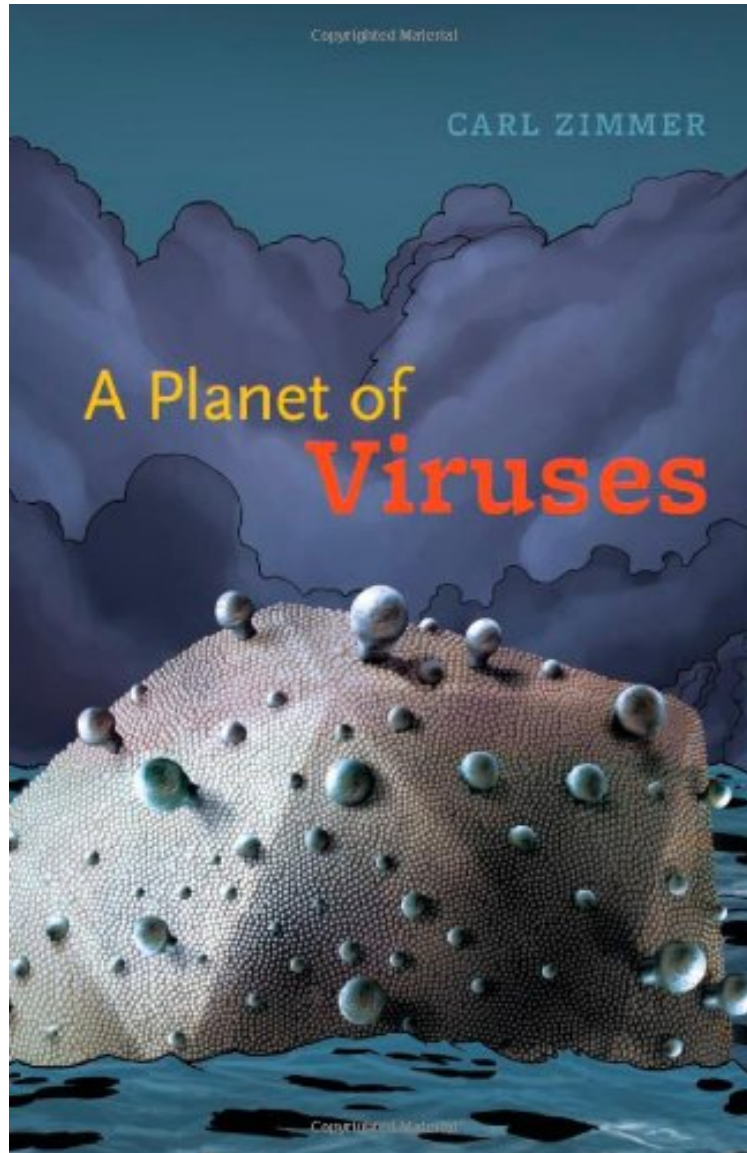


(Download free pdf) A Planet of Viruses

## A Planet of Viruses

Carl Zimmer

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**Carl Zimmer : A Planet of Viruses** before purchasing it in order to gage whether or not it would be worth my time, and all praised A Planet of Viruses:

0 of 0 people found the following review helpful. Potent Capsules of Information Packed in a Small VolumeBy R. SchultzThis thin book consists of short chapters accompanied by stunning photos of viral individuals. Youll find a lot of basic information here that often gets skipped in larger, more ponderous books on the subject.You get a sense of the sheer ubiquity of viruses. They are even on a grain of sand. Youll read how little we know about them, especially

about the marine-dwelling viruses which generally seem to be unlike anything known on land. You'll read about some of the reasons that human flu epidemics are so often associated with birds and pigs (avian flu, swine flu). There is some information here I hadn't read before about the ways in which the HIV virus compromises the body's system. There are suggestions about how and why viruses might be coming back as a means of treating bacterial diseases, now that so many of our antibiotics are failing to cure all the mutated varieties of bacterial infection we are facing. There are other, incidental astonishing facts mentioned here that I found myself reading about for the first time. For example, on the very first page, Zimmer mentions the existence of The Cave of Crystals in Mexico's Sierra de Naica range. This other-worldly cavern of immense, towering crystals is now largely unavailable for viewing. But as with the other subjects touched on in this book, Zimmer's description will pique your interest and induce you to explore further. I think this is an excellent book to introduce readers from ages 10 on up to the subject of viruses. The fascinating facts presented here might then help sustain their interest if they should choose to plunge into more academic studies of the subject.

98 of 103 people found the following review helpful. Small and Packs a Punch By shipud Interesting things happen when physicists decide to go into biological research. They ask questions that biologists generally won't. For example, viruses have small genomes, but they also have very small storage space in their capsids. Bacteriophages inject their genetic material into the bacteria they infect like a combination of a lunar lander and a syringe. How much force does the coiled bacteriophage DNA have? As it turns out, bacteriophages pack quite a punch. The force required to insert the DNA into the capsid is fairly large, and requires quite a bit of ATP, stolen from the host cells by the infected virus before the cell is killed.

Carl Zimmer's new book, *A Planet of Viruses* borrows its delivery technique from its subjects: in less than 100 pages, *A Planet of Viruses* packs quite a punch of information. The eradication of smallpox, the rise of HIV, the immigration of West Nile virus to the western hemisphere, the viruses in our genomes and the recent discovery mysteriously huge mimivirus are all treated here in delightfully short essays describing the impact of viruses on mankind and on life in general. To some of these topics Zimmer brings refreshing perspectives. He proposes that the common cold virus, an unwelcome companion of man since ancient history, should be treated like a wise old tutor rather than an ancient enemy. Then he explains why we haven't truly eradicated smallpox, and probably never will. Viruses, hovering between life and non-life have an impact on life so large it is hard to fathom. Viruses kill about half of marine microbes every day. Their sheer biomass ("...equal to [that of] 75 million blue whales"), huge host range, mind-boggling number of particles in the biosphere and, above all, the genetic diversity which is unmatched by all other life combined. They infect more than our cells: many are contained in our very genomes, transferred from generation to generation.

Having read the book in one sitting, I felt a bit lightheaded when I rose to drink my (now cold) coffee. Like compressed viral DNA injected into the host cell, the movement of this concentration of information from a small book into my brain had an almost palpable effect. As a microbiologist I knew quite a few of these stories about viruses, I just never had them put together in front of me in such a readable and concentrated fashion. Unlike larger books, which may be more elaborate on any single theme, Zimmer's small book delivers its viral DNA in a short, sharp shock. I am happy to have been infected, and I recommend you do the same.

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4 of 4 people found the following review helpful. Even a molecular virologist can think about viruses differently By Michelle A. Ozbun I have been directing and teaching in a graduate-level molecular virology course at University of New Mexico School of Medicine since 2003, and today as I prepare for my first lecture of the semester, viruses fascinate me more than ever! (More about my background below). This year, I assigned the book "A Planet of Viruses" by Carl Zimmer as introductory reading for my class and first lecture. Reading in its entirety this morning, and I REALLY ENJOYED THIS BOOK!! It is not a textbook, nor is it meant to be. It is a lovely set of essays that puts in perspective how viruses fit into history, the conquests of virologist and other scientists, some failures, the limits of our knowledge, the balance of life and how creation and destruction join together (as was nicely brought full circle in the book!). It's got all the elements of great stories: sex, murder, politics, terrorism, and the frailty of human life. It covers many aspects key to a basic understanding of how viruses work, and discusses features of public health, vaccination, global warming, bioweapons, human experimentation.

Zimmer brings in important newer concepts of viruses as commensal organisms, or even symbiotes, as life forms - or not, as essential building blocks to our own humanness, as drivers of evolution. This was elegantly accomplished. Finally, this work is scholarly, delving into the history of viruses and virology and includes a nice literature review. Finally, and most important to me, this book caused me to think about some aspects of virology differently, and inspired me to look deeper into some topics on which I had not kept current. This is what science education is all about: challenging us to think about "facts" in a different light.

I also really like this book because of its history, but as with any science-related book, some of the material is not current: *Virus That Ate Cannibals: Six Great Medical Detective Stories* by Carol Eron My background: I have a PhD in Molecular Virology (Baylor College of Medicine, 1994), and became a lifelong student of virology in 1985 when, as an undergraduate, I found myself intellectually intrigued and personally disgusted by the AIDS epidemic. I have been engaged in virus-related research now for more than 25 years (that makes me sound older than I feel/am!). My research lab focus at the UNM SOM and the National Cancer Institute-Designated Cancer Center is on human papillomavirus infections, how these viruses infect human cells, and what makes these normally benign lesions progress to cancers in a few individuals. You can

hear me discuss HPVs on the Blog TWiV (This Week in Virology), episode 126: [...]

Viruses are the smallest living things known to science, yet they hold the entire planet in their sway. We are most familiar with the viruses that give us colds or the flu, but viruses also cause a vast range of other diseases, including one disorder that makes people sprout branch-like growths as if they were trees. Viruses have been a part of our lives for so long, in fact, that we are actually part virus: the human genome contains more DNA from viruses than our own genes. Meanwhile, scientists are discovering viruses everywhere they look: in the soil, in the ocean, even in caves miles underground. This fascinating book explores the hidden world of viruses a world that we all inhabit. Here Carl Zimmer, popular science writer and author of Discover magazines award-winning blog The Loom, presents the latest research on how viruses hold sway over our lives and our biosphere, how viruses helped give rise to the first life-forms, how viruses are producing new diseases, how we can harness viruses for our own ends, and how viruses will continue to control our fate for years to come. In this eye-opening tour of the frontiers of biology, where scientists are expanding our understanding of life as we know it, we learn that some treatments for the common cold do more harm than good; that the worlds oceans are home to an astonishing number of viruses; and that the evolution of HIV is now in overdrive, spawning more mutated strains than we care to imagine. The New York Times Book Review calls Carl Zimmer as fine a science essayist as we have. A Planet of Viruses is sure to please his many fans and further enhance his reputation as one of Americas most respected and admired science journalists.

"Part of a series sponsored by the Science Education Partnership Award (SEPA) to help support educational outreach to students, [A Planet of Viruses] packs into 109 pages just about everything youve always wanted to know and a lot youll probably wish you didnt know about the viruses that have caused humanity so much grief throughout history." Forbes