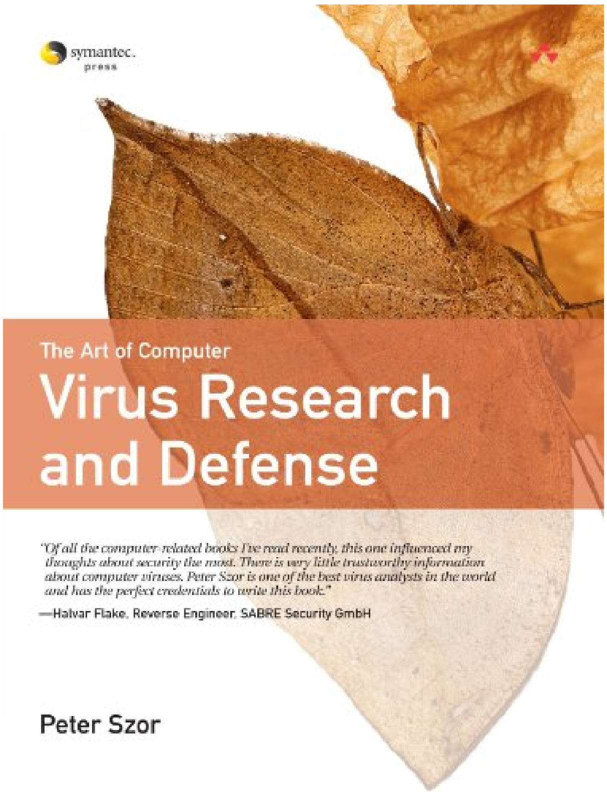
THE ART OF COMPUTER VIRUS RESEARCH AND DEFENSE BY PETER SZOR



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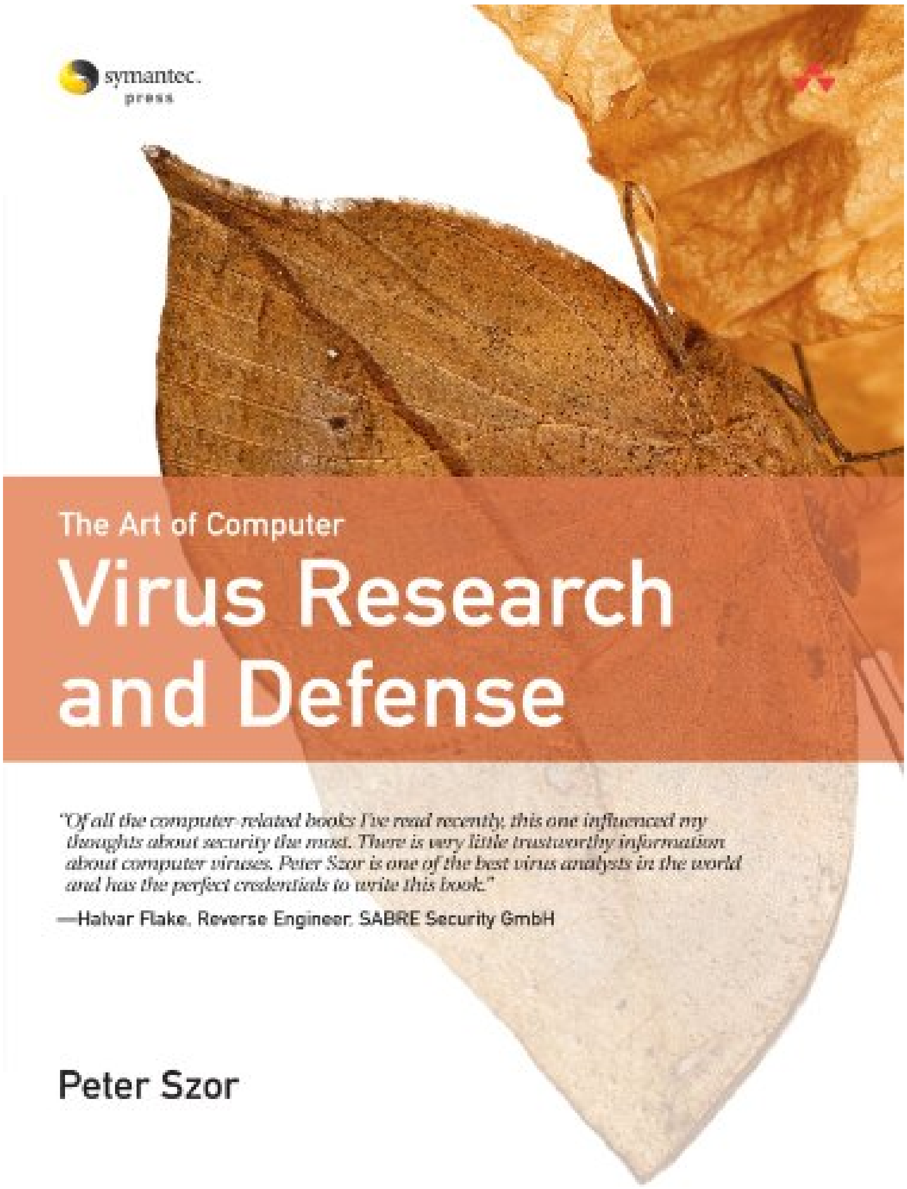

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One of the best technical books I've ever read
By Richard Bejtlich
Peter Szor's 'The Art of Computer Virus Research and Defense' (TAOCVRAD) is one of the best technical books I've ever read, and I've reviewed over 150 security and networking books during the past 5 years. This book so thoroughly owns the subject of computer viruses that I recommend any authors seeking to write their own virus book find a new topic. Every technical computing professional needs to read this book, fast.

I read this book from cover to cover. The author does not lie when he says acquiring the same amount of information requires digging in obscure virus journals and analyzing malicious code. TAOCVRAD's single most powerful aspect is the author's persistence in naming one or more sample viruses that exemplify whatever concept he is discussing. In other words, all of his theory is backed by, or builds on, real-life examples. Each chapter contains moderate end-notes that provide pointers for additional research.

A truly great book has the power to change deeply-entrenched opinions, or make readers look at old problems in a new light. In my case, I altered my perception of the virus problem and ways to fight it. First, I changed my concept of viruses and worms. Peter builds on Fred Cohen's virus definition to say 'a computer virus is a program that recursively and explicitly copies a possibly evolved version of itself.' He calls worms a 'subclass of computer viruses.' I used to disagree with Peter; I believed a virus infects files and requires user interaction, and a worm spreads by itself via the network. Now I agree with Peter's viewpoint: 'worms are network viruses, primarily replicating on networks... If the primary vector of the virus is the network, it should be classified as a worm.' The distinction is subtle, but it makes sense to consider worms a subclass of viruses given Peter's extensive analysis of both types of malware.

Second, I recognized I held an opinion Peter considers unfortunate: 'some computer security people do not seem to consider computer viruses as a serious aspect of security, or they ignore the relationship between computer security and computer viruses.' I was guilty as charged. I used to positively detest viruses because they seemed like mindless automated code that did little but replicate. After reading about scores of real viruses, I have a profound appreciation for virus technology. Viruses introduced techniques for obfuscation, stealth, and exploitation a decade earlier, in some cases, than the single-shot exploit code we see today.

Third, Peter put a human face on the problems associated with closed-source operating systems like Microsoft Windows. Many so-called Native API calls are undocumented, and as such make life difficult for anti-virus developers. (Virus writers tend to know them.) With Microsoft entering the anti-virus market, will it leverage these secrets to outperform competitors lacking this internal knowledge?

Readers of Ed Skoudis' 'Malware' or Jose Nazario's 'Defense and Detection Strategies against Internet Worms' will find this new book greatly complements those two works. Those wishing to get the most value from TAOCVRAD should have Intel assembly coding skills and several years of hands-on security experience.

I had almost no issues with this book, which is striking given it is nearly 700 pages long. In a few places I found the language a little rough, but not enough to bother me. I believe a code listing on p. 372 should show a '

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Instead, classes should focus on the analysis of existing malicious threats. There are so many threats out there waiting for somebody to understand them—and do something against them.

Of course, the knowledge of computer viruses is like the "Force" in Star Wars. Depending on the user of the "Force," the knowledge can turn to good or evil. I cannot force you to stay away from the "Dark Side," but I urge you to do so.

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