

Building the 21st-Century Heavy Division"

General William W. Hartzog and Lieutenant Colonel James G. Diehl—See page 91

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Building the Army After Next



From My Bookshelf

Thinking out of the Box: A Force XXI Reading List by Captain Gregory Conti, US Army

You have read Sun Tzu's *The Art of War*, Michael Shaara's *The Killer Angels* and Carl von Clausewitz's *On War*. So what is next? There are a number of excellent books on military strategies, operations and tactics, but most deal with the past. I suggest the following reading list as a way to expand your knowledge of current and future warfare and technology. A well-informed vision of the future will allow you to better prepare yourself and your unit for future conflicts.

This reading list offers a mixture of science, science fiction, warfare and technology. These books are classics, written by leaders in their fields. These writings are the impetus that spawned today's technological revolution. This list is certainly not all-inclusive, however. It provides departure points and exposure to some of today's most visionary writers. Reading the books on this list supplements traditional military training with a vision toward the future.

***I, Robot* by Isaac Asimov.** This 1950 book was one of the first to forecast robotics' possibilities, benefits and shortfalls. However, Asimov's science fiction work does not just predict the future, it is an exciting tale that pits humans and robots in competition for world supremacy.

***Shockwave Rider* by John Brunner.** This 1975 book describes the life and technological times of a computer expert who made himself exempt from the control of Earth's global information grid. The ability to maintain anonymity or privacy in today's world is fast becoming impossible. Brunner was in the forefront in predicting just such a scenario.

***Ender's Game* by Orson Scott Card.** *Ender's Game* is a story of military genius in the near future. Earth has been under attack from an alien species for several centuries, and mankind is at the brink of destruction. As a last-ditch effort, a world government program genetically engineers military geniuses such as Ender Wiggin. From birth, Ender received rigorous leadership training at the Battle School and the Command School. Increasingly difficult training battles push Ender to his limit, but he never loses. His strategy, tactics and

leadership offer many lessons to today's leaders.

***Surely You're Joking, Mr. Feynman* by Richard Feynman.** Feynman, a California Institute of Technology professor and Nobel Prize winner, is a legendary figure in the realm of modern science. His genius lies in his "out-of-the-box" thinking.

***The Road Ahead* by Bill Gates.** This book is an upbeat vision of technology's future. Gates begins with a look at current technological capabilities and progresses to his vision of information technology's future uses. *The Road Ahead* was updated in 1996 and is extremely current. Gates covers lessons learned from the computer industry, information appliances and applications, the Internet's myths and realities, the search for better content, business applications, education, training and other critical issues.

***Neuromancer* by William Gibson.** This book is a seminal work in the realm of cyberspace. *Neuromancer* is the story of Case, the interface cowboy, who "jacks into" the virtual realm of cyberspace for fun and profit. Not only is this book fun to read, it offers a glimpse of how revolutionary networks of the future will be.

***In Search of Schrodinger's Cat* by John Gribbin.** This 1984 book covers the advanced facets of today's cutting-edge physics in an accessible way. Gribbin describes time travel, space-time, the atom and the universe. This book opens new doors to the near and far future.

***Being Digital* by Nicholas Negroponte.** Negroponte is a founder of Massachusetts Institute of Technology's Media Lab and a columnist for *Wired* magazine. This book puts the information revolution's complexities into a palatable, fun-to-read format. Douglas Adams, author of *The Hitchhiker's Guide to the Galaxy*, describes *Being Digital* as "Knowledgeable, argumentative and entertaining. Nicholas Negroponte writes about the future with the authority of someone who has spent a great deal of time there."

***Islands in the Net* by Bruce Sterling.** Sterling describes a detailed world of powerful multinational corporations, island data havens and political, economic and social chaos revolving around a global information network. He draws a dark view of the future, but some of it will undoubtedly prove true.

***The Cuckoo's Egg* by Clifford Stoll.** While working as an astronomer at Lawrence Berkeley Lab, Stoll discovered an intruder on the computer system. He got angry. This book is the interesting tale of Stoll's efforts to track the hacker through the Internet. During the process, he learns a lot about the Internet, the CIA, the National Security Agency and the telecommunications industry. You will too.

***War and Anti-War* by Alvin and Heidi Toffler.** The Tofflers, authors of *Future Shock* and *The Third Wave*, are highly regarded futurists. In *War and Anti-War*, they describe what they have labeled First Wave (Agrarian Age) Warfare, Second Wave (Industrial Age) Warfare and Third Wave (Information Age) Warfare. Although the Tofflers have their detractors, their work is worthy of being studied, simply because their predictions are often uncannily correct.

Wired, Wired Magazine Group. Subscribe to *Wired*! It provides "bleeding-edge" data on the information revolution. The premier issue describes this best: "There are a lot of magazines about technology, *Wired* is not one of them. *Wired* is about the most powerful people on the planet today — the Digital Generation — who are the people who not only foresaw how the merger of computers, telecommunications and the media could transform life at the cusp of the new millennium, they are making it happen."

***Pumping Ions* by Tom Wujec.** The other books on this list provide information to develop out-of-the-box thinking. Wujec provides the tools. *Pumping Ions* provides techniques for improving decision making, creativity, memory, concentration, analysis and synthesis skills. Although this book is only 250 pages long and does not take long to read, spend the time to do the exercises and puzzles. You will develop mental muscles you never knew you had.

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