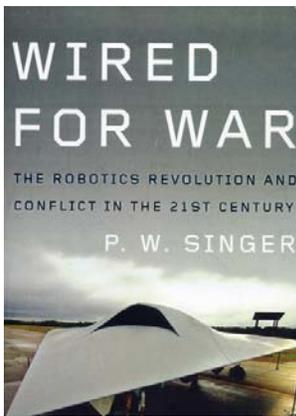


Frakin' Cool and Winning Wars

P.W. Singer, [*Wired for War: The Robotics Revolution and Conflict in the 21st Century*](#). New York: The Penguin Press, 2009. 499 pages. \$29.95.

Reviewed by Robert L. Goldich



After Operation Desert Storm in 1991, there was a fusillade of remarks about how American technological superiority was the decisive factor in how we won the war. General H. Norman Schwarzkopf would have none of this. He stated that although our weapons and equipment were indeed technologically superior to those of the Iraqis, we would have won the war if we had had their equipment, and they had had ours. P.W. Singer would have done well to ponder this remark at some point in the researching and writing of *Wired for War*.

The very first line of the book responds to a chapter title: “Why a book on robots and war?” His answer: “Because robots are frakin’ cool.” And indeed they are. Singer takes us on a fascinating tour of the current and predicted state of military robotics. We get a comprehensive survey, from potential nanotechnologies that might create machines utterly invisible to the naked eye; to current robots of lawn-mower size doing good service for American troops in Iraq and Afghanistan; to the potential for truly intelligent, self-aware, and autonomous military robots that he says may exist within a couple of decades. He quite properly concentrates, more than anything else, on the tremendous growth just in the past few years of unmanned aircraft from dragonfly to jet fighter size—and here I think he is on his firmest ground in suggesting that war in the air may be changed more by robots than naval or ground warfare. Furthermore, Singer doesn’t confine himself to technical material, but does his best to explore the long-term social and philosophical results of the increased automation of warfighting. He clearly believes that robotics will quickly and decisively change the entire nature of war.

But when one thinks something is “frakin’ cool,” one has a tendency to avoid some inconvenient truths—or to latch on to some things which one thinks are true but which ain’t so. So it is with Singer. Somebody, in the course of his very extensive research, should have dumped a bucket of military-historical cold water on him. Perhaps the key problem with his assertions are embodied in his one sentence (p. 263): “The United States may be the most powerful nation-state in history, largely because of its technology.” Well, no. Not really. Our technology wasn’t superior to that of the

Germans, our primary enemy, in World War II—our productive capacity, our organizational skills, and ultimately our strategic insights were. We weren't stalemated in Iraq for three years because our technology was inferior, and we didn't turn the situation around because our technology got better. And we don't prevail on the tactical level in Iraq and Afghanistan because of our technology, but because our soldiers and Marines are superbly trained, well led, are willing not only to risk their lives, but equally willing and ready to close with and kill the enemy with personal weapons. Infantrymen will tell you that the technology that we've placed at their disposal, including the robots that Singer describes, is sometimes useful, often marginal, occasionally more trouble than it's worth, and can never replace a good grunt who knows what he is doing. The late, great science-fiction writer Poul Anderson said it best (*Satan's World*, New York: Lancer Books, 1968, pp. 165-66): robots, even the self-aware ones that Singer says will come, can never match the human being in fundamental decision-making capability. "...the biological creature has available to him so much more physical organization. Besides sensor-computer-effector systems comparable to those of the machine, he has feed-in from glands, fluids, chemistry reaching down to the molecular level—the integrated ultracomplexity, the entire battery of *instincts*—that a billion-odd years of ruthlessly selective evolution have brought forth. He perceives and thinks with a wholeness transcending any possible symbolism; his purposes arise from within, and therefore are infinitely flexible."

Even if the skeptics are wrong about the ultimate transformative power of military robotics, one thing is virtually certain: it will happen much later than sooner, and it will take a lot longer than Singer thinks. Technology addicts fail to remember that everything always takes longer and costs more, the natural and unavoidable consequence of the fact that the people who develop these things are natural optimists. Were they otherwise, they wouldn't even try. Furthermore, Singer buys into the hoary old chestnut that reactionary military men don't "adapt well to new technologies." (p. 251) Actually, few institutions adapt to new technologies better and faster than the military—the penalties for failing to do so are higher than in the civilian world. New technology takes a long time to be integrated into warfighting, and for very good reasons. Things that work in the laboratory, or on test trials, frequently don't stand up on the battlefield. New things break down. They have unforeseen effects. Thus, Singer tells us that reactionary generals prevented the adoption of repeating rifles for the infantry in the Civil War, and failed to instantly acquire machine guns when they were first invented. All of these things were for good reason. The first repeating rifles jammed easily and had much less stopping power, at shorter ranges, than the single-shot Civil War muskets—Union Army cavalry with repeaters was unable to hold Confederate infantry armed with muskets right up to Appomattox. Similarly, the first machine guns were balky, extraordinarily heavy, and hard to supply with ammunition. Singer thinks that they would have turned the tide for Custer at the Little Big Horn; actually, they were so unreliable and immobile that Sitting Bull would still have counted coup on Yellow Hair. So, it is virtually certain, will be the case with military robotics—if they turn out to be the most decisive change in warfare since gunpowder, it'll happen long after this reviewer, Singer, and the current SWJ readership and staff are long in their graves.

So read *Wired for War*. It's chock full of interesting stuff. But when you're reading it, never forget that ground war (Singer is much more on target regarding war in the air) is ultimately pre-industrial, pre-modern, and in fact primeval—just like human beings themselves, when the thin veneer of civilization is stripped away by reality.

Robert L. Goldich is a defense consultant and military historian. He retired in 2005 after a 33-year career with the Congressional Research Service, Library of Congress, as a defense analyst.

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