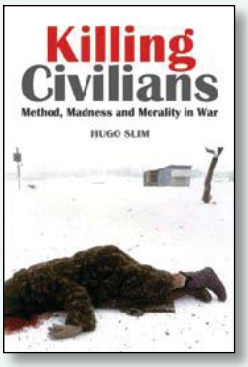


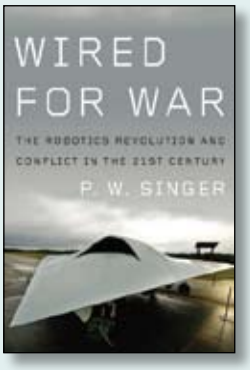
Killing Civilians: Method, Madness, and Morality in War
by Hugo Slim
New York: Columbia University Press, 2008
300 pp. $29.95
ISBN: 978–0–231–70036–8

"What is a civilian?" asks Hugo Slim, a scholar of humanitarian studies, in this book. Noting that international law has never defined the term and that the Geneva Conventions only describe what a civilian is *not*, Slim examines the notion in the international community that unarmed and innocent people deserve protection in war. He leaves no stone unturned in his discussion of the practice by states and nonstate actors throughout history of killing, pillaging, plundering, raping, and displacing noncombatants. Slim deftly examines ideologies that allow and even encourage wanton abuse or killing of noncombatants and exposes the thought processes that seek to justify perpetrating what today we call crimes against humanity. He compares the horrific to the acceptable and discusses why some forms of killing civilians are considered justifiable. Slim argues that killing civilians in war is almost always immoral and all practical measures to avoid it should be rigorously applied. In the end, he admits that acts of violence against civilians may be an immutable aspect of war and the human condition and that the best we might hope for is to reduce its incidence through greater understanding of the motivations behind it.

—R.E. Henstrand

Wired for War: The Robotics Revolution and Conflict in the 21st Century
by P.W. Singer
New York: Penguin Press, 2009
499 pp. $29.95
ISBN: 978–1–59420–198–1

Reviewed by
SHAWN BRIMLEY



"We are building the bridge to the future while standing on it," says an Army colonel quoted at the beginning of *Wired for War*, a book destined to become a touchstone in the evolving debate over how America's military can best prepare for the wars of today and tomorrow. Penetrating in analysis and convincing in argumentation, *Wired for War* is already a classic—if only because it is the first of its kind, offering a tantalizing but terrifying glimpse of a future where increasingly autonomous machines become decisive weapons of war.

The metaphor of bridge-building is apt because, as P.W. Singer describes, the robotics revolution has been a long time coming, and the technologies we are using (and how we are using them) in today's wars are shaping the contours of how we think about, develop, and field tomorrow's technologies. Singer provocatively declares that "man's monopoly of warfare is being broken. We are entering the era of robots at war" (p. 22).

While visions of robotic warfare once were confined to the imagination, today's wars are driving rapid and dramatic growth in the use of systems that flirt with what heretofore was considered fantasy. In Iraq, for example, thousands of ground robotic systems are deployed—from tiny remote-controlled reconnaissance vehicles to larger systems that detect and disarm improvised explosive devices. And thousands of unmanned aerial vehicles (UAVs) roam the skies above Iraq and Afghanistan, enabling ground commanders to survey huge areas and improve operational planning and precise targeting.

While UAVs and the various ground-based remote vehicles being used today seem futuristic, they are only harbingers of what is to come. The Navy and Air Force are developing unmanned combat aerial vehicles that will dramatically increase the range and persistence of U.S. airpower. These systems are likely to employ some form of artificial intelligence that may eventually render entire formations of U.S. strike aircraft largely autonomous.

Singer describes numerous efforts under way in the United States, many funded through the Pentagon's Defense Advanced Research Projects Agency, to push the limits of human-machine interfaces of the type featured in William Gibson's book *Neuromancer* or the blockbuster film *The Matrix*. Singer also describes several projects designed to create and field micro-UAVs small enough to enter buildings and microscopic nanobots so cutting edge that possible military applications remain unclear. Other projects are closer to fruition, including various unmanned ground and maritime systems, and several versions of autonomous combat and medical robots.

Given all that *Wired for War* describes, it is probably not an overstatement to suggest that we may be on the cusp of another revolution in military affairs. That term is not very popular anymore, tied as it is to the legacy of Donald Rumsfeld and *shock and awe*, *effects-based operations*, *transformation*, and other buzzwords that obscured more than they revealed about warfare and military innovation. But the scale and scope of what is happening with robotics and artificial intelligence justify Singer's use of the term *robotics revolution*. If he is right, robotics will have as much or more impact on warfare as the longbow, horse cavalry, railroads, radio, or precision weapons did during earlier periods.

Talk of transformation or network-centric warfare has declined in part because of an emerging and overdue consensus that the zeal to advance the information revolution led some advocates to embrace the illusion that technology could "lift the fog of war" and provide a "God's-eye view" of the battlespace. The notion that a commander could gain total "information dominance" cut against the entire history of warfare, and many military officers and civilian policymakers ignored Clausewitz in favor of dubious and untested concepts. Singer does not believe the robotics revolution will lift the fog of war; rather, he argues that the problems of uncertainty and friction are likely to play large roles in how these technologies evolve: "The dark irony is that the more advanced robots get, the more complex they become, and the more potential they have for failure" (p. 157).

Singer's book is particularly timely, given that the Obama administration is preparing its National Security Strategy and the Pentagon is drafting the Quadrennial Defense Review, which will—perhaps more than any before—influence the size and shape of America's military forces. For example, Secretary of Defense Robert Gates has been outspoken in his insistence that greater resources be devoted to intelligence, surveillance,