



## Opinion: Fictional Work Gives View Of Future Wars

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A peek at a world for which the Pentagon is preparing

This week, the Atlantic Council is publishing an anthology of short fiction and graphic art it curated during the first year of its Art of Future Warfare Project. Entitled *War Stories from the Future*, the collection makes good on the project's ambition "to advance thinking [about] the future of warfare [by] cultivating a community of interest in works and ideas arising from the intersection of creativity and expectations about how emerging antagonists, disruptive technologies, and novel warfighting concepts may animate tomorrow's conflicts."

Writing in a forward to the anthology, Gen. (ret.) Martin Dempsey, recently retired chairman of the Joint Chiefs of Staff, commends the book's 10 stories for their "power to develop the professional imagination."

On no topic do these war stories more powerfully engage the imagination than human-machine collaboration, which Deputy Secretary Bob Work calls "the big idea" now animating the [Defense Department's](#) pursuit of a third offset strategy to mitigate deterioration in conventional deterrence. "We will go after human-machine collaboration," Work said, "by allowing the machine to help humans make better decisions faster." What Work described as the "building blocks" of this collaboration—learning machines, automated systems, machine-assisted human operations, human-machine combat teaming, and autonomous weapons—are the very wonders and worries of *War Stories from the Future*.

As one would expect, the book depicts an array of cool machines and futuristic capabilities. A renegade pilot wears haptic gloves to command a spaceplane from the ground station of her college dormitory. The Internet of Things goes awry in the violent crash of autonomous streetcars in Seoul and the fatal hacking of a certain president's pacemaker in Moscow. Tattoos stream data, robotic EMTs rescue the wounded and 3-D printers fabricate an airborne arsenal literally on the fly.



More surprising is the substance these stories give to abstract notions of non-state combatants on future battlefields. The U.S. commissions “hackaneers” to exact rough justice on cyberpirates. The U.N. commands a brigade of eco-warriors to seize a cache of illicit ivory, pelts and aphrodisiacs. Covert vigilantes patrol low Earth orbit on behalf of a nation-state of citizens tied only through cyberspace. Counterterrorism targets are validated by a crowd-sourced intelligence network comprising “civilians in Schaumburg, Illinois, . . . or Tampa, Florida, . . . or commuting on the train to the night shift at a Sacramento, California, motel.”

And women play decisive roles. Commanding palm-sized drones from a cubicle 5,000 mi. away, Karin renders real-time intelligence, surveillance and reconnaissance to two female lieutenants defending a desert city against insurgents. Claire coordinates police interventions on Britons who exhibit a genetic tendency toward radicalization. A small, dark-haired woman holding an ambiguous shopping bag stands defiantly (or threateningly or perhaps plaintively) before a monstrous armored vehicle in the middle of a sunbaked highway.

Still, the compilation's deeper insights arise from its ruminations about the complex relationship between humans and the machines of future war. While robotics and autonomy spare human flesh in these stories, the remote operations they enable also turn soldiering into a profession of physical isolation and spiritual alienation. Big-data computations drive action by helping humans make good, speedy decisions faster, but the great drama in these stories still turns on the heroic, tragic, and comic consequences of human choices.

In the parable that forms the spine of this anthology, an elite soldier, Galatin, engages a chatterbot psychiatrist in a dialectic over the difference between men of war and machines. "Aren't we all made up, in essence, only of code?" asks the robot-doctor rhetorically. "Say what you want about evolution," responds Galatin with ironic resolve, "but maybe we sometimes become human by feeling ripped apart by confusion." And so it goes, in a future of supersmart weapons in which a persistent fog of war may help us keep hold of our humanity.

The novelist Frederick Pohl, author of *The Space Merchants*, once wrote, "A good science fiction story should be able to predict not the automobile but the traffic jam." So, too, in *War Stories from the Future*: It is the messy, odd coupling of "human-machine combat teaming," not their elegant symbiosis, that will do the most to inspire professional imagination about the third offset strategy.

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