



*P.W. Singer and August Cole. Ghost Fleet: A Novel of the Next World War. New York, NY: Houghton Mifflin Harcourt Publishing Company, 2015.*

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P.W. Singer and August Cole's new book, Ghost Fleet: A Novel of the Next World War, contemplates the geopolitical context necessary to start the next world war, how that war might play out between a post-Communist, expansionist China and a war-weary United States on the economic decline, and how emerging technologies

might shape the nature of such a war. The book is full of insightful messages regarding the state of current US defense procurement policy, the nature of warfare, and the role of technology in shaping the future of war. As a fictional projection of current technologies and geopolitical realities, Ghost Fleet's great value lies in its ability to generate interest and inspire debate about the future of warfare.

Singer has made a name for himself writing influential non-fiction books on child soldiers, private military contractors, military robotics, and cybersecurity, demonstrating the ways in which these subjects have influenced and changed the conduct of warfare in the 21<sup>st</sup> century. While Ghost Fleet represents Singer's first foray into the world of fictional literature, he is no stranger to using his research to imagine the future of warfare, having previously served as a consultant for the "Call of Duty" video games series, as well as for television shows such as "24" and "Strike Back."<sup>1</sup> Cole, as an Atlantic Council non-resident senior fellow, focuses on the use of narrative fiction to explore the future of warfare. At first glance, non-fiction may seem to be the more logical medium for presenting the larger ideas and themes in Ghost Fleet, however militaries have long relied upon fictional scenarios to guide concept development. The Canadian Armed Forces (CAF), for example, published Karl Schroeder's fictional narrative Crisis in Zefra in order to illustrate emerging concepts and technologies that could be used by the CAF in the future.<sup>2</sup> Basing the fictional events of Ghost Fleet upon extensive non-fiction research ensures that the fiction remains grounded in a recognizable and plausible reality.

Singer and Cole set the stage by describing a dirty-bomb attack on the hub of the world oil industry, the Saudi city of Dhahran, as an event that facilitates the next world war. The bombing pushes the price of oil to \$290 a barrel, crashing the world economy and triggering the fall of the Chinese Communist Party. Its successor, the Directorate, is a capitalist-nationalist hybrid regime ruled by professional military officers and members of the business elite. The US economy has plummeted and its population has grown increasingly war-weary following post-Afghanistan interventions in Yemen and

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<sup>1</sup> Mike Snider, "Interview: 'Black Ops II' Consultant Peter Singer," *USA Today* (May 2, 2012) <<http://content.usatoday.com/communities/gamehunters/post/2012/05/interview-black-ops-ii-consultant-peter-singer/1#.VX0EbPIVhBc>> (accessed June 13, 2015).

<sup>2</sup> Karl Schroeder, Crisis in Zefra (Kingston, ON: Department of National Defense – Directorate of Land Strategic Concepts, 2005).

Kenya. Furthermore, the technology gap between the US and China has narrowed dramatically. The latest iteration of China's space station, Tiangong-3, has been secretly militarized and a method to track the radiological signatures of US nuclear submarines from space has been discovered.

In order to protect their resource interests and seize upon a perceived moment of destiny, China, with the support of Russia, mounts an opportunistic surprise attack by air, land, sea, and space, consequently gaining control over Hawaii. In the aftermath the US is effectively isolated from its allies as NATO all but disintegrates, disillusioned by America's inability to continue to project power across the globe. Throughout the remainder of the book, Singer and Cole describe the war through a wide cast of characters. These include American veterans in Hawaii engaged in a low-tech insurgency, an eccentric and wealthy tycoon ready to assist the US war effort for his own personal gain, a Russian double-agent with a weakness for ladies of the night, and a US Navy Captain given command of an aging ship from the ghost fleet who is forced to work out issues with his estranged father while at sea.

Military technologies, both real and fictitious, are used as a means for conveying some of *Ghost Fleet's* larger themes. Many problems with the F-35 are already well documented: software problems that leave it vulnerable to hacking, performance issues, and spontaneous engine fires have all been part of its troubled development.<sup>3</sup> Singer and Cole describe a future, fully-operational, F-35B in such terms:

The plane, with its novel software systems and millions of lines of code, was designed to be its own co-pilot, capable of automation and interpretation never before possible in battle. But at this moment...the fifth-generation fighter was having trouble getting out of its own way, electronically speaking (70).

In *Ghost Fleet*, the outsourcing of the US military industrial complex's supply chain and the technological complexity of future advancements in computer chip design combine

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<sup>3</sup> Jeremy Bender, "Pentagon: Here are all the Problems with the F-35," *Business Insider* (Mar 20, 2015) <<http://www.businessinsider.com/here-are-all-the-problems-with-the-f-35-that-the-pentagon-found-in-a-2014-report-2015-3>> (accessed June 17, 2015) and Marcus Weisgerber and Aaron Mehta, "F-35 Catches Fire on Takeoff at Eglin AFB," *Defense News* (June 23, 2014) <<http://archive.defensenews.com/article/20140623/DEFREG02/306230025/F-35-Catches-Fire-Takeoff-Eglin-AFB>> (accessed June 17, 2015).

to turn the F-35 into a beacon for Chinese missiles, effectively grounding the US Air Force after the initial Chinese attack. It is only in the final aerial confrontation between China, Russia, and the US that aging F-15s and F-16s are brought back, having been retired to create “an artificial fighter gap, which helped make the case for keeping the spending up on the F-35, whose cost had spiraled” (327).

In discussing the development of the F-40A Shrike, a fictional fighter-drone, Singer and Cole highlight the real-world opposition that exists to increasing funding and research into unmanned systems: “[There are] worries about pilots losing jobs,” as well as “defense contractor’s concerns that the better the new technology became, the more it would threaten their already signed multitrillion-dollar weapons contracts.” An example of this opposition, which Singer and Cole point out, occurred in 2013 when a test drone - presumably the Northrup Grumman X-47B - successfully took off and landed autonomously from an aircraft carrier. Rather than accelerate its deployment to the fleet, the Naval Air Systems Command suggested sending the cutting-edge test drone to the Smithsonian (329). Both the F-35 and the fictitious F-40A Shrike UAV are used to highlight one of Singer and Cole’s recurring themes in Ghost Fleet: the folly of allowing political and economic considerations to drive military procurement, rather than sound defense planning.

Future technology, such as viz goggles, stim tabs, and lobster-shaped multi-purpose robots, as well as fully realized modern weapon systems like the F-35 and the rail gun, essentially act as main characters in Ghost Fleet. Yet Singer and Cole are careful not to lose sight of the importance of classic strategists, such as Sun Tzu and Alfred Thayer Mahan, to warfare whether it be waged in the present or the future. Each chapter of Ghost Fleet is prefaced by a relevant and premonitory quote from Sun Tzu’s The Art of War. Characters throughout the book are mindful of the teachings of both Sun Tzu and Alfred Thayer Mahan. The Chinese Admiral Wang, for instance, is described as “the new Sun-Tzu” and is guided by his teachings, instinctively citing passages from The Art of War from memory when considering a course of action (132). As Russian advisor to the Chinese occupation forces in the “Hawaii Special Administrative Zone,” General Vladimir Markov cautions his Chinese superior, General Yu, of the folly of failing to understand the insurgency, composed of US Marines fighting under the moniker of the North Shore Mujahedeen (263). Markov

stops short of referring directly to Sun Tzu's well-known quote about the value of knowing one's enemy, but the message in the book is clear. Ghost Fleet demonstrates how technology can supplement sound strategic thinking, but cannot substitute for it entirely.

While Ghost Fleet makes for compelling reading, it is not without its issues. Some of the scenarios and geopolitical projections in the book feel like a stretch. Would NATO really passively abandon the US and see the status quo shift so dramatically given the thorough and prolonged diffusion of US soft power across its European members? Are the sheer numbers of handicaps that Singer and Cole deal to the US military in order for China to plausibly gain the upper hand all that likely? Would the US actually proliferate nuclear weapons to Poland in return for the use of diesel-powered submarines? The human characters also tend to take a backseat to the more immediate and well-developed geopolitical scenarios and technologies described in the book. However, while one can take issue with the specifics of Singer and Cole's depiction of the future of warfare, that is exactly why Ghost Fleet is a valuable and worthwhile read. The point is not for readers to absentmindedly agree with the content presented in the book. The point is to stimulate thought and debate on the larger ideas, themes, and strategic scenarios presented by the authors. In this regard, Singer and Cole have done an excellent job crafting a work of reality-based fiction that gives the reader cause to consider the strategic implications of one of the many ideas put forward in Ghost Fleet: "just because you see the world one way today does not mean it will be that way tomorrow" (17).

*Danny Garrett-Rempel graduated from the University of Victoria in 2009 with a Bachelor of Arts (Honours) degree in History. His thesis was titled "Afghanistan and the Emergence of the Taliban: Weighing the Role of Islam as Mobilizing Force." He is currently pursuing a graduate degree in Strategic Studies at the University of Calgary's Centre for Military and Strategic Studies. His areas of interest include international security, Middle Eastern history, militant Islam and terrorism.*