development." Farwell may decline to offer definitions on purpose to avoid unwelcome distractions, and in many ways his argument implies that "communication strategy" is no different from just "strategy," and that a strategy that is not (or does not include) a communication strategy is doomed to fail.

Information Warfare also includes too many competing organizing principles. The titles of the 12 chapters offer one thematic and topical breakdown. The introductory chapter has a numbered list of seven "key factors," only one of which corresponds to a chapter (the chapter on measuring effectiveness). The next chapter begins with a bulleted list of seven "key steps," only two of which are duplicative of the first list, with only one represented by a chapter (again measuring effectiveness). Chapter 6 provides a checklist for building a strategy, which is a great idea. However, the checklist includes 24 characteristics, with no clear mapping to the chapter topics or either of the earlier lists of seven. It is not that any of these elements are *wrong*, per se, but there is some redundancy and some things that are not deserving of the same level of priority. There is strength in consistency and parsimony, and these inconsistent listings represent a missed opportunity.

The workbook that occupies the final sixth of the book is still useful despite some shortcomings. It includes 13 sections, and each poses a series of questions, leaving lines for the user to record their answers. All the questions stem from ideas found in the book, and all are probably good questions for planners to ask. But, like the rest of the book, there is no organizational consistency. Several of the chapter titles appear as section headings, but not all of them, and not in the order in which the chapters appear. Sections do not follow the two lists of seven from the first two chapters but include some elements from both lists. The checklist is not part of the workbook, and few of the checklist elements are included. I do not believe a fully completed workbook would satisfy all 24 checklist requirements. It is a shame that the workbook does not include, or at least directly complement, the checklist.

Bottom line: *Information Warfare* is worth the read. Planners and staff across the joint force, not only those responsible for communication or information, will find useful insights that will immediately benefit the strategies and plans they develop. Readers beyond the joint force will also benefit from Farwell's thinking about the relationship between actions, strategy, and communication strategy, as these lessons are applicable in foreign affairs and international relations more broadly. **JFQ**

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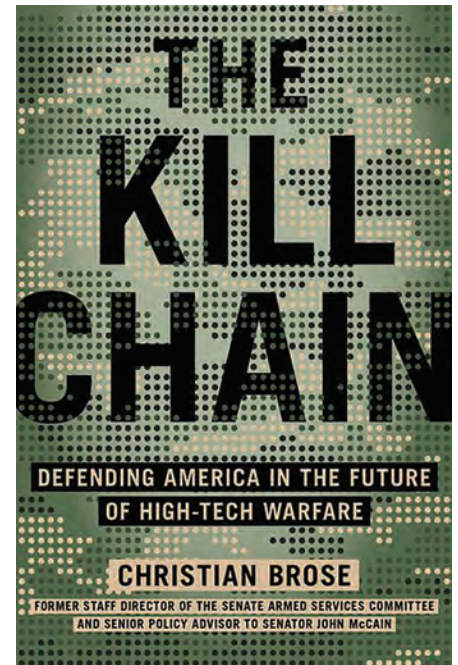
The Kill Chain: Defending America in the Future of High-Tech Warfare

By Christian Brose
Hachette Books, 2020
320 pp. $28.00
ISBN: 978-0316533539

Reviewed by Daniel Sukman

In March, the U.S. Indo-Pacific Command commander warned in testimony to Congress that China could attempt to take control of Taiwan in the next decade. In *The Kill Chain*, by Christian Brose, the former staff director of the Senate Armed Services Committee under the former chairman, the late Senator John McCain, posits that the United States is rapidly falling behind China and, to an extent, Russia, in the development of combat capabilities, platforms, and systems designed for the future of war. If this trend continues, the ability to defend Taiwan in an armed conflict against China will be increasingly in doubt.

Brose introduces the idea of the "kill chain" to demonstrate America's misguided thinking about war and capabilities development and to illustrate how the United States is losing pace to Russia,

but more significantly, to China. Brose sums up the kill chain in three parts: first, understanding the situation; second, decisionmaking; and third, executing an action to achieve an objective. Brose posits that the outcomes of a conflict with China or Russia will be dependent on the ability to retain one's kill chain while breaking the opponent's. Within the kill chain paradigm, Brose advocates for new ways of thinking about how to counter and defeat an adversary's kill chain rather than improving existing combat platforms and traditional ways of warfighting.

Brose argues that the Department of Defense (DOD) is simply updating systems and capabilities to fight in old ways against lesser opponents. He warns that, as China rises to peer status, at the current rate of modernization and technology acquisition, the United States is on pace to have a weaker force. A war with China will not be a tactical or operational rollover like the United States experienced in recent major combat operations. Specifically, he suggests that maritime and air superiority is unlikely, and the homeland will no longer serve as a sanctuary.

Brose singles out the defense innovation ecosystem and acquisitions process for critique, and there is ample blame to go around. According to Brose, the uniformed Services are just as culpable as the slow acquisitions process. For example, true innovation is often stifled by a preference for engaging with a small pool of companies willing to do defense work, creating less incentive for true innovation. A thicket of procedural and bureaucratic hurdles does not help. Brose points out that the creation and acquisition of new technology is not only slower and less creative than ever before but also requires more people and processes to approve them.

However, the limited pool of defense firms is only one dimension of the problem. Those firms that remain spend more money complying with regulations and navigating the bureaucracy than they do on research and development even though there are plenty of private corporations and technology firms that outspend DOD on research and

development. The book also serves as a warning that basing acquisition decisions purely on congressional districts and state economic interests can cause long-term damage to the security of the Nation.

The second central thesis of *The Kill Chain* is the call to move from a culture and doctrine of offense to a culture and doctrine of defense. A defensive mindset offers a new way of thinking about war and challenges policymakers and strategymakers to consider how the United States could best deter China from challenging it in lieu of seeking to impose its will. Brose views defensive thinking as the solution to China's military and technological rise. Leaders throughout the joint force may find the shift offensive. The joint and Service doctrines present offensive tactics, seizing the initiative, as gospel and crucial to victory. But is victory the same today as it was decades ago? Regardless, Brose's advocacy of a defensive mindset is certain to stimulate much debate.

Readers may find the author's pessimism discomforting, if not counterproductive. Indeed, Brose's alarmist writing fails to address some of the purposes of U.S. acquisition processes. There is risk in implementing new capabilities too fast and without proper testing and evaluation. The fate of effects-based operations and the Army's Future Combat Systems should serve as profound warnings about the dangers of moving too fast in doctrine and materiel changes. Also, tactical considerations should not lead the operational or strategic level of war. The author's focus and pursuit of advanced technology-based solutions is a flawed method for military adaptation. Brose does propose the use of smaller systems in large numbers (quantity as a quality) as a method of employment. Furthermore, he continually advocates for more drones and more artificial intelligence–based platforms without considering an operational concept that employs them. The idea that the military could shift to a defensive mindset is a start, but not enough to warrant significant changes to force structure and force design. Indeed, without an operational concept that has been *tested and evaluated*, acquiring new

platforms and implementing new doctrine are fool's errands.

The Kill Chain will certainly appeal to senior uniformed and civilian national security leaders. For the joint force, *The Kill Chain* provides a way of thinking about future force development and design with an emphasis on new technologies that can fundamentally change the character of war. As America's civilian and military leaders continue to press Great Power competition, the nature and speed of technological adaptation will play a decisive factor in the outcome. *The Kill Chain* should generate much debate and is an essential contribution to the way civilian and uniformed leaders throughout DOD should be thinking about preparing for war. **JFQ**

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