
EXECUTIVE SUMMARY

This chapter argues that the People's Republic of China (PRC) poses unique conventional deterrence challenges through its unparalleled buildout of cutting-edge missiles combined with its opacity and dismissal of restraints.

MAIN ARGUMENT

Under Xi Jinping, the PRC is increasingly achieving potent, tailored conventional capabilities that could be employed at every level of the escalation ladder. Beijing's increasing risk tolerance and assertiveness, particularly vis-à-vis disputed sovereignty claims such as Taiwan—together with its meteoric development of military capabilities to support such a posture—require a comprehensive re-evaluation of deterrence in PRC strategic thinking. China's approach to “integrated strategic deterrence” historically has been broad, encompassing both nuclear and conventional deterrence across competition, crisis, and conflict. The conventional component is in some ways the most important, yet the least studied by Western observers. A panoply of elements, systems, capabilities, and missions are intertwined with Chinese approaches to conventional deterrence. Likewise, since their formal elevation in strategic importance in the early 1990s, conventional missiles have had a leading position in the modernization of the People's Liberation Army (PLA). China's rapid military buildup, centered on conventional missile systems, gives achieving an updated understanding of Beijing's conventional deterrence calculus unprecedented importance. Such understanding is complicated by China's deliberate opacity and unwillingness to be forthcoming or embrace meaningful guardrails in either public announcements or private engagement.

POLICY IMPLICATIONS

- PLA source suggestions of China possessing conventional intercontinental ballistic missiles in the future, including those outfitted with hypersonic glide vehicles, raise the possibility of serious, unintended escalation.
- Long-held overconfidence in “calibrated deterrence”—and the signaling that it implies—is the most dangerous element of Chinese thinking with regard to deterrence and warfighting.
- U.S. decision-makers must unambiguously uphold the credibility of U.S. conventional and nuclear deterrence, including extended deterrence to protect allies from PRC nuclear and conventional threats.

China's Approach to Conventional Deterrence

Andrew S. Erickson

Under Xi Jinping, the People's Republic of China (PRC) is increasingly achieving powerful bespoke conventional capabilities that could be employed at virtually every level of the escalation ladder, thereby offering PRC leaders more rungs, options, and leverage in the international arena. Beijing's increasing risk tolerance and assertiveness, particularly vis-à-vis disputed sovereignty claims (e.g., Taiwan)—together with its meteoric development of military capabilities to support such a posture—require a comprehensive re-evaluation of deterrence in PRC strategic thinking. China's approach to “integrated strategic deterrence” historically has been extremely broad, encompassing both nuclear and conventional deterrence across competition, crisis, and conflict.¹ Amid current PRC views on deterrence, the conventional component is in some ways the most important, yet the least studied by Western observers. A panoply of elements, systems, capabilities, and missions—regarding cyber and space in particular, as well as aviation, information, and disinformation—are used in Chinese approaches to conventional deterrence. Likewise, since their formal elevation in strategic importance in the early 1990s, conventional missiles have had a leading position in the modernization of the People's Liberation Army (PLA).

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¹ Michael S. Chase, “PLA Rocket Force: Executors of China's Nuclear Strategy and Policy,” in *China's Evolving Military Strategy*, ed. Joe McReynolds (Washington, D.C.: Jamestown Foundation, 2016), 141–72; and Michael S. Chase and Arthur Chan, *China's Evolving Approach to “Integrated Strategic Deterrence”* (Santa Monica: RAND Corporation, 2016).

This chapter focuses on the PLA's conventional missile and strike capabilities—including hypersonic glide vehicles (HGVs) now under development²—and specifically forces and weapons systems within the PLA Rocket Force.³ The elevation of the force to a full service on December 31, 2015, reflects its strategic importance. To elucidate approaches to conventional deterrence in PLA strategy, the chapter assesses PRC views on conventional deterrence definitions, concepts, and doctrine; surveys PLA conventional missile organization and force structure; considers potential scenarios; and offers corresponding conclusions and policy recommendations. The chapter also documents changing doctrinal, organizational, force modernization, training, and other elements of the PLA's conventional deterrence.

Definitions, Concepts, and Doctrine

The People's Liberation Army Rocket Force is responsible for most of China's conventional ballistic missiles and land-attack cruise

² All ballistic missiles are hypersonic (faster than Mach 5) at some point in their flight. Germany's V-2, deployed in September 1944, was hypersonic during its boost phase. Intercontinental ballistic missiles, first deployed by the United States in 1959, are high hypersonic (Mach 25) throughout their entire flight. Subsequent decades have witnessed the emergence of hypersonic missile systems that can maneuver instead of following a fixed parabolic trajectory, including anti-ship ballistic missiles (ASBMs), HGVs, and air-breathing supersonic combustion ramjets (scramjets). The United States investigated maneuvering re-entry vehicles in the late 1970s, and the Soviet Union investigated HGVs in the mid-1980s; both failed. In 1981 the United States fielded the Pershing II medium-range ballistic missile (MRBM), whose terminal braking maneuver has been widely attributed to China's DF-21D and DF-26B ASBMs. In April 2010 the United States successfully tested the first HGV, the Falcon HTV-2. The restarted Russian HGV research and development effort (Project 4202, which would become the Avangard) appears to have taken a little longer. What is "new" is the recent fielding of mature, hypersonic missiles with maneuvering payloads by U.S. adversaries. Russia has developed the Avangard HGV and has fielded, or will soon field, the scramjet-powered 3M22 Zircon hypersonic cruise missile. China has fielded the aforementioned DF-21D and DF-26B ASBMs, as well as the DF-17 (likely with the DF-ZF HGV). All of these systems use speed and maneuverability to greatly complicate the defender's problem. Maneuvering potentially enables approaching from unexpected angles to strike a moving target on land or sea. Nonparabolic trajectory allows approaching at lower altitude. Trade-offs include slowing significantly (typically below Mach 10) to mitigate the ionized plasma field that inhibits active radar sensors typically employed to seek targets.

³ While the PLA Rocket Force remains the mainstay for conventional deterrence missions regarding long-range strikes, there are increasingly roles and missions to which the PLA Air Force, Navy, and even Ground Force contribute. The PLA Air Force has fielded roughly 100 modernized H-6 bombers in recent years, many of which are capable of carrying six CJ-20 land-attack cruise missiles (LACMs) and can reach Guam. Additionally, the H-6N bomber is fielding a nuclear-capable air-launched ballistic missile (ALBM), the CH-AS-X-13, and China is also working on the H-20 low-observable strategic bomber with assessed nuclear and conventional roles. PLA Navy surface vessels are fielding anti-ship cruise missiles (ASCMs) ranging from 250 kilometers to over 500 kilometers. Larger combatants will obtain ASBMs, and some ships will get LACMs, too. PLA Navy submarines may field long-range LACMs as well. PLA Navy Aviation has a relatively long-range ASCM role with the supersonic YJ-12 (up to around 250 kilometers). Even in the PLA Ground Force, long-range artillery ranges several hundred kilometers.

missiles (LACMs).⁴ Since the early 1990s, when it was still known as the Second Artillery Force (SAF), the PLA Rocket Force has been responsible for “dual deterrence and dual operations”—adding conventional to its previously nuclear-only deterrence and strike capabilities.⁵ The conventional missile component of China’s strategic rocket forces, increasingly important in deterrence and warfighting, supports the goal of achieving information dominance, command of the air, and control of the sea to thwart third-party intervention.⁶ Beijing’s latest defense white paper in 2019 encapsulates the purview of the PLA Rocket Force:

The PLARF plays a critical role in maintaining China’s national sovereignty and security. It comprises nuclear missile, *conventional missile and support forces*, and subordinate missile bases. In line with the strategic requirements of *having both nuclear and conventional capabilities* and deterring wars in all battlespaces, the PLARF is enhancing its credible and reliable capabilities of nuclear deterrence and counterattack, strengthening intermediate and *long-range precision strike forces*, and enhancing strategic counter-balance capability, so as to build a strong and modernized rocket force [italics added].⁷

PLA National Defense University’s 2020 edition of the *Science of Military Strategy* (SMS 2020), a textbook for senior officers, defines the PLA Rocket Force as “a strategic service that uses land-launched missile weapons systems operations and that possesses a number of operational capabilities, such as nuclear counterattack and conventional attack.” The strategy document adds that the force is “the core strength of the PRC’s nuclear deterrence, it is a strategic support for the PRC’s status as a major power, and it is an important cornerstone for safeguarding national security.”⁸

⁴ China’s conventional missiles also include air-launched LACMs in the inventory of the PLA Air Force and increasingly ship-based LACMs in the PLA Navy, land-based coastal defense cruise missiles, and ASCMs launched from aircraft, surface ships, and submarines. For further information on recent PLA Rocket Force reforms and evolution, see David C. Logan, “Making Sense of China’s Missile Forces,” in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, ed. Phillip Saunders et al. (Washington, D.C.: National Defense University Press, 2019), 393–435.

⁵ John Lewis and Xue Litai, “中国军事战略方针及核战略之演变” [The Evolution of China’s Military Strategy and Nuclear Strategy], *Leaders*, no. 38 (2011), available at <http://ww2.usc.cuhk.edu.hk/PaperCollection/Details.aspx?id=8111>.

⁶ Michael S. Chase and Andrew S. Erickson, “The Conventional Missile Capabilities of China’s Second Artillery Force: Cornerstone of Deterrence and Warfighting,” *Asian Security* 8, no. 2 (2012): 115–37. For long-held PRC views regarding conventional deterrence, see Shou Xiaosong, ed., *战略学2013年版* [Science of Military Strategy 2013] (Beijing: Academy of Military Sciences, 2013), 137–52.

⁷ State Council Information Office of the People’s Republic of China (PRC), *China’s National Defense in the New Era* (Beijing, July 2019), http://www.xinhuanet.com/english/2019-07/24/c_138253389.htm.

⁸ Xiao Tianliang, ed., *战略学* [Science of Military Strategy] (Beijing: National Defense University Press, 2020). For background, see Joel Wuthnow, “What I Learned from the PLA’s Latest Strategy Textbook,” Jamestown Foundation, China Brief, May 11, 2021, 6–13.

China's tremendous emphasis on conventional deterrence via missiles is illustrated by the fact that, circa 2011, the SAF's "inventory of conventional weapons and equipment [was] about seven times as large" as its nuclear-capable weapons arsenal.⁹ Doctrinal publications such as the *Science of Second Artillery Campaigns* (2004) and *Intimidation Warfare* (2005) appear to reflect an extreme overconfidence in the PRC's ability to finely calibrate deterrence and escalation in all conceivable circumstances.¹⁰ This remains a persistent pattern, but with those publications now potentially dated, the following discussion scrutinizes in particular the most recent publicly available PLA doctrinal source, SMS 2020, and draws heavily on the most relevant sections therein: chapter 8, "Strategic Deterrence," and chapter 20, "Rocket Force Construction and Development."

SMS 2020 defines "strategic deterrence" as

a mode of military struggle in which the nation and armed forces, in order to realize certain political goals, and with powerful military strength as the foundation, synthetically apply multiple means to cleverly display strength and the resolve to employ strength so as to confront the adversary with losses that will outweigh the gains, and even an aftermath difficult to bear; and thus force him to make concessions, come to terms, or submit.¹¹

The reference to political goals appears particularly distinctive and important to understanding Chinese thinking about using force. Applicable throughout peacetime, crisis, and war, strategic deterrence hinges on "three basic essential factors: real strength, resolve, and information transmission."¹² The textbook distills China's strategic deterrence into "self-defense, limited, flexible, effective."¹³

Like most PRC, and many non-PRC, sources, SMS 2020 defines conventional deterrence in relation to nuclear deterrence.¹⁴ It credits

⁹ Ron Christman, "Conventional Missions for China's Second Artillery Corps: Doctrine, Training, and Escalation Control Issues," in *Chinese Aerospace Power: Evolving Maritime Roles*, ed. Andrew S. Erickson and Lyle J. Goldstein (Annapolis: Naval Institute Press, 2011), 307.

¹⁰ 第二炮兵战役学 [The Science of Second Artillery Campaigns] (Beijing: People's Liberation Army Press, 2004); and Zhao Xijun, ed., 慑战: 导弹威慑纵横谈 [Intimidation Warfare: A Comprehensive Discussion of Missile Deterrence] (Beijing: National Defense University Press, 2005).

¹¹ Xiao, 战略学, 126–27.

¹² Ibid., 127. See also Du Gang, "论中国和平发展中的军事力量需求—军事与经济互动规律下的中国军事发展战略结构性研究" [On the Demand for Military Power in China's Peaceful Development—A Structural Study of China's Military Development Strategy under the Law of Military and Economic Interaction], *Strategy and Management*, no. 3 (2004), available at <http://ww2.usc.cuhk.edu.hk/PaperCollection/Details.aspx?id=3248>.

¹³ Xiao, 战略学, 127, 133.

¹⁴ See Peng Aihua, "常规军事威慑的形成与发展" [The Formation and Development of Conventional Military Deterrence], *China Social Sciences Journal* (2019): 7; and Feng Xiaoran, "威慑有效性研究" [On the Effectiveness of Deterrence] (PhD diss., Fudan University, 2014).

conventional weapons with superior accuracy, reliability, usability, and controllability.¹⁵ These statements are from the PLA Rocket Force chapter of SMS 2020 but likewise apply to long-range missiles controlled by the PLA Air Force and PLA Navy. Under Xi Jinping, China is rapidly developing and deploying both nuclear and conventional missiles. Where there is a clear disparity in their relative public analytical coverage, there are far more Chinese- and English-language sources focusing on PRC nuclear weapons than on PRC conventional missiles.

With nuclear and conventional ballistic missiles, China pursues a comprehensive, integrated approach. As Xi himself instructs, “we must unify crisis prevention, war containment, and war-winning and unify war preparation and war stopping, deterrence and actual warfare, war operations and the use of military force in peacetime as a whole.”¹⁶ He further commands: “Comprehensively improve deterrence and combat capabilities under conditions of informatization, and resolutely safeguard and protect national sovereignty, security, and development interests.”¹⁷

The PLA Rocket Force doctrine anticipates and seeks to respond effectively to strategic, operational, and technical trends. To attack increasingly reinforced, buried, hidden, and moving targets, “conventional strategic missiles that have the ability for rapid global precision attacks will become an important component of major military powers’ strategic missile strengths.”¹⁸ While the PLA Rocket Force does not presently have dedicated conventional missiles with global range, and the PLA Air Force and Navy are not postured to do so either, this may represent a future goal. Even the possibility is significant: conventional intercontinental ballistic missiles (ICBMs), including those outfitted with HGVs, have the potential for serious unintended escalation in crisis or conflict.

For conventional missiles, China emphasizes numbers, range, and accuracy. Moving forward, the PLA Rocket Force will place “greater stress on building mobile operations units,” “enhance the ability for rapid reaction,” develop relevant systems to strengthen force “survival and protection,”

¹⁵ Xiao, 战略学, 132. See also Ling Shengyin, Sun Ying, and Chen Maoxia, “论我国战略威慑能力建设” [On the Construction of China’s Strategic Deterrence Ability], *Journal of PLA Nanjing Institute of Politics* 33, no. 3 (2017): 104.

¹⁶ Political Work Department of the Central Military Commission, “努力把马克思主义立场观点方法学到手” [Strive to Learn the Marxist Position, Viewpoint, and Method by Hand], *PLA Daily*, June 1, 2016; “习近平足迹与语录” [Xi Jinping Footprints and Quotations], *Beijing Times*, March 15, 2013; and Ling, Sun, and Chen, “论我国战略威慑能力建设,” 101.

¹⁷ Ling, Sun, and Chen, “论我国战略威慑能力建设,” 101.

¹⁸ Xiao, 战略学, 382.

and “emphasize the development of penetration means.”¹⁹ Similarly, three particularly well-placed experts suggest that China will strive to incorporate HGVs into its inventory and doctrine:

Hypersonic missiles combine the advantages of both ballistic missiles and cruise missiles, while largely avoiding their disadvantages. The widespread use of hypersonic missiles will inevitably accelerate the evolution of warfare patterns, which will have an impact on traditional means of defense, operational combat style and resistance methods, and change the development direction of the existing military force system. Studying the operational use of hypersonic vehicles and their impact on future warfare will lead to the development of new weapons and equipment and promote the innovation of combat doctrine, and continuously seek new growth points for military power.²⁰

Force Structure

To operationalize the aforementioned doctrine, Beijing has built the world’s “most active and diverse ballistic missile development program.”²¹ Since the end of the Cold War, China has arguably prioritized conventional ballistic missiles and the organizations to support them over nearly all other major areas of military development, including nuclear ballistic missiles. Today, already unmatched in conventional ballistic missilery, China continues to develop and test new missiles, form new missile units, upgrade missile systems, and develop methods to counter defenses against them. The PLA Rocket Force is agile, mobile, integrated with other forces, and connected to the PRC’s extensive air- and space-based military surveillance systems. It can reach out thousands of miles and destroy targets on land or at sea. Examining the professional trajectories of officers—with a particular focus on those who eventually rise to the ranks of senior leadership—reveals that there is an informal institutional hierarchy among missile bases, that there is some separation between conventional and nuclear units at the

¹⁹ Xiao, 战略学, 382–84, 389.

²⁰ Hao Xiaoxue, Wang Zhong, and Han Guangsong, “高超声速飞行器作战运用探要” [Discussion on the Operational Applications of Hypersonic Vehicles], *Ship Electronic Engineering* 41, no. 7 (2021). The authors’ respective affiliations with the Central Theater Command in Beijing, the PLARF Engineering University in Xi’an, and the Joint Operations College at the PLA National Defense University in Shijiazhuang imply connectivity to coordinate such efforts. For similar analysis that focuses more specifically on HGVs and aircraft, see Wang Zaiduo et al., “高超声速飞行器技术研究进展” [Research on the Development of Hypersonic Vehicle Technology], *Science and Technology Review* 39, no. 11 (2021): 59–67.

²¹ U.S. National Air and Space Intelligence Center, *2020 Ballistic and Cruise Missile Threat* (Wright-Patterson AFB, July 2020), 2, https://media.defense.gov/2021/Jan/11/2002563190/-1/-1/1/2020%20BALLISTIC%20AND%20CRUISE%20MISSILE%20THREAT_FINAL_2OCT_REDUCEDFILE.PDF.

personnel level, and that senior leaders are more likely to have served in the PLA Rocket Force's premier conventionally armed missile base.²²

The U.S. Department of Defense's 2022 China Military Power Report documents a significant buildup and testing of conventional ballistic and cruise missiles of virtually all types and ranges that other leading missile powers possess (short-, medium-, and intermediate-range), as well as some unique to China. PRC ballistic missiles include the DF-26B anti-ship ballistic missile (ASBM); the initial DF-21D ASBM, which "is reportedly capable of rapidly reloading in the field"; and the DF-17, China's first operational HGV weapons system, with potential dual conventional and nuclear variants, which it began deploying in 2020.

Lora Saalman posits that China's DF-21, DF-26, and DF-ZF ballistic missiles may each have HGV variants, with uncertainty over whether they will be conventional or nuclear. From an extensive review of Chinese-language sources, she contends that China (like Russia) is pursuing such systems not solely to prepare for regional contingencies but to hedge against "the worst-case scenario assumption that the USA will deploy a prompt global strike system that places their arsenals and command and control infrastructures at risk." She judges that China often times its HGV tests to follow U.S. or Russian HGV tests.²³

Intriguingly, the U.S. Department of Defense's China Military Power Report also references a "DF-27," which "could be a new IRBM or ICBM," depending on its actual range.²⁴ As for cruise missiles, the CJ-100 ranges 2,000 kilometers and the CJ-10 1,500 kilometers—ranges that are relevant for many U.S. allies and partners in the region.

As for maximizing its ability to operate such weapons effectively, the PLA Rocket Force in 2020 "launched more than 250 ballistic missiles for testing and training...more than the rest of the world combined." The previous two years also witnessed significant ASBM tests:

²² David Logan, "Career Paths in the PLA Rocket Force: What They Tell Us," *Asian Security* 15, no. 2 (2019): 103–21.

²³ Lora Saalman, "China's Calculus on Hypersonic Glide," Stockholm International Peace Research Institute, August 15, 2017, <https://www.sipri.org/commentary/topical-background/2017/chinas-calculus-hypersonic-glide>. For extensive analysis of Chinese sources, see Tong Zhao, "Conventional Challenges to Strategic Stability: Chinese Perceptions of Hypersonic Technology and the Security Dilemma," Carnegie Endowment for International Peace, July 13, 2018, <https://carnegieendowment.org/2018/07/23/conventional-challenges-to-strategic-stability-chinese-perceptions-of-hypersonic-technology-and-security-dilemma-pub-76894>.

²⁴ U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022* (Washington, D.C., November 2022), 65, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>; and "DF-27 Hypersonic Ballistic Missile Leaked," *China-Arms*, August 12, 2021, <https://www.china-arms.com/2021/08/df-27-hypersonic-ballistic-missile-leaked>.

On August 26 [2020] the PLARF test-fired four medium-range ballistic missiles into the South China Sea, marking the second consecutive year that the PLA has conducted such a test. In July 2019, the PLARF conducted its first-ever confirmed live-fire launch into the South China Sea, firing six DF-21D anti-ship ballistic missiles into the waters north of the Spratly Islands.²⁵

Per Chinese approaches to deterrence that include test shots, some of these tests may have been intended as deterrence signals.

PLA Rocket Force missiles and other “counter-intervention” weapons are part of a comprehensive pattern: Beijing is preparing a potent weapons-based capability for virtually any possible scenario, contingency, or escalation. In particular, thanks to a robust PRC revolution in military affairs, the PLA Rocket Force’s ballistic missiles have reached the point where they are effectively a type of naval force. Here China draws at a minimum on its two principal ASBMs, the DF-21D and DF-26B—the latter in increasingly large numbers.

In addition to such counterspace systems as jammers, lasers, microwaves, and electromagnetic pulse weapons, PLA Rocket Force conventional ballistic missiles serve as kinetic anti-satellite weapons. China’s emerging Fractional Orbital Bombardment System (FOBS) may be only nuclear. A *Global Times* article characterizes a related test as part of a larger effort to “narrow the gap with the United States in key military technology fields and even form some individual capabilities that may exceed that of the United States”—with the goal of achieving military advantages over the United States in “the Taiwan Strait and the South China Sea.”²⁶ However, sources such as SMS 2020 appear to posit a future conventional ICBM, presumably with coverage of the continental United States, which could present severe disambiguation problems. A future intercontinental HGV or FOBS may offer China such coverage with a relatively unpredictable trajectory.

Contingencies and Scenarios

Taiwan—and by extension U.S. and allied forces that might come to its aid—has long been the central focus of PRC strategic rocket force efforts

²⁵ U.S. Department of Defense, *Military and Security Developments Involving the People’s Republic of China 2021* (Washington, D.C., November 2021), 95, 71, <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>

²⁶ “别死盯中国高超音速导弹, 请视野宽些吧” [Don’t Look Narrowly at China’s Hypersonic Missiles, Please Expand Your Horizons], *Global Times*, October 17, 2021. For related discussion of reported U.S. developments, see “米利重提‘斯普特尼克时刻’, 意欲何为” [What Does Milley Mean by Revisiting “The Sputnik Moment”], *Global Times*, October 29, 2021.

in development, deterrence, and operational preparations. The stakes are high, and the risk is growing. For cross-strait scenarios, conventional missiles are paramount.²⁷ Meanwhile, broader Sino-U.S. deterrence relations are unprecedentedly complex and difficult. Xi Jinping's precise thinking remains unknown, but the PLA buildup he directs matches a logical operationalization of his apparent objectives vis-à-vis Taiwan: develop, deploy, and demonstrate options for every contingency and level of escalation sufficient for China to prevail no matter what happens. Xi's preference is almost certainly to use a mounting impression of overwhelming might to intimidate the United States and its allies into faltering to a degree that ultimately erodes their resolve and credibility to intervene, and cows Taiwan's populace and leadership into acquiescing to the PRC's demands. Aware that this may not prove possible, however, Xi simultaneously charges the PLA with preparing to "fight and win" if called to do so, and to this end he is pushing PLA reforms to ensure wholesale capability improvement. This also implies further extending deterrence into nonmilitary realms, including economic coercion, that are beyond this chapter's scope.

As SMS 2020 explains, the PLA Rocket Force is therefore "expand[ing] the intensity of building conventional missile units." PLA theater commands almost certainly have clearly defined operational control authorities over some of the conventional missile force.²⁸ This is evidenced by the command authorities granted to certain PLA Rocket Force bases, the integration of missile operations into the theater joint operations command structure, and indications from PLA press outlets that PLA Rocket Force units are subordinate to the theater command operational structure.²⁹

In operational scenarios, "conventional missiles usually primarily attack the enemy's important military targets; in a single campaign, these targets are not only strategic[-level] in nature but they are also campaign[-level] in nature, and there are a fairly large number of them." Accordingly, "in order to achieve strategic or campaign goals and to make missile assaults truly effective, a very large number of missiles is used." The PLA Rocket Force's conventional strength is determined by "the actual military strength of possible future operational opponents and on our overall strategic intentions, as well as on the minimal requirements of the Ground Forces, Navy, and Air Force that could cooperate in operations." To prosecute a high-end

²⁷ 第二炮兵战役学, 274.

²⁸ This is almost certainly different for nuclear forces given the supreme command.

²⁹ Roderick Lee, "Integrating the PLA Rocket Force into Conventional Theater Operations," Jamestown Foundation, China Brief, August 14, 2020, 24–31.

conflict, the PLA Rocket Force would need to be part of an effective joint force. Among other things, it is a big target and therefore needs such joint defenses as surface-to-air missiles and fighter aircraft. With respect to “the range of missiles, there should be a fairly large scope of firepower control, one that is able to have effective control over all important targets in major peripheral hostile countries and regions.” As for “the precision, power, and performance of missiles, it is necessary to have the ability to attack enemy targets with differing natures.”³⁰

Beijing’s approach to and experience with previous nuclear-related crises promote what are now long-standing PLA beliefs—and arguably overconfidence—in the ability to tailor, calibrate, and control escalation. Chinese and Russian sources and emerging bilateral scholarly consensus suggest compellingly that it was Mao Zedong who deliberately planned and initiated the Sino-Soviet border crisis of 1969. This included the Wusuli/Ussuri River clashes, specifically the PRC-premeditated Zhenbao/Damansky Island ambush on March 2, 1969. Mao’s core calculus was arguably not even deterring Soviet interventionist aggression under the Brezhnev Doctrine following the 1968 invasion of what was then Czechoslovakia, but rather employing an external threat to generate domestic unity and political mobilization.³¹

To be sure, in addition to such high-risk behavior, PRC crisis behavior and risk-taking patterns in the Mao era and subsequently also reveal examples of limiting risks, such as Mao restricting shelling on Jinmen and Deng Xiaoping invading Vietnam but announcing a maximum duration of several weeks. Unfortunately, however, it appears that Beijing has consistently been willing to take the greatest risks regarding its territorial sovereignty claims. Moreover, development and deployment of capabilities, together with associated messaging and signaling, suggest mounting risk-taking under Xi. There are ever fewer areas where he appears to be willing to back down.³² Most prominently, Taiwan contingencies loom as a dangerous area for potential escalation, particularly with Xi personally tasking the PLA in 2020 with achieving a “centennial military building goal” of extensive Taiwan-campaign-relevant capabilities by 2027.³³

³⁰ Xiao, 战略学, 389.

³¹ Lyle J. Goldstein, “Return to Zhenbao Island: Who Started Shooting and Why It Matters,” *China Quarterly*, no. 168 (2001): 985–97.

³² The author is indebted to Alastair Iain Johnston for these insights.

³³ Andrew S. Erickson, “PRC Pursuit of 2027 ‘Centennial Military Building Goal’ (建军一百年奋斗目标): Sources and Analysis,” December 19, 2021, <https://www.andrewerickson.com/2021/12/prc-pursuit-of-2027-centennial-military-building-goal-sources-analysis>.

Such high-risk behavior may represent the growing expression of long-standing PLA thinking on counter-deterrence.³⁴ Focusing on the nuclear aspect, Phillip Saunders defines counter-deterrence operations as involving “efforts to communicate China’s will and resolve to respond to a nuclear attack in order to signal that China cannot be coerced by nuclear threats and to reinforce deterrence. They can be considered a form of nuclear signaling.”³⁵ A *Global Times* editorial in response to the unclassified version of the U.S. Department of Defense’s *2021 Global Posture Review* invokes the term before declaring that

it is vital to greatly develop and stockpile a significant number of missiles that can strike targets in the second island chain. Those missiles are not costly and can strike from a distance, so they are quite cost-effective. It can be said that in whatever positions the U.S. and its allies are preparing for attacks against China, our missiles should be ready to target those points.³⁶

PRC international security crisis-management theory and practice have evolved considerably in recent years, particularly regarding PLA operations; but significant problems persist, specifically with respect to hypernationalism, exceptionalism, and underdevelopment.³⁷ While PLA views are evolving, and many critical unknowns remain for outside observers, controlling the outbreak and escalation of crises is clearly an area of PLA focus. Divergences from U.S.

³⁴ See, for example, “彭念: 中日之间的威慑与反威慑游戏” [Peng Nian: The Game of Deterrence and Counter-Deterrence between China and Japan], Aisixiang, November 21, 2013, <http://www.aisixiang.com/data/69762.html>; and “中国反威慑让美如梗在喉” [China’s Counter-Deterrence Sticks in America’s Gullet], Red China, October 22, 2013, <http://www.red789.com/space-uid-1.html>. For analysis of how counter-deterrence thinking may relate to China’s nuclear posture and hypersonics development, see Larry M. Wortzel, “Hypersonic Weapons Development in China, Russia and the United States: Implications for American Security Policy,” Association of the United States Army, Land Warfare Paper, no. 143, March 23, 2022, 6, <https://www.ousa.org/publications/hypersonic-weapons-development-china-russia-and-united-states-implications-american>.

³⁵ Phillip C. Saunders, “Chinese Nuclear Forces and Strategy,” testimony before the U.S.-China Economic and Security Review Commission, Washington, D.C., March 26, 2012. For a related definition that incorporates conventional aspects, see Brian Radzinsky, “The Strategic Implications of the Evolving U.S.-China Nuclear Balance,” *Washington Quarterly* 44, no. 4 (2021): 165.

³⁶ “China’s Counter-Deterrence Best Response to U.S. Threats from 2nd Island Chain: Global Times Editorial,” *Global Times*, November 30, 2021, <https://www.globaltimes.cn/page/202111/1240339.shtml>.

³⁷ Alastair Iain Johnston, “The Evolution of Interstate Security Crisis-Management Theory and Practice in China,” *Naval War College Review* 69, no. 1 (2016): 29–44. See also Wu Xinbo, “Managing Crisis and Sustaining Peace between China and the United States,” United States Institute of Peace, April 2008, https://www.usip.org/sites/default/files/2019-06/pw61_finalapr16.pdf; Yu Lihan, “威慑何以失败? 基于信号博弈视角的实证分析” [Why Does Deterrence Fail? Based on Signaling Game Theory—An Empirical Analysis] (master’s thesis, Beijing Foreign Studies University, 2016); Peng Nian, “中日之间的威慑与反威慑游戏” [The Game of Deterrence and Counter-Deterrence between China and Japan], Aisixiang, November 21, 2013, <https://www.aisixiang.com/data/69762.html>; and Huang Hairuo, “当代威慑理论的再思考—以朝鲜核问题为例” [Rethinking Contemporary Deterrence Theory—The North Korean Nuclear Question as an Example] (master’s thesis, Party School of the Jiangsu Provincial Party Committee, 2018).

thinking suggest that some PLA activities in a crisis could be perceived as—and therefore become—escalatory even if not intended as such.³⁸

(Mis)Communicating Deterrence: Risk Factors

PRC visions for operationalizing conventional deterrence carry the risk of multiple types of potential misunderstandings and unintended consequences. These include inadvertent or unanticipated escalation, conflation of conventional and nuclear activities, and differences in adversary perceptions and decision-making.

Escalation Risks

To project images of military superiority and enhance deterrence, Beijing has unveiled, and will unveil at critical times, world-class systems.³⁹ A stronger step, whose escalatory potential may be underappreciated in SMS 2020, is “executing warning/demonstrative military strikes.” Such actions are intended to involve only “a small quantity of military and political targets with clear awing effects, relatively isolated and easy to hit, and not likely to cause damage.” However, the potential for error and miscalculation is not directly acknowledged or addressed.⁴⁰

Some of the risks of escalation are different in terms of conventional missile units and transporter erector launchers in the PLA Rocket Force versus aircraft, ships, and submarines. The latter undertake a variety of operations across the spectrum of conflict, including in the gray zone. These non-PLA Rocket Force assets arguably provide additional benefits to PRC conventional deterrence, given their more flexible options for operations and signaling.

Conventional-Nuclear Confusion Risks

One of the greatest risks in Sino-U.S. deterrence relations is the lack of firewalls between China’s conventional and nuclear missile doctrine, force

³⁸ Alison A. Kaufman and Daniel M. Hartnett, “Managing Conflict: Examining Recent PLA Writings on Escalation Control,” CNA, February 1, 2016, <https://apps.dtic.mil/sti/pdfs/AD1005033.pdf>.

³⁹ Xiao, 战略学, 136.

⁴⁰ Ibid.

structure, and operations.⁴¹ Arguably to an extreme degree, PRC doctrine calls for a comprehensive approach geared to “flexibly selecting and applying deterrent means,” in part through “organically combining nuclear deterrence with conventional deterrence.”⁴² Accordingly, “operational units at the tactical level simultaneously have dual nuclear and conventional operational capabilities.”⁴³

New technologies not only are being developed for conventional missiles, but they will continue to be applied to nuclear missiles.⁴⁴ This blurring also complicates real-time determination whether a given system is conventional or nuclear, particularly among ground-launched missiles of intermediate range, such as the DF-26. This ambiguity greatly enhances the risk of U.S. forces presuming that an incoming missile is nuclear upon detection. Another huge risk this poses is that the United States’ targeting of perceived conventional systems might accidentally cross the nuclear threshold by striking nuclear systems—or even conventional systems that China considers their strategic equivalent.

Risks from Differing Psychology and Interests

U.S. and PRC leaders arguably view and experience deterrence in substantially different ways. This should be deeply examined and fully factored into the equation. SMS 2020 emphasizes that decision-makers “must earnestly study the psychological features and behavioral modes of the adversary’s decision-makers” and devotes considerable space to promoting both influence and deception measures.⁴⁵ A PRC article judges that U.S. experts consider the concept of “peace from power” to be the core component of the PLA’s deterrence thinking, whereby China seeks to fulfill its objectives at the lowest possible level of escalation. Given that both China and the United States are implementing competing deterrence strategies in the Asia-Pacific, the author concludes that a mutual understanding of

⁴¹ The Janus-faced dual-payload concept has been contemplated by PRC strategists and technicians alike for some time. In September 2006, at the “10th Program for Science and National Security Studies Beijing Seminar on International Security” conference in Xiamen, the author witnessed the unexplained appearance of an unattributed paper on “combining nuclear and conventional” on the publications table. That conference was co-sponsored by the Institute of Applied Physics and Computational Mathematics, a reclusive organization closely affiliated with China’s nuclear weapons industry.

⁴² Xiao, 战略学, 139.

⁴³ Ibid., 382.

⁴⁴ Eric Heginbotham et al., *China’s Evolving Nuclear Deterrent: Major Drivers and Issues for the United States* (Santa Monica: RAND Corporation, 2017).

⁴⁵ Xiao, 战略学, 127.

deterrence strategies must be established.⁴⁶ An anonymous U.S. government official with extensive experience in Sino-U.S. discussions on arms control considers the reality far worse:

I would argue China doesn't want us to understand their deterrence strategy, that lack of clarity is baked into the ambiguity. For twenty years of dialogue on these issues, the Chinese government and Chinese experts outside of government did not engage meaningfully or seem to want to fix these problems of understanding. I don't believe the PLA wants us to understand them.⁴⁷

Additionally, PRC thinking regarding war termination—and theory of victory, which is inherently linked—merits particular study. For instance, the “War Termination” section from SMS 2015 states the following:

When we face an unfavorable [war] situation, we should consider two possibilities. If we can swiftly reverse the war situation, then we should conduct short, sharp operations to give the enemy a violent blow; if the [war] situation turns in our favor, we should immediately pursue a political approach to resolve the issue. If we cannot reverse the war situation in a fairly short period of time, then continuing to fight would not justify the losses incurred. At this point, stubbornly fighting would be worse than terminating combat operations. We should strive to minimize losses and seize the initiative by means of vigorous political and diplomatic struggle.⁴⁸

Conclusion

In surveying China's approach to conventional deterrence, this chapter has provided an overview of key trends, including doctrinal and operational concepts, force modernization efforts, signaling dynamics, escalation risks, and policy implications. Particularly worrisome is that traditional PRC gaps and issues of concern appear to be persistent and even worsening. Foremost among them remain the PRC's overconfidence in its escalation management ability and its unwillingness to explicate changing views on strategic stability, let alone to consider embracing guardrails or other restraints. If anything, both issues are growing more acute as the PLA's conventional long-range missile capabilities strengthen and proliferate to more forces. The PLA, in turn, is developing new operational concepts and forces that could

⁴⁶ Dong Lei, “美专家析解放军威慑战略: 力求‘不战而屈人之兵’” [American Experts Analyze the PLA's Deterrence Strategy: Striving to “Defeat the Soldier Without Fighting”], Reference News, April 22, 2017, <http://www.cankaoxiaoxi.com/mil/20170422/1915835.shtml>.

⁴⁷ Author interview with anonymous U.S. government official, 2022.

⁴⁸ Xiao Tianliang, ed., 战略学 [Science of Military Strategy] (Beijing: National Defense University Press, 2015), 232–36.

further complicate the dual-entanglement problem and multiply potential misperceptions in the event of a crisis or conflict.


The PLA Rocket Force's conventional missiles, which have been the core focus of this chapter, are wielded in combination with multifarious forces, activities, signaling, and messaging. Overall, China uses manifold tools to underpin deterrence, especially in the information space, which are intertwined with hard military capabilities for an overall conception of deterrence. Understanding China's conventional deterrence calculus requires considerable research across the board to ensure peace during what has emerged as a dangerous decade for the Sino-U.S. relationship. Not only are risks mounting vis-à-vis Taiwan, but both nations' development of long-range precision-strike systems means that within this critical period neither homeland may be a sanctuary, even at the conventional level.

Given these harsh realities, U.S. decision-makers must focus on maximizing and integrating military elements of deterrence, which are far more significant than any nonmilitary supplementation. They must unambiguously uphold the credibility of U.S. conventional and nuclear deterrence, including extended deterrence to support allies facing threats from China. The U.S. mission is vital, the stakes are high, and the margins are increasingly thin.

MODERNIZING DETERRENCE

HOW CHINA COERCES,
COMPELS, AND DETERS

威慑

The background features a dark, textured blue and black color scheme with a perspective of a modern building's facade. Overlaid on this is a light brown, textured rectangular area containing three line-art illustrations of military assets: a fighter jet in the upper left, a large missile truck in the center, and a submarine in the lower left. The Chinese characters '威慑' (Deterrence) are written in a stylized font in the upper right of this area.

Edited by Roy D. Kamphausen

Modernizing Deterrence: How China Coerces, Compels, and Deters features papers from the 2021 People's Liberation Army Conference convened by the National Bureau of Asian Research and U.S. Indo-Pacific Command's China Strategic Focus Group. Leading experts explore how the PLA's modernizing capabilities and evolving doctrine suggest that a fundamental shift in China's approach to deterrence may be underway. Taken together, the nine chapters collected in this volume reveal broad changes to China's deterrence strategy across conventional, strategic, asymmetric, and emerging domains and consider how Chinese strategists and planners assess the PLA's ability to navigate conflict scenarios when deterrence fails.

Editor Roy D. Kamphausen is President at The National Bureau of Asian Research.

Contributors Brandon J. Babin, Nathan Beauchamp-Mustafaga, Mathieu Duchâtel, Andrew S. Erickson, Elsa B. Kania, Alison Kaufman, Nicola Leveringhaus, Rachel Esplin Odell, and Stein Tønnesson

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How China Coerces, Compels, and Deters

Edited by Roy D. Kamphausen

With contributions from

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Rachel Esplin Odell, and Stein Tønnesson

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— FOREWORD —

I am honored to introduce *Modernizing Deterrence: How China Coerces, Compels, and Deters*, the latest volume from an important conference series on the Chinese People's Liberation Army (PLA) convened by the National Bureau of Asian Research (NBR) and U.S. Indo-Pacific Command. In the wake of the most extensive PLA reforms in decades, the leadership of the People's Republic of China (PRC) is aggressively integrating military and nonmilitary capabilities to advance foreign policy objectives in competition with the United States and its allies. The outstanding work of the authors in this volume is a thorough and insightful examination of the evolution of the PRC's strategic concepts and the PLA's growing role in supporting the PRC's ambitious pursuits.

As noted in the 2022 U.S. National Security Strategy, the PRC is the only strategic competitor with both the intent to reshape the international order and the economic, diplomatic, military, and technological power to do so. Increasingly, the Chinese Communist Party (CCP) is using all elements of national power to undermine the rules-based international order. Understanding how the party is integrating its growing military power among its other elements of national power to achieve these goals provides invaluable strategic insights into the thinking of CCP leadership. Moreover, while numerous studies and reports have focused on the military dimension of the CCP's approach, this NBR volume explores the party's commitment to pursuing dominance in a much broader, all-domain strategy that aggregates all available economic, technological, military, and strategic effects. The U.S. Indo-Pacific Command is particularly interested in how the CCP plans to coordinate and integrate all the levers of national power in pursuit of the PRC's regional and global objectives.

This collection of papers from the 2021 PLA Conference offers unique insights into understanding China's strategic thinking regarding deterrence and crisis management across a number of domains. It addresses conventional and nuclear deterrence, underscoring ways in which emerging capabilities will enable Beijing to challenge traditional U.S. nuclear overmatch. It also addresses evolving Chinese thinking on deterrence in emerging domains, such as space and cyber, as well as the PRC's attempts to leverage disruptive technologies to improve

its strategic deterrence capabilities. The volume highlights the evolving nature of warfare, notably articulating the development of a new strategic triad. Whereas that term once reflected strictly the nuclear weapon delivery capabilities of bombers, submarines, and ground-based missiles, the new strategic triad is perhaps more appropriately defined along nuclear, cyber, and space lines. Indeed, emerging space and cyber capabilities are leading to capabilities that can generate catastrophic effects across societies that are analogous to those generated by nuclear forces but without the immoral stigma associated with a nuclear explosion. In other words, nonkinetic effects could potentially be just as strategically powerful as kinetic effects, if not more so. Finally, this volume examines the degree to which Beijing is confident in its ability to manage escalation in crisis and conflict, identifying potential CCP responses should deterrence fail.

The authors' findings offer important insights for understanding how the PRC's thinking regarding deterrence is continuing to evolve and what this means for planners, policymakers, and warfighters. I am proud to see this essential work continue and commend the organizers, sponsors, and participants who made this volume possible.



Stephen D. Sklenka
Lieutenant General, USMC
Deputy Commander, U.S. Indo-Pacific Command
February 2023

Introduction: China's Evolving Thinking on Deterrence

Roy D. Kamphausen and Jeremy Rausch

The 2021 People's Liberation Army (PLA) Conference, cohosted by the National Bureau of Asian Research (NBR) and the China Strategic Focus Group at U.S. Indo-Pacific Command, took place in the wake of fundamental changes for the PLA. After more than five years of unprecedented structural and operational reforms, the Central Military Commission of the Chinese Communist Party (CCP) issued the "Guidelines on Joint Operations of the Chinese People's Liberation Army (Trial)" in November 2020.¹ The guidelines outlined the PLA's central objective: building a force capable of conducting "integrating joint operations" by developing and deploying weapons and equipment "characterized by higher precision, intellectualization, stealth, and unmanned operation." By declaring the essential completion of the "national defense and military reform of the leadership and command systems, scale, structure, and force composition" at the press conference introducing the new guidelines, the PLA appears confident and ready to work on achieving Chairman Xi Jinping's centenary goal of building a "world-class military" by 2049.²

The People's Republic of China (PRC) issued the new guidelines as it assumes a more active and assertive role in the Indo-Pacific region, while also looking to acquire a more prominent global role commensurate with

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¹ "Guidelines on PLA Joint Operations (Trial) Aim for Future Warfare: Defense Spokesperson," China Military Online, November 26, 2020, http://eng.mod.gov.cn/news/2020-11/26/content_4874656.htm.

² Ibid.

its “comprehensive national power.” Those roles, and the ambitions that fuel them, are in many respects inimical to U.S. and allied interests and objectives. In recent years, PRC actions have threatened peace and stability in Asia in many ways. China has disregarded independent, international judicial rulings on the validity of its unsubstantiated territorial claims in the South China Sea. The PRC has continued to employ coercive measures across economic, diplomatic, and information domains against Taiwan, all the while refusing to rule out the use of force to unify the island with the PRC. In addition, the strengthening of China’s relationship with Russia even as Russia has invaded Ukraine has sparked concerns regarding the degree of coordination in the pair’s destabilizing regional and global behavior. While Russian president Vladimir Putin was forced to acknowledge China’s concerns over the ongoing quagmire in Ukraine at a meeting with Xi Jinping in September 2022, his enduring and congenial relationship with Xi, their similar personality-driven autocratic governance structures, and shared distrust and disdain for the Western-led international system are some of the factors that continue to drive the strategic partnership between Moscow and Beijing.

At the same time, fundamental shifts in China’s thinking on deterrence appear to be underway. The new strategic guidelines have been accompanied by a broad evolution of China’s strategic deterrence concepts in which military and nonmilitary capabilities combine to create an “integrated strategic deterrence” posture aimed to protect China’s interests.³ The rapid modernization of the country’s nuclear forces, as evidenced by the apparent construction of new intercontinental ballistic missile (ICBM) silos in western China and the development of a maturing nuclear triad, reflect a prospective shift in its approach to strategic deterrence. The PRC has also enhanced and consolidated its nonconventional capabilities in cyberspace, outer space, and electronic warfare under the aegis of the PLA Strategic Support Force. It has similarly undertaken aggressive diplomatic, disinformation, and economic coercion campaigns to shape the decision-making and behavior of other countries while conditioning their future actions to be more aligned with China’s interests. Meanwhile, PLA writings indicate an ongoing effort to integrate capabilities and achieve a force capable of joint operations (as observed in the November 2020 joint strategic guidelines) across a broad spectrum of domains, from strategic to conventional to nonconventional.

³ Michael S. Chase and Arthur Chan, *China’s Evolving Approach to “Integrated Strategic Deterrence”* (Santa Monica: RAND Corporation, 2016), https://www.rand.org/pubs/research_reports/RR1366.html.

The 2021 PLA Conference addressed these changes in doctrine, organization, operations, and capabilities to address whether a structural shift in the PLA's approach to deterring adversaries in a contemporary context has begun. Utilizing a hybrid model combining in-person and virtual engagement, the conference brought together an audience of American and international participants to explore these pressing topics. The world's leading specialists on the PLA from academia, government, the military, and policy think tanks, from eight countries and three continents, joined the conference proceedings. This introduction briefly reviews the scope and arguments of each of the volume's chapters and summarizes key findings.

Taking Stock of Traditional PRC Views on Deterrence

The volume's opening section provides definitions of deterrence in the Chinese context, assesses long-held views on conventional and strategic deterrence, addresses China's primary deterrence challenges, and examines the role of traditional approaches to conventional and strategic deterrence in PLA strategy today. Over the last two decades, the PRC's approach to conventional deterrence has evolved to adapt to the PLA's shifting conventional capabilities. The modernization of the PLA Navy and Air Force, the augmentation of conventional missile capabilities and centralization of command and control under the PLA Rocket Force, and Beijing's efforts to exploit the dual-use nature of cutting-edge technology such as artificial intelligence and quantum computing have produced new organizational structures and operational capabilities previously not considered possible.

Andrew Erickson of the U.S. Naval War College and Nicola Leveringhaus of King's College London begin the volume with chapters surveying how the PRC has traditionally considered and employed deterrence in the conventional and strategic domains.

In the first chapter, Erickson explores how Beijing poses unique conventional deterrence challenges through its advanced missile systems, opaque decision-making and signaling, and disregard for confidence building. Erickson argues that under Xi Jinping, the PRC is achieving increasingly potent tailored conventional capabilities that could be employed at virtually every rung of the escalation ladder, thereby offering leaders more options and leverage against potential adversaries. While China's approach to "integrated strategic deterrence" historically has encompassed both nuclear and conventional deterrence, the conventional component is in some ways

the more important, if not fully understood by Western observers. China's rapid pursuit of a range of state-of-the-art systems is making its long-risky calculus concerning conventional deterrence still more destabilizing and dangerous in practice. For instance, Erickson notes that PRC researchers view ballistic missiles outfitted with hypersonic glide vehicles as a transformative technology that China must emphasize in response to similar U.S. (and Russian) developments. In view of Beijing's increasing risk tolerance and assertiveness, coupled with the rapid development of the PLA's capabilities to support such a posture, Erickson emphasizes that a comprehensive re-evaluation of PRC strategic thinking regarding conventional deterrence is required.

In the second chapter, Leveringhaus proposes supplementary methods for observers to assess China's approach to strategic deterrence and the ideology underpinning PRC nuclear policy. She posits that traditional approaches include (1) a rigorous tracking and documenting of technological changes to the Chinese arsenal and (2) a focus on past and present statements by authoritative political and military figures in China regarding strategic deterrence. She then argues that these approaches risk overlooking prior domestic political considerations that have shaped long-term ideas and practices of Chinese nuclear deterrence. Leveringhaus thus introduces the "domestic political approach" as an additional way to understand China's approach to strategic deterrence. This approach posits that domestic political considerations have an internal and external focus related to strategic deterrence: the internal focus is on the shifting dynamics of CCP ideology and how they have shaped Beijing's approach to strategic deterrence over time, while external political considerations concern diplomacy, specifically how China's nuclear deterrent serves diplomatic goals both in peacetime and at times of crisis. Leveringhaus concludes that the domestic political approach complements the two traditional approaches by providing a more comprehensive picture of Chinese attitudes and policies regarding nuclear deterrence.

Evolving PRC Perspectives on Deterrence in Existing and Emerging Domains

The volume's second section addresses new developments in the PRC's approach to deterrence in existing and emerging domains. Rachel Esplin Odell of the U.S. Department of State discusses the range of nonmilitary and nonconventional tools Beijing is deploying to deter other states from

taking actions that harm its interests and compel those already doing so to stop. Brandon Babin of U.S. Indo-Pacific Command explores the ongoing changes in Beijing's approach to strategic nuclear deterrence, including the construction of new ICBM silos in western China and the PLA's maturing nuclear triad. Nathan Beauchamp-Mustafaga of the RAND Corporation assesses Chinese military thinking on space and cyber deterrence and draws implications for the United States. Elsa Kania of Harvard University concludes the section by evaluating how the PLA's approach to deterrence may adapt to emphasize new instruments and opportunities to gain advantages in fields such as "new concept weapons" and military biotechnology.

In the volume's third chapter, Odell argues that the PRC has begun supplementing its long-standing suite of diplomatic and military deterrent signals with an increasingly diverse set of nonconventional tools for deterring or coercing other states and nonstate actors over the past decade. The PRC has used these tools to coerce multinational companies, international organizations, civil society organizations, and individuals, in addition to the governments of other states. Beijing has employed these tools to respond to perceived threats to its interests across a broad range of issues, including those that do not directly relate to military matters, such as criticisms over China's human rights record or handling of the Covid-19 pandemic. Odell calls for analysts to broaden their aperture when considering the actors in China that engage in deterrence or coercion operations. Especially in nonmilitary affairs, the PLA is not the primary actor in the PRC party-state responsible for exercising coercion. Accordingly, to understand the way that Beijing thinks about deterrence, it is necessary to look beyond PLA doctrine to the theory and writings of CCP leaders and institutions. Yet Odell finds that CCP political guidance does not use the explicit language of deterrence or compellence. Instead, CCP theory stresses the need for struggle and resolve in the face of challenges to China's interests. This potentially explains why Beijing persists in coercive nonconventional campaigns that damage its international image, even while failing to change the behavior of the targets, and why CCP leaders may even judge such campaigns to be successful despite such consequences.

In the fourth chapter, Babin explores the drivers of China's ongoing nuclear modernization efforts and the implications for the United States and its allies and partners in the Indo-Pacific. He argues that the principal reasons for China's nuclear modernization campaign lie in its desire to achieve a "strategic counterbalance" against other great powers, namely the United States, and to prevent third-party intervention in a regional conflict

(most likely Taiwan). Babin discusses how Xi's directions to the PLA to achieve a high-level of "integrated strategic deterrence" have updated and shaped the mission of the PLA Rocket Force in the era of strategic competition with the United States. He also surveys several hypotheses regarding the recent discovery of three large-scale ICBM silo fields in western China. He argues that this development does not signal a return to the Cold War-styled "shell game" but rather is consistent with the PLA's broader objectives to discard the traditional "minimal deterrent" approach and move toward a significant nuclear buildup of "counterbalance" (制衡) capabilities. Babin concludes that the principal objective driving the PLA's nuclear modernization is to use a nuclear counterbalance capability to dissuade the United States from coming to Taiwan's defense in the event of a conflict and thereby coerce Taipei to come to the negotiating table before conflict occurs.

In the fifth chapter, Beauchamp-Mustafaga argues that the space and cyber domains are viewed by China as two additional means of strategic deterrence, in addition to nuclear deterrence. A key commonality between these two domains is the perception that the United States dominates and seeks to further entrench its hegemony in these domains. Combined with the broader perception of U.S. hostility, this perception reinforces concerns that the PLA is weak, vulnerable, and is itself at risk of coercion by the United States, thereby requiring a strong deterrence response. Beauchamp-Mustafaga thus posits that Chinese thinking on space and cyber deterrence is evolving. For space, China's deterrence requirements are likely increasing. Early strategy was focused solely on the United States, but current strategy must also account for an India with anti-satellite capabilities, for instance. For the cyber domain, recent updates to Chinese military teaching materials suggest that the PLA has come to believe that deterrence requires demonstrating an ability not only to penetrate an adversary's networks but also to generate real strategic effects. Beauchamp-Mustafaga concludes that the space and cyber domains are thus key parts of China's conceptualization of the highest level of deterrence—"integrated strategic deterrence."

In the volume's sixth chapter, Kania reviews the PLA's efforts to leverage disrupting technologies and emerging capabilities to enhance its strategic deterrence system. She argues that while the PLA has pursued a range of advances on the frontier of military technology, China's capacity to realize a truly integrated and innovative paradigm for strategic deterrence remains uncertain and will likely not be realized in the short term. Kania evaluates how emerging guidance for the PLA highlights the development and application of "new concept weapons" and the transition from "informatization"

to “intelligentization” in modern warfare. Her discussion focuses on how this transition to “intelligentized” warfare is changing the means of China’s approach to strategic deterrence. In the technological domain, the PLA is seeking to leverage capabilities in “unmanned intelligent” combat equipment, hypersonic weapons, and swarm systems. Kania also considers how the “cognitive domain” plays an important role in the PLA’s approach to deterrence through activities such as “intelligent” psychological operations, cognitive confusion, and even “brain control weapons.” Kania argues that the PLA has also shown interest in conducting scientific experimentation within the emerging biological domain of deterrence to broadly improve its ability to leverage biological capabilities across the spectrum of conflict. She concludes that, though the PLA does not yet possess these capabilities, the mere possibility of novel weapons systems and capacities could enhance deterrence by increasing uncertainty and risking miscalculation.

When Deterrence Fails: How the PLA Responds in a Crisis and Conflict

The volume’s final section explores three potential Chinese responses to a failure of deterrence: conflict escalation, disengagement and de-escalation, and crisis management. Alison Kaufman of CNA, Stein Tønnesson of Peace Research Institute Oslo, and Mathieu Duchâtel of Institut Montaigne review and assess the doctrinal or practical guidance, organizational structures, and procedures that the PLA has employed in the past in each of these responses to a failure of deterrence. The chapters give high priority to the signaling Beijing uses to indicate a change in status and decision-making patterns, drawing on case studies such as the 2019 Sino-Indian border clash in eastern Ladakh and confrontations between the PLA Navy, Southeast Asian states, and the U.S. Navy in the South China Sea and Taiwan Strait, among others.

In the seventh chapter, Kaufman considers how specialists in the PLA as well as the broader PRC security community describe the dynamics and risks of controlling escalation during a military conflict. She argues that civilian and military writings over the last two decades display a shared confidence that conflict escalation can be controlled with the right tools and conditions. Effective escalation control is depicted as depending in large part on a country’s ability to manage uncertainty—suggesting that PLA planners are not risk averse so much as uncertainty averse. Kaufman further argues that the desire to reduce uncertainty rests on the belief that

the progression from crisis emergence to actual conflict can be forecast, calculated, and managed using systematic and quantitative approaches that evaluate all possible courses of action and eliminate human error. She finds that PRC writings on controlling escalation exhibit several persistent blind spots with alarming implications. These include scant acknowledgment that operational principles and specific activities the PLA regards as de-escalatory may be interpreted differently by an adversary, thus introducing uncertainty regarding how PLA actors would handle a situation that they have not put through their elaborate evaluation process. Kaufman concludes that these blind spots could cause Beijing to become overly confident in the PLA's ability to control escalation in a crisis or conflict, with risky consequences.

In the eighth chapter, Tønnesson demonstrates how a pattern of Chinese de-escalation has unfolded in several crises and discusses what it might take for China to move beyond this pattern and engage in riskier behavior. Since China's war with Vietnam in 1979, he observes that none of China's foreign policy crises have escalated to actual warfare. Tønnesson posits two reasons: the PRC's maintenance of good working relations with all relevant great powers (the United States, Japan, and Russia) and a pattern of de-escalation when it has met with strong resistance. Since 2000, the Chinese economy has become the main driver of global industrial growth. China has used its new prosperity to build the world's second-strongest military while shifting to a policy of assertiveness, building a strategic partnership with Russia, and engaging in a power rivalry with the United States. Tønnesson argues that these developments have precipitated several crises during which China has stuck to its pattern of de-escalation in the face of resistance. If a crisis escalates to a point where Beijing sees a risk of armed confrontation, it ceases to act offensively. Tønnesson identifies several characteristics of the PRC's process of de-escalation, including holding talks with the adversary (which rarely involve any genuine concessions), pushing its position forward until it meets determined resistance, and refraining from further assertive moves while deploying heavy rhetorical attacks on the adversary. These behaviors raise questions about what might lead China to depart from this pattern and engage in riskier behavior during a crisis.

In the volume's concluding chapter, Duchâtel examines China's crisis management diplomacy following the 19th National Congress of the CCP. He argues that China has shown a strong preference for crisis management mechanisms when it is on the defensive or at a disadvantage, requires a tool to freeze a new status quo, or needs to consolidate gains. Conversely, when China is on the offensive, or when its goal is to change the status quo, crisis

management regimes are neglected or regarded as an obstacle. Duchâtel concludes that a preference for crisis avoidance or prevention mechanisms to address the root causes of conflicts, often in the form of high-level strategic guidance provided by political leaders, is characteristic of China's approach. Using case studies of China's tensions with the United States, Japan, and India, Duchâtel recommends that building crisis management regimes is important to increase transparency and predictability and to reduce the possibility of collisions or other incidents that could trigger severe crises.

Conclusion

Taken together, the nine chapters in this volume reveal broad changes to the PRC's deterrence strategy across conventional, strategic, asymmetric, and emerging domains. In some cases, such as conventional and nuclear deterrence, force modernization and operational testing are enabling the PLA to develop, deploy, and demonstrate next-generation capabilities such as the DF-21D "carrier killer" missile and a maturing nuclear triad in an effort to deter adversaries. In emerging areas, such as cyber, space, and biotechnology, the PLA is still exploring the prospects for utilizing these capabilities in a deterrence context. PLA writings, however, suggest that Chinese strategists understand the utility of such capabilities and aim to incorporate them into short-, medium-, and long-term strategic and operational planning exercises. Furthermore, the PRC employs a range of nonconventional coercive measures—from economic sanctions and diplomatic pressure to legal and information warfare—to supplement the PLA's military power with actions below the threshold of armed conflict. This volume also provides insight into how Chinese strategists and planners assess the PLA's ability to navigate conflict scenarios through escalation, de-escalation, and crisis management. Ultimately, the PRC embraces a belief that it possesses the analytical capacity, operational capability, and strategic foresight necessary to prevent uncontrolled escalation even while it secures its interests through the calculated and selective use of force across the spectrum of conflict. This highly risky PRC judgment requires ongoing interrogation by Western analysts and ought to be a topic of regular strategic dialogue between policymakers, lest the judgment be tested for the first time in the midst of a real crisis.

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