Under the Nuclear Shadow: China's Information-Age Weapons in International Security

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Andrew S. Erickson

US Naval War College, Newport, USA
Email: andrew.erickson@usnwc.edu

Like waves generated far from shore, major military capabilities often emerge from strategic choices made years earlier amid technological uncertainty and long development timelines. Cunningham makes a vital contribution by documenting and tracing just how much of China's ongoing bow wave of military advancements stems from distinctive developmental choices. This ambitious undertaking, commendably executed, brings much-needed nuance and insight into Beijing's evolving military strategy and coercive posture. Especially powerful historically, it explains important selection effects: why China prioritized certain asymmetric capabilities over others – namely missile, cyber and counterspace development under Jiang Zemin and Hu Jintao. Cunningham's framework remains highly persuasive in explaining Beijing's earlier capability prioritization decisions, even as Xi-era developments complicate its predictive implications for future force development.

Many of the choices Cunningham traces were decided and implemented initially under Jiang, who in 1997 envisioned a three-step military modernization strategy out to 2050. Jiang pursued what Cunningham characterizes as strategic substitution – a stopgap approach disproportionately emphasizing key advanced weapons to align PRC strengths with strategic and operational exigencies, catalyse advances in critical areas, and avoid premature arms racing pitfalls before Beijing had the wherewithal to prevail on its own terms. China lacked both the coercive leverage associated with nuclear first-use strategies and the highly survivable retaliatory posture characteristic of mature nuclear powers. It also lacked sufficient conventional capabilities to intervene successfully against, let alone defeat, a superior adversary like the United States. Therefore, beginning especially after the 1995–1996 Taiwan Strait Crisis, Beijing sought coercive leverage below the nuclear threshold with conventional precision-guided missiles, cyber capabilities, and counterspace weapons.

Rather than an exhaustive literature review of foreign scholarship, which tends to be theoretical or general in nature, nuclear-focused, or dated, Cunningham prioritizes citation of original Chinese sources and interviews and reconstructs relevant PRC debates. She does so with highly disciplined methodology, curation and careful attention to source pedigree and relative authoritativeness. In a particularly compelling example of what at least previously might be gleaned from disciplined, determined interviews, Cunningham debunks implausible claims that China's 2007 ASAT test proceeded without top leadership concurrence.

Cunningham offers particularly persuasive tracing of Cold War and early post-Cold War history. She shows how, at the Cold War's end, PRC leaders approved a Second Artillery (now PLA Rocket Force) proposal to establish a conventional unit employing missiles not sold to Syria following American pressure. With Washington and Moscow straitjacketed by the INF Treaty, this rapidly grew into the world's largest, most diverse conventional missile force. Today China fields the world's most extensive inventory of anti-ship ballistic missiles, hypersonic glide vehicles and other advanced strategic systems (see Office of the Secretary of War, *Military and Security Developments Involving the People's Republic of China 2025*, Washington, DC: Department of Defense/War, 23 December 2025).

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Cunningham makes an extremely compelling case that China emphasized conventional missiles, counterspace capabilities and cyber activities as relative strengths that matched particular military needs. Conventional bombers, by contrast – as Cunningham rightly underscores – represented deep-seated technological weakness and would not serve a major unique or vital role. Less clear and conceptually categorizable is electronic warfare. China has indeed actively pursued the full spectrum of electronic warfare – not necessarily as what Cunningham terms "a weapon capable of generating coercive leverage in its own right" (p. 237), but certainly as a vital enabler of multifarious military operations. Finally, for many applications against capable adversaries, at least, it is unclear how Special Operations Forces "could have been a plausible substitute source of coercive leverage for the PLA" (p. 292).

Cunningham's book is strongest in explaining the logic of post-Cold War and especially Jiang- and Hu-era force development choices. She carefully caveats her argument: "strategic substitution does not preclude the pursuit of conventional or nuclear capabilities that could eventually provide a country with the option to adopt another answer to the limited-war dilemma. Strategic substitution can be a stopgap until then" (p. 9).

Indeed, 13 years into Xi's new era, China's military position has changed fundamentally. Strategic substitution, having largely run its course, no longer appears sufficient on its own to explain China's broader military trajectory. Xi's increasingly all-encompassing buildup is additive rather than substitutive. Strategic substitution explained why China initially prioritized certain weapons but appears increasingly insufficient to explain what Beijing is now prioritizing or may prioritize next. Previously favoured weapons remain valuable but increasingly coexist with expanding conventional and nuclear capabilities as China pursues comprehensive military capability. This dramatic discontinuity, particularly its nuclear component, remains largely unacknowledged in PRC official statements and scholarship alike.

Leading the rapid advancement of a superpower that he believes has outgrown stopgaps, Xi is taking things to a whole new level with an across-the-board military modernization approach. Like the Party historically, Xi wants to achieve top objectives at lowest cost, escalation, and risk. He seeks the most potent, wide-ranging non-nuclear options vis-à-vis Taiwan and other key contingencies but is clearly determined to be able to operate credibly along the entire escalation ladder. Rather than compensating selectively for weakness conventionally – or, at the other extreme, pursuing Russia-style nuclear-centric compensation for conventional weakness – the most likely trajectory is a levelling-up of nuclear forces to become more important in China's escalation calculus.

There is no more dramatic example of discontinuity than the extraordinary qualitative and quantitative nuclear weapons ramp-up that Xi initiated soon after assuming power, breaking decisively with his predecessors' relative nuclear-numerical restraint and overwhelming conventional focus. The historical gap between PRC declaratory policy and operational behaviour raises questions regarding how rigidly a purported no-first-use (NFU) limitation would constrain Beijing in an extreme Taiwan contingency. As Cunningham rightly emphasizes, Beijing opposed ground-based ASAT weapons in its 1998 defence white paper, yet "dropped those objections from its 2000 and 2002 defense white papers" (p. 249). Today, together with Russia, China is the greatest developer and deployer of precisely such weapons (*Space Threat Fact Sheet*, Washington, DC: Headquarters Space Force Intelligence, current as of April 2026, https://www.spaceforce.mil/About-Us/Fact-Sheets/Fact-Sheet-Display/Article/4297159/space-threat-fact-sheet). Moreover, while "numerous PRC white papers on space and defense have been published since 2000 … none have acknowledged China's development of counterspace capabilities" (p. 270). This thoroughgoing transition from opposition on principle to pursuit in practice should cast a shadow over the credibility of PRC strategic and policy statements – including a strong nuclear shadow, starting with NFU.

In many respects, Xi is moving beyond substitution toward comprehensiveness and relative convergence with American-style force structure, which PLA planners generally consider the ultimate

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gold-standard. This apparently stems from both Xi's long-term ambition that China field a "world-class" military and his nearer-term assessment that to assert control over Taiwan, in peace or – worst case – in war, he must demonstrate to Washington, Taipei, Tokyo, Canberra and elsewhere that he can contest them credibly at every rung of escalation and perhaps even dominate escalation spaces in which they possess limited reciprocal options.

This would explain China's engagement in the world's most dramatic military buildup in general, and nuclear weapons buildup in particular. Official PRC statements and sources akin to those Cunningham employs so effectively have proven unavailable to explain China's nuclear build-up. Beijing declines to address the subject or even engage in the most basic dialogue, let alone meaningful arms control discussions. Meanwhile, most PRC interlocutors and sources appear to have been caught unawares, actively obfuscate or dissemble, or simply decline to address this central issue directly (Decker Eveleth, "Siloed Silos and Analytical Failures," *Hors d'Oeuvres of Battle*, 11 May 2026, https://horsdoeuvresofbattle.substack.com/p/siloed-silos-and-analytical-failures). The unstated PRC approach to strategic weapons-related exchange appears to be utter disinterest in discussion or cooperation short of future (quasi-)symmetric convergence on its own terms.

Cunningham cogently explains why China initially pursued strategic substitution under Jiang and Hu. Current developments under Xi, however, suggest a transition toward full-fledged force development unconstrained by earlier substitution logic. Xi's military transformation is an urgent subject for further research but takes nothing away from Cunningham's pathbreaking historically- and PRC source-grounded contribution, which joins M. Taylor Fravel's *Active Defense* as a classic in the broader PLA strategic evolution literature.

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Implementing a Low-Carbon Future: Climate Leadership in Chinese Cities

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Yifei Li

Australian National University, Canberra, Australia
Email: yifei.li1@anu.edu.au

Weila Gong's *Implementing a Low-Carbon Future* is a slim volume that seeks to explain variation in local low-carbon policy implementation in China. The book's central argument is straightforward: successful low-carbon policy experimentation depends on the availability of "bridge leaders," or bureaucratic entrepreneurs capable of mobilizing political support, implementation alliances and institutional resources. As Gong concludes, local policy successes are largely explained by "the availability of bureaucratic entrepreneurs and their ability to mobilize resources" (p. 93). To develop this argument, Gong compares four municipal cases (Shenzhen, Nanchang, Zhenjiang and

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