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The Strategic Intent behind China's Nuclear Buildup

Kuniharu Kakihara



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LIST OF ABBREVIATIONS

A2/AD	Anti-Access/Area Denial
ALBM	Air-Launched Ballistic Missile
ASBM	Anti-Ship Ballistic Missile
BMD	Ballistic Missile Defense
CCP	Chinese Communist Party
CSIS	Center for Strategic and International Studies
CRS	Congressional Research Service
C3I	Command, Control, Communications, and Intelligence
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
DOD	Department of Defense
DF	Dong Feng (Chinese ballistic missile series; e.g., DF-5, DF-31, DF-41)
FAS	Federation of American Scientists
HGV	Hypersonic Glide Vehicle
ICBM	Intercontinental Ballistic Missile
INSS	Institute for National Security Studies
IRBM	Intermediate-Range Ballistic Missile
JL	Julang (Chinese submarine-launched ballistic missiles; e.g., JL-2, JL-3)
LOW	Launch on Warning
MAD	Mutual Assured Destruction
MARV	Maneuverable Reentry Vehicle

MIRV	Multiple Independently Targetable Reentry Vehicle
RBM	Medium-Range Ballistic Missile
NDU	National Defense University
NFU	No First Use
PLA	People's Liberation Army
PRC	People's Republic of China
RAND	RAND Corporation
SSBN	Nuclear-Powered Ballistic Missile Submarine
SSN	Nuclear-Powered Attack Submarine

Introduction

In recent years, China has undertaken a rapid and unprecedented expansion of its nuclear forces, both quantitatively and qualitatively. According to the U.S. Department of Defense, China's nuclear stockpile remained in the "low 600s" through 2024 and is projected to exceed 1,000 warheads by 2030, with possible growth toward 1,500 by the mid-2030s.¹ Meanwhile, independent estimates from the Federation of American Scientists (FAS) confirm that China now possesses approximately 600 warheads and is expanding its arsenal at a pace unmatched by any other nuclear-armed state.² This expansion is accompanied by major structural developments, including the construction of more than 300 new ICBM silos, the maturation of a full nuclear triad, and the integration of advanced delivery systems such as multiple independently targetable reentry vehicles (MIRVs) and hypersonic glide vehicles (HGVs). These trends collectively represent the most significant transformation of China's nuclear forces since its initial acquisition of nuclear weapons in 1964.³

For decades, scholars interpreted China's nuclear posture through the framework of "minimum deterrence," grounded in a declared No First Use (NFU) policy and a force structure designed primarily to ensure assured retaliation rather than warfighting capability. Within this view, China's nuclear modernization was largely understood as a defensive response to external pressures, particularly the evolution of U.S. missile defense and precision-strike capabilities

¹ U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2025* (Washington, D.C.: Department of Defense, 2025), 181–83.

² Hans M. Kristensen and Matt Korda, "Chinese Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81, no. 2 (2025): 135–38; Federation of American Scientists (FAS), "Chinese Nuclear Weapons, 2025," *Nuclear Notebook*, 2025, 1–3.

³ Hans M. Kristensen and Matt Korda, "Chinese Nuclear Weapons, 2025," 138–142; U.S. Department of Defense, *Military and Security Developments Involving the PRC 2025*, 182–84.

within a classic security dilemma dynamic.⁴ However, the scale, speed, and complexity of China's recent nuclear buildup increasingly strain the explanatory power of this framework. The expansion beyond what appears necessary for minimal second-strike credibility, combined with diversified delivery systems and rising alert readiness, suggests that China's nuclear strategy may be undergoing a more fundamental transformation.⁵

At the same time, a growing body of scholarship has proposed alternative interpretations. Some analysts emphasize the emergence of a “nuclear shield,” through which China seeks to establish mutual vulnerability with the United States in order to deter intervention in regional contingencies and secure operational freedom at the theater level.⁶ Others point to the role of nuclear forces in great-power competition, arguing that China's buildup reflects broader ambitions to enhance strategic status, political influence, and leverage within the international system.⁷ While these perspectives offer important insights, they remain analytically fragmented. Each captures a distinct dimension of China's nuclear behavior—deterrence, coercion, or status—but fails to provide a unified explanation that accounts for their simultaneous interaction and mutual reinforcement.

This fragmentation poses a central analytical puzzle: why is China expanding its nuclear forces in ways that appear to simultaneously strengthen strategic deterrence, enable theater-level

⁴ Charles L. Glaser, “The Causes and Consequences of Arms Races,” *Annual Review of Political Science* 3 (2000): 251–254; M. Taylor Fravel, *Active Defense: China's Military Strategy Since 1949* (Princeton, NJ: Princeton University Press, 2019), 214–18; Brad Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century* (Stanford, CA: Stanford University Press, 2016), 122–26.

⁵ Hans M. Kristensen and Matt Korda, “Chinese Nuclear Weapons, 2025,” 139–144; U.S.-China Economic and Security Review Commission, *China's Nuclear Forces: Moving Beyond a Minimal Deterrent* (Washington, D.C.: U.S. Government Printing Office, 2025), 3–5.

⁶ David C. Logan and Phillip C. Saunders, *Discerning the Drivers of China's Nuclear Force Development: Models, Indicators, and Data* (Washington, D.C.: National Defense University Press, 2023), 11–14, 22–24.

⁷ Matthew Kroenig et al., *Adapting U.S. Strategy to Account for China's Nuclear Transformation* (Washington, D.C.: Atlantic Council, 2024), 4–8; David O. Shullman et al., *Adapting U.S. Strategy to Account for China's Transformation into a Peer Nuclear Power* (Washington, D.C.: Atlantic Council, 2024), 6–12.

coercion, and support great-power political objectives? Existing approaches tend to privilege one of these functions at the expense of the others, leaving unexplained the integrated nature of China's evolving nuclear posture.

This study addresses this gap by advancing a new theoretical framework—the Three-Phase Model of China's Nuclear Strategy—which conceptualizes China's nuclear development as a phase-based transformation conditioned by relative shifts in national power. Drawing on Chinese strategic thought, including the writings of Sun Tzu and Mao Zedong, as well as contemporary strategic culture scholarship, the model identifies three stages of nuclear behavior: (1) minimum deterrence under conditions of inferiority, (2) parity-oriented confrontation characterized by the emergence of a nuclear shield, and (3) a potential future stage of conditional nuclear superiority. Crucially, this framework does not treat these phases as fixed doctrines, but as adaptive strategic responses shaped by changing power balances and operational requirements.

The central argument of this paper is that China's current nuclear buildup reflects a transition into the second phase—what this study terms the confrontational stage—in which nuclear forces serve not only as instruments of deterrence, but also as enablers of coercive leverage in regional conflicts. In this phase, China's nuclear posture increasingly functions as a “shield” that raises the perceived costs of U.S. intervention, thereby expanding China's freedom of action at the theater level. Importantly, this transformation cannot be understood solely in terms of capabilities. Rather, it reflects a broader structural logic in which nuclear forces reshape the relationship between strategic stability and regional instability.

In this context, the paper advances a second core claim: China's nuclear buildup represents the institutionalization of the stability–instability paradox. As China approaches a condition of

mutual vulnerability with the United States, the risk of large-scale nuclear war may decline at the strategic level. Yet this very stability simultaneously creates incentives for more assertive behavior at lower levels of conflict, increasing the likelihood of coercion, limited escalation, and crisis instability—particularly in scenarios involving Taiwan. The expanding role of nuclear signaling, dual-capable systems, and nuclear-conventional entanglement further reinforces this paradox by compressing decision time and amplifying the risks of misperception.

To substantiate this argument, the paper adopts a combined theoretical and empirical approach. It first synthesizes existing literature on China’s nuclear strategy to identify persistent analytical gaps. It then develops the Three-Phase Model as a unifying framework that integrates deterrence theory, coercion dynamics, and political motivations. Finally, it applies this model to the empirical evolution of China’s nuclear forces, examining key indicators such as force expansion, technological diversification, doctrinal developments, and nuclear signaling behavior.

The remainder of the paper proceeds as follows. Section 2 reviews existing literature and identifies the analytical limitations that motivate the study. Section 3 presents the Three-Phase Model and outlines its theoretical foundations. Section 4 examines the empirical transformation of China’s nuclear forces and situates current developments within the Phase II framework. Section 5 analyzes the implications of China’s evolving nuclear posture for escalation dynamics and crisis stability. Section 6 explores the role of nuclear signaling and coercion, highlighting early indicators of potential transition toward a more assertive strategic posture. Section 7 integrates these findings to assess China’s current strategic position and future trajectory. The conclusion summarizes the study’s contributions and considers implications for deterrence, regional stability, and U.S. and allied policy.

Literature Review and Analytical Gap

Scholarly interpretations of China’s nuclear strategy have expanded significantly in recent years, reflecting both the rapid evolution of its nuclear forces and the growing complexity of U.S.–China strategic competition. Despite this proliferation of research, existing analyses tend to cluster around several distinct but only partially integrated perspectives. This section reviews four major strands of the literature—minimum deterrence theory, the “nuclear shield” and theater control perspective, great-power and political explanations, and security dilemma frameworks—before identifying their shared analytical limitations.

Minimum Deterrence and Assured Retaliation

The dominant interpretation of China’s nuclear posture for much of the post–Cold War period has been rooted in the concept of minimum deterrence. Influential studies by Cunningham and Fravel argue that China’s nuclear strategy is fundamentally oriented toward ensuring assured retaliation rather than enabling nuclear warfighting.⁸ Within this framework, the primary objective of China’s nuclear forces is to maintain a survivable second-strike capability sufficient to impose unacceptable damage on an adversary, thereby deterring nuclear coercion or attack.

This interpretation is closely associated with China’s long-standing declaration of a No First Use (NFU) policy, first articulated in 1964 and repeatedly reaffirmed in official statements and defense white papers.⁹ The development of mobile intercontinental ballistic missiles (ICBMs),

⁸ Fiona S. Cunningham and M. Taylor Fravel, “Assured Retaliation: China’s Nuclear Strategy,” *International Security* 40, no. 2 (2015): 8–15, 25–30.

⁹ M. Taylor Fravel, *Active Defense: China’s Military Strategy Since 1949* (Princeton, NJ: Princeton University Press, 2019), 213–20, 228–33; Ministry of Foreign Affairs of the People’s Republic of China, “China’s National Defense Policy,” October 16, 1964.

hardened underground facilities, and sea-based deterrent capabilities has thus been understood as consistent with a survivability-driven approach to nuclear modernization.

However, while the minimum deterrence framework effectively explains earlier phases of China's nuclear development, it faces increasing difficulty accounting for recent trends. The scale of China's quantitative expansion, the diversification of delivery systems, and the introduction of advanced technologies such as MIRVs and hypersonic glide vehicles exceed what appears necessary for a strictly minimal deterrent. As a result, critics argue that the traditional model underestimates the evolving strategic functions of China's nuclear forces.

Nuclear Shield and Theater Control

In response to these limitations, a second body of scholarship has emphasized the concept of a "nuclear shield" as a central driver of China's nuclear expansion. Logan and Saunders identify multiple potential motivations for China's force development, but highlight nuclear shielding and theater control as among the most empirically supported explanations.¹⁰

Under this perspective, China's nuclear forces are not intended solely to deter nuclear attack, but to shape the strategic environment in which conventional conflicts occur. By establishing a credible ability to threaten the U.S. homeland, China seeks to create conditions of mutual vulnerability that increase the perceived costs of U.S. military intervention in regional contingencies, particularly those involving Taiwan.

This logic fundamentally reframes the role of nuclear weapons: rather than acting as a purely defensive deterrent, they become an enabling mechanism for conventional and limited-

¹⁰ David C. Logan and Phillip C. Saunders, *Discerning the Drivers of China's Nuclear Force Development: Models, Indicators, and Data* (Washington, D.C.: National Defense University Press, 2023), 11–14, 22–24, 47–50.

war strategies. Nuclear forces thus function as a backdrop that constrains escalation pathways and alters adversary decision-making, allowing China to pursue more assertive actions at the theater level.

This approach is closely linked to the stability–instability paradox, first articulated by Snyder and later expanded by Jervis, which posits that strategic stability at the nuclear level may incentivize lower-level conflicts.¹¹ In this context, China’s nuclear buildup enhances strategic deterrence while simultaneously increasing the plausibility of regional coercion and limited escalation.

Yet while the nuclear shield perspective provides a compelling explanation for the interaction between nuclear and conventional strategy, it tends to focus primarily on near-term operational dynamics. It offers less insight into the long-term trajectory of China’s nuclear development or the broader political motivations underpinning its expansion.

Great Power Transformation and Political Motivations

A third strand of the literature situates China’s nuclear expansion within the broader context of great-power competition and political transformation. Analysts in this tradition argue that nuclear weapons serve not only military functions, but also symbolic and political roles associated with status, legitimacy, and international influence.¹²

From this perspective, China’s nuclear buildup reflects its emergence as a major global power seeking to reshape the international order. The development of a full nuclear triad, the

¹¹Glenn H. Snyder, “The Balance of Power and the Stability–Instability Paradox,” *World Politics* 16, no. 3 (1964): 397–402; Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989), 28–35.

¹² Matthew Kroenig, Mark Massa, and Christian Trotti, *Adapting U.S. Strategy to Account for China’s Nuclear Transformation* (Washington, D.C.: Atlantic Council, 2024), 4–10; Hans M. Kristensen and Matt Korda, “Chinese Nuclear Weapons, 2025,” *Bulletin of the Atomic Scientists* 81, no. 2 (2025): 138–42.

public display of advanced delivery systems, and the increasing visibility of its nuclear capabilities are interpreted as forms of strategic signaling aimed at reinforcing China's status as a peer competitor to the United States.

This view highlights the importance of political motivations and strategic narratives, suggesting that China's nuclear modernization is linked to broader objectives such as regime legitimacy, national rejuvenation, and deterrence of external interference in core sovereignty issues.

However, while this approach illuminates the political and symbolic dimensions of nuclear strategy, it tends to lack detailed analysis of the operational mechanisms through which nuclear forces influence conflict dynamics. As a result, it often treats nuclear expansion as a byproduct of status-seeking behavior without fully specifying how these capabilities are intended to function in practice.

Security Dilemma and Interactive Dynamics

A fourth line of analysis emphasizes the role of the U.S.–China security dilemma in driving nuclear competition. Rooted in the broader literature on arms races and strategic interaction, this perspective views China's nuclear expansion as a reactive process shaped by U.S. military capabilities and policies.¹³

In particular, U.S. investments in ballistic missile defense (BMD), precision-strike systems, and advanced intelligence, surveillance, and reconnaissance (ISR) capabilities are seen as undermining China's confidence in its second-strike survivability. In response, China has

¹³ Charles L. Glaser, "The Causes and Consequences of Arms Races," *Annual Review of Political Science* 3 (2000): 251–55, 260–62; Adam P. Liff and G. John Ikenberry, "Rising Powers and Security Dilemmas: China's Military Modernization and East Asian Security," *International Security* 39, no. 2 (2014): 52–60, 64–70.

pursued countermeasures—including MIRVs, hypersonic systems, and expanded silo basing—to ensure penetration and preserve deterrence credibility.

This action–reaction dynamic reflects a classic security dilemma, in which defensive measures by one state are interpreted as threatening by another, leading to spirals of mutual escalation. This framework provides a powerful explanation for the timing and direction of China’s modernization efforts, highlighting the interactive nature of U.S.–China strategic competition.

However, like the other approaches discussed above, the security dilemma perspective has limitations. While it explains *why* China expands its nuclear forces in response to perceived threats, it does not fully account for *how* those forces are integrated into a broader strategic framework that includes coercion, signaling, and political objectives.

Analytical Gap: Toward an Integrated Framework

Taken together, these four strands of literature offer valuable but incomplete insights into China’s nuclear strategy. The minimum deterrence framework emphasizes survivability and restraint but struggles to explain recent expansion. The nuclear shield perspective captures the linkage between nuclear forces and conventional conflict but is primarily operational in scope. Great-power analyses highlight political motivations but lack detailed mechanistic explanations. Security dilemma approaches explain interactive dynamics but do not fully address strategic intent.

The central limitation across these approaches is their analytical fragmentation. Each perspective isolates a particular function of nuclear weapons—deterrence, coercion, status, or

interaction—but fails to explain how these functions coexist and reinforce one another within a single strategic framework.

This fragmentation obscures a critical feature of China’s evolving nuclear posture: its ability to simultaneously enhance strategic deterrence, enable theater-level coercion, and support broader political objectives. Without an integrative framework, these developments appear inconsistent or contradictory, rather than components of a coherent strategy.

To address this gap, this study proposes a unifying theoretical framework that conceptualizes China’s nuclear development as a phase-based transformation conditioned by shifts in relative power. The Three-Phase Model introduced in the following section integrates deterrence theory, coercion dynamics, and political motivations into a single analytical structure. By doing so, it provides a systematic explanation for how China’s nuclear forces can simultaneously fulfill multiple strategic functions and why these functions evolve over time.

The Three-Phase Model of China’s Nuclear Strategy

Theoretical Foundation: Power-Contingent Strategic Behavior

Understanding China’s nuclear strategy requires moving beyond static doctrinal interpretations toward a dynamic framework anchored in relative power relationships. Existing approaches often treat China’s stated principles—particularly minimum deterrence and No First Use (NFU)—as enduring strategic constants. However, both historical evidence and Chinese strategic thought suggest that such doctrines are best understood not as fixed commitments, but as contingent expressions of underlying power conditions.

Classical Chinese strategic thought places central emphasis on the adaptive alignment of strategy with relative strength. In *The Art of War*, Sun Tzu articulates a logic in which strategic behavior varies systematically with the balance of forces: overwhelming superiority invites decisive action, parity invites contestation, and inferiority necessitates caution and avoidance.¹⁴ This principle of power-contingent behavior is further reflected in Mao Zedong’s theory of protracted warfare, which organizes conflict into sequential stages—strategic defense, stalemate, and counteroffensive—each defined by shifting power relationships.¹⁵

Modern scholarship on Chinese strategic culture reinforces this interpretation. Johnston’s concept of “cultural realism” demonstrates that Chinese strategic traditions incorporate a pragmatic acceptance of force, conditioned by situational assessments rather than ideological rigidity.¹⁶ Similarly, the evolution of Chinese foreign and defense policy—from Deng Xiaoping’s *taoguang yanghui* (hide and bide) to Xi Jinping’s more assertive posture—illustrates the continuity of adaptive behavior in response to changing national capabilities.

Applied to the nuclear domain, this intellectual lineage suggests that China’s nuclear strategy evolves not through abrupt doctrinal shifts, but through gradual transitions across stages of relative power. This perspective provides the foundation for the Three-Phase Model proposed in this study.

¹⁴ Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (Oxford: Oxford University Press, 1963), 77–78, 84–85.

¹⁵ Mao Zedong, *On Guerrilla Warfare*, trans. Samuel B. Griffith (Urbana, IL: University of Illinois Press, 1961), 41–48, 92–98.

¹⁶ Alastair Iain Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton, NJ: Princeton University Press, 1995), 56–63, 117–23.

Phase I: Minimum Deterrence under Conditions of Inferiority

The first phase corresponds to conditions of pronounced strategic inferiority, in which China lacks the capability to compete directly with more advanced nuclear powers. Under these circumstances, China adopts a posture centered on minimum deterrence and assured retaliation, designed to prevent nuclear coercion while avoiding costly arms competition.

This phase is characterized by several defining features. First, China maintains a relatively small nuclear arsenal, sufficient only to impose unacceptable damage in the event of retaliation. Second, it prioritizes survivability over numerical expansion, investing in mobile delivery systems, hardened facilities, and concealment. Third, it adopts a declaratory posture emphasizing restraint, most notably through its NFU policy.

The logic underlying this strategy is consistent with classical deterrence theory. As Brodie argued, the fundamental purpose of nuclear weapons is not to win wars, but to prevent them by ensuring the possibility of unacceptable retaliation.¹⁷ For a conventionally weaker state, such as China during much of the Cold War, a minimal but survivable second-strike capability can provide credible deterrence without provoking escalation or arms racing.

Importantly, this phase is not indicative of strategic passivity. Rather, it reflects a rational adaptation to structural constraints. China's adherence to NFU and minimum deterrence during this period can thus be understood as a function of its relative weakness, rather than as a permanent doctrinal commitment.

¹⁷Bernard Brodie, *The Anatomy of Deterrence* (Santa Monica, CA: RAND Corporation, 1958), 6–9, 37–45.

Phase II: Confrontation, Nuclear Shield, and the Pursuit of Parity

The second phase emerges as the gap in relative power narrows and China enters a condition of strategic confrontation with a peer competitor. In this stage, China expands and diversifies its nuclear forces in order to enhance both the credibility of deterrence and its leverage within regional conflict scenarios.

The defining characteristic of this phase is the development of what this study terms a nuclear shield. This concept refers to the use of nuclear capabilities to establish a condition of mutual vulnerability with the United States, thereby raising the perceived costs of intervention in regional contingencies. By credibly threatening the U.S. homeland, China seeks to deter escalation beyond the theater level and constrain U.S. decision-making.

Achieving this condition requires a series of structural transformations in China's nuclear posture. These include the expansion of warhead numbers, the development of a nuclear triad, the integration of advanced technologies such as MIRVs and hypersonic systems, and the enhancement of survivability through diversified basing modes. Collectively, these changes move China beyond classical minimum deterrence toward a posture characterized by parity-seeking and redundancy.

However, the strategic function of these developments extends beyond deterrence. The nuclear shield also enables theater-level coercion by altering the escalation environment. Under conditions of mutual vulnerability, the risk of large-scale nuclear war declines, making limited conventional conflict more plausible. This dynamic reflects the stability–instability paradox, in which strategic stability at higher levels coexists with increased instability at lower levels.¹⁸

¹⁸ Snyder, "Stability–Instability Paradox," 397–402; Jervis, *Meaning of the Nuclear Revolution*, 28–35, 58–63.

In this phase, nuclear weapons thus serve a dual function: they deter existential threats at the strategic level while simultaneously enabling more assertive behavior in regional conflicts. This duality represents a fundamental shift from Phase I, in which nuclear forces were primarily defensive in nature.

Phase III: Conditional Nuclear Superiority and Counteroffensive Potential

The third phase, while not yet fully realized, represents a potential future trajectory in which China achieves a position of relative strategic advantage or perceives itself to have done so. Under such conditions, China's nuclear strategy may evolve toward a posture of conditional nuclear superiority, characterized by greater flexibility in nuclear employment and expanded coercive options.

In this phase, nuclear forces could support a broader range of operational and strategic objectives, including limited nuclear signaling, escalation management, and potentially first-strike capabilities under specific contingencies. Advances in precision strike technologies, early warning systems, and command-and-control infrastructure could enable more refined and discriminating use of nuclear force, lowering the threshold for limited nuclear options.

Importantly, this phase does not imply a wholesale abandonment of deterrence principles. Rather, it reflects an evolution in which nuclear weapons are integrated more actively into strategies of coercion and escalation dominance. As Schelling emphasized, the power of nuclear weapons lies not only in their use, but in the manipulation of risk and uncertainty to influence adversary behavior.¹⁹

¹⁹ Schelling, *Arms and Influence*, 69–78, 187–203.

The transition to this phase remains contingent upon multiple factors, including technological progress, organizational reforms, and the broader balance of power. However, the possibility of such a trajectory highlights the importance of analyzing China's nuclear strategy as a dynamic process rather than a static doctrine.

The Institutionalization of the Stability–Instability Paradox

The central contribution of the Three-Phase Model lies in its ability to integrate disparate strands of existing theory into a unified framework. At its core is the recognition that China's nuclear development is not simply a matter of increasing capability, but of constructing a strategic system in which stability and instability coexist in a structured relationship.

As China progresses through the phases outlined above, nuclear forces play an increasingly complex role. In Phase I, they serve primarily as instruments of deterrence. In Phase II, they simultaneously deter and enable. In Phase III, they may become active tools of coercion and escalation management.

This evolution reflects the institutionalization of the stability–instability paradox. Rather than emerging as an unintended byproduct of nuclear competition, the paradox becomes embedded in the structure of China's nuclear strategy itself. Strategic stability—defined by mutual vulnerability at the intercontinental level—coexists with, and may even facilitate, instability at the regional level.

This institutionalization has several important implications. First, it suggests that China's nuclear buildup is not contradictory, but internally coherent when viewed through a dynamic framework. Second, it highlights the need to analyze nuclear strategy across multiple levels of conflict, rather than focusing exclusively on strategic deterrence. Third, it underscores the

potential for increasing divergence between declaratory policy and operational practice, as China’s capabilities evolve beyond the constraints of minimum deterrence.

The Three-Phase Model thus provides a comprehensive framework for understanding how China’s nuclear forces can simultaneously fulfill multiple strategic functions and how these functions are likely to evolve over time. The following sections apply this model to the empirical transformation of China’s nuclear forces and its implications for escalation dynamics and regional stability.

Empirical Transformation of China’s Nuclear Forces

Quantitative Expansion and the Limits of Minimum Deterrence

China’s nuclear force development in the past decade has been marked by an unprecedented quantitative expansion that challenges the traditional framework of minimum deterrence. Estimates indicate that China’s nuclear arsenal, which remained relatively modest for decades, has grown rapidly in recent years and is projected to continue expanding at a sustained pace.²⁰ This quantitative increase represents a significant departure from the long-standing principle of maintaining only a “lean and effective” deterrent.²¹

The most visible manifestation of this shift is the construction of large-scale intercontinental ballistic missile (ICBM) silo complexes. Satellite imagery and intelligence assessments have identified more than 300 new silos across multiple sites, including Yumen, Hami, and Ordos.²²

²⁰ U.S. Department of Defense, *Military and Security Developments Involving the People’s Republic of China 2025* (Washington, D.C.: Department of Defense, 2025), 181–85.

²¹ U.S. Department of Defense, *Military Developments 2025*, 181.

²² Matt Korda and Hans M. Kristensen, “China’s Missile Silo Construction,” *Federation of American Scientists*, 2021, 2–5.

While only a portion of these silos appear to be operational at present, their scale far exceeds what would be required to maintain a minimal second-strike capability.²³

From the perspective of the Three-Phase Model, such developments are best understood as indicators of a transition into Phase II (confrontational stage). Rather than simply preserving survivability, China is expanding its force structure to enhance redundancy, increase warhead upload potential, and complicate adversary targeting.²⁴ This shift reflects a move from sufficiency toward scalability and resilience, consistent with a parity-oriented deterrence posture.

Triad Formation and Strategic Redundancy

A second major transformation is the rapid maturation of China's nuclear triad. Historically, China relied primarily on a land-based deterrent, with limited sea- and air-based capabilities. In recent years, however, China has made substantial progress in developing all three legs of a modern triad.²⁵

On the land-based side, China has deployed increasingly sophisticated ICBMs, including solid-fueled and road-mobile systems.²⁶ At sea, the expansion of its nuclear-powered ballistic missile submarine (SSBN) fleet, equipped with longer-range submarine-launched ballistic missiles (SLBMs), has improved the credibility of its second-strike capability.²⁷ In the air domain, the emergence of nuclear-capable bombers equipped with air-launched ballistic missiles represents a new dimension in China's deterrent posture.²⁸

²³ Kristensen and Korda, "Chinese Nuclear Weapons, 2025," 135–140.

²⁴ U.S. Department of Defense, *Military Developments 2025*, 181–83.

²⁵ *Ibid.*, 180–84.

²⁶ U.S. Department of Defense, *Military Developments 2025*, 182–83.

²⁷ Office of Naval Intelligence, *JL-3 SLBM Capabilities* (Washington, D.C., 2023), 4–6.

²⁸ Tong Zhao, "China's Air-Launched Ballistic Missile Development," *Carnegie Endowment for International Peace*, 2024, 21–22.

The significance of this development lies not merely in diversification, but in the creation of strategic redundancy. A fully developed triad ensures that no single counterforce strategy can neutralize China’s nuclear forces, thereby strengthening deterrence at the strategic level.²⁹ At the same time, it provides greater flexibility for signaling and escalation management.³⁰

Within the Three-Phase Model, triad maturation is a defining feature of Phase II. It reflects a deliberate effort to move beyond minimal deterrence toward a more robust and survivable force structure capable of sustaining mutual vulnerability with a peer adversary.

Technological Diversification and Penetration Capability

Another critical dimension of China’s nuclear transformation lies in the rapid diversification of its technological capabilities. In recent years, China has introduced a range of advanced systems, including multiple independently targetable reentry vehicles (MIRVs), hypersonic glide vehicles (HGVs), and maneuverable reentry vehicles (MARVs).³¹ These technologies do not simply enhance the destructive power of China’s arsenal; rather, they fundamentally improve its ability to penetrate and overwhelm adversary missile defense systems.³²

MIRV technology allows a single ballistic missile to carry multiple warheads capable of striking separate targets, significantly increasing the difficulty and cost of interception for the defender.³³ Similarly, HGVs follow non-ballistic trajectories and can maneuver during flight, complicating early warning, tracking, and interception.³⁴ MARVs further contribute to this challenge by enabling terminal maneuverability, reducing the predictability of incoming

²⁹ Kristensen and Korda, “Chinese Nuclear Weapons, 2025,” 138–42.

³⁰ *Ibid.*, 142–44.

³¹ Federation of American Scientists, “Analysis of Chinese Missile Developments,” 4–6.

³² Federation of American Scientists, “Analysis of Chinese Missile Developments,” 5.

³³ *Ibid.*, 6.

³⁴ *Ibid.*, 4–5.

warheads.³⁵ Collectively, these capabilities shorten warning times and undermine the effectiveness of existing missile defense architectures.³⁶

The strategic significance of these developments extends beyond survivability. While earlier phases of China’s nuclear posture emphasized ensuring the endurance of a second-strike capability, current technological advancements indicate a shift toward securing credible penetration under contested conditions.³⁷ In other words, China is no longer solely concerned with maintaining a retaliatory capability in principle, but with ensuring that such capability can reliably defeat increasingly sophisticated defensive systems deployed by the United States.³⁸

From the perspective of the Three-Phase Model, this technological diversification is a defining feature of Phase II (confrontational stage). It reflects an active effort to construct and sustain a condition of mutual vulnerability, even in the face of evolving adversary defenses.³⁹ By enhancing penetration capability, China increases the credibility of its nuclear deterrent while simultaneously reinforcing the effectiveness of its nuclear shield.⁴⁰

In this sense, technological innovation functions as a key enabling mechanism of China’s broader strategic transition. It ensures that quantitative expansion and force diversification translate into operational effectiveness, thereby supporting the dual objectives of deterring large-scale conflict at the strategic level and enabling greater flexibility for coercive action at the theater level.

³⁵ Ibid., 5–6.

³⁶ Ibid., 4–6.

³⁷ Kristensen and Korda, “Chinese Nuclear Weapons, 2025,” 140–43.

³⁸ U.S. Department of Defense, *China Military Power Report 2025*, 182–84.

³⁹ Federation of American Scientists, “Analysis of Chinese Missile Developments,” 4–6.

⁴⁰ Federation of American Scientists, “Analysis of Chinese Missile Developments,” 5–6.

Operational Posture and Readiness Shifts

In addition to quantitative and technological changes, China's nuclear forces exhibit signs of evolving operational practices that further distinguish the current phase from earlier periods. Traditionally, China maintained a relatively low level of alert, with warheads stored separately from delivery systems in peacetime.⁴¹ This posture was consistent with a delayed retaliation strategy under conditions of minimal deterrence.⁴²

Recent developments, however, suggest a gradual shift toward higher readiness levels. Analysts increasingly assess that some Chinese missile systems may now operate with mated warheads during peacetime, while improvements in early warning capabilities raise the possibility of a transition toward a launch-on-warning (LOW) posture.⁴³ Although definitive evidence remains limited, these trends indicate growing emphasis on responsiveness and operational flexibility.⁴⁴

Such changes have important implications for escalation dynamics. Higher readiness reduces reaction time and increases the risk of inadvertent or accidental escalation, particularly in crisis scenarios.⁴⁵ At the same time, it enhances the credibility of deterrence by signaling the ability to respond rapidly to perceived threats.⁴⁶

In the context of the Three-Phase Model, these developments reflect the operational maturation of Phase II. Nuclear forces are no longer configured solely for survivable retaliation,

⁴¹ Cunningham and Fravel, "Assured Retaliation," 22–25.

⁴² *Ibid.*, 18–21.

⁴³ U.S. Department of Defense, *Military Developments 2025*, 183–84.

⁴⁴ *Ibid.*, 184.

⁴⁵ Acton, *Escalation through Entanglement*, 25–30.

⁴⁶ *Ibid.*, 31–34.

but are increasingly integrated into a broader strategic framework that emphasizes timely signaling, escalation management, and coercive leverage.⁴⁷

Synthesis: Empirical Indicators of Phase II Transformation

Taken together, the developments examined above provide compelling empirical evidence that China’s nuclear strategy has entered a new phase. Quantitative expansion, triad maturation, technological diversification, and evolving operational practices collectively indicate a shift away from the logic of minimum deterrence toward a more complex and capable force posture.⁴⁸

These changes are not isolated or incremental. Rather, they form a coherent pattern of transformation that aligns with the defining characteristics of Phase II in the Three-Phase Model. China’s nuclear forces are being restructured to achieve three interrelated objectives:

1. Establishing credible mutual vulnerability with the United States
2. Enhancing survivability and redundancy to withstand counterforce threats
3. Enabling greater flexibility in signaling and escalation management

This combination of objectives reflects the emergence of a mature nuclear shield, in which deterrence at the strategic level coexists with increased capacity for coercion at the theater level.⁴⁹

Consequently, China’s nuclear buildup should not be understood as a linear expansion of existing capabilities, but as a structural transformation of its deterrence architecture. This transformation provides the empirical foundation for the broader theoretical claim advanced in

⁴⁷ U.S. Department of Defense, *Military Developments 2025*, 182–85.

⁴⁸ Kristensen and Korda, “Chinese Nuclear Weapons, 2025,” 135–40.

⁴⁹ Logan and Saunders, *Discerning the Drivers*, 22–24.

this paper: that China’s nuclear development is institutionalizing the stability–instability paradox by simultaneously strengthening strategic stability and expanding the scope for regional coercion.⁵⁰

Nuclear Posture, Escalation Dynamics, and Structural Effects

Theater-Level Instability and Dual-Capable Systems

China’s evolving nuclear posture has introduced new forms of instability at the theater level, particularly through the expansion of dual-capable delivery systems. Missiles such as the DF-21 and DF-26 are assessed to possess both conventional and nuclear roles, creating a condition of operational ambiguity in crisis scenarios.⁵¹ This dual-use character complicates adversary threat perception, as it becomes increasingly difficult to distinguish between conventional and nuclear missions in real time.⁵²

Such ambiguity introduces a fundamental instability into escalation dynamics. In the event of a conflict, a missile launch intended for conventional purposes could be misinterpreted as nuclear, prompting preemptive or retaliatory escalation.⁵³ This risk is magnified in fast-moving scenarios, where decision-makers operate under severe time constraints and incomplete information.⁵⁴

Within the framework of the Three-Phase Model, these developments represent a critical mechanism by which Phase II conditions generate instability. While strategic-level deterrence

⁵⁰ Snyder, “Stability–Instability Paradox,” 390–406; Jervis, *Meaning of the Nuclear Revolution*, 31–35.

⁵¹ Saunders and Logan, “Regional Nuclear Capability,” 125–29.

⁵² *Ibid.*, 129–33.

⁵³ *Ibid.*, 132–34.

⁵⁴ Acton, *Escalation through Entanglement*, 25–27.

may remain robust, the presence of dual-capable systems shifts uncertainty downward into the operational domain. Nuclear weapons thus cease to function solely as instruments of stability and instead become embedded within the dynamics of theater conflict.

C3I Entanglement and the Risk of Inadvertent Escalation

A second source of instability arises from the growing entanglement between nuclear and conventional command, control, communications, and intelligence (C3I) systems. As China advances its doctrine of informationized warfare, both nuclear and conventional forces increasingly rely on shared infrastructure, including early warning systems, satellite networks, and command nodes.⁵⁵

This overlap creates a dangerous condition in which conventional attacks on military infrastructure may be perceived as threats to nuclear forces. For example, a strike on communication nodes supporting conventional operations could be misinterpreted as an attempt to degrade nuclear command-and-control capabilities.⁵⁶ Such ambiguity significantly increases the risk of inadvertent escalation, as decision-makers may assume worst-case intentions in the absence of clear information.⁵⁷

Acton's concept of "escalation through entanglement" provides a useful analytical lens for understanding this phenomenon.⁵⁸ When nuclear and conventional systems are tightly integrated, attempts to achieve conventional advantage may produce unintended nuclear consequences, even in the absence of deliberate escalation.

⁵⁵ Saunders and Logan, "Regional Nuclear Capability," 141–44.

⁵⁶ Acton, *Escalation through Entanglement*, 28–30.

⁵⁷ *Ibid.*, 31–34.

⁵⁸ *Ibid.*, 3–5.

In the context of China’s evolving posture, C3I entanglement reinforces the structural logic of Phase II. It compresses decision timelines, increases uncertainty, and blurs the boundaries between nuclear and conventional domains. As a result, the stability–instability paradox is not merely theoretical, but becomes operationally embedded in the structure of conflict.

Perceived Parity and Crisis Behavior

A third key dynamic shaping escalation is the growing importance of perceived parity, as distinct from objective parity. While China remains quantitatively and qualitatively behind the United States in several aspects of nuclear capability, its rapid modernization has narrowed the perceived gap.⁵⁹

Strategic behavior is influenced not only by actual capabilities, but by actors’ perceptions of the balance of power. As Jervis argues, misperception and subjective interpretation play a critical role in shaping state behavior under conditions of uncertainty.⁶⁰ If Chinese leadership believes that mutual vulnerability has been achieved—or is within reach—it may exhibit greater willingness to engage in coercive or risk-acceptant strategies.

This dynamic is particularly significant in the context of nuclear signaling. The public display of intercontinental systems and the selective emphasis on homeland-strike capabilities suggest that China is actively shaping perceptions of parity, even if full equivalence has not been realized.⁶¹

Within the Three-Phase Model, perceived parity functions as a catalyst for more assertive behavior in Phase II. It bridges the gap between material capability and strategic action, enabling

⁵⁹ Kristensen and Korda, “Chinese Nuclear Weapons, 2025,” 138–42.

⁶⁰ Jervis, *Perception and Misperception*, 58–60.

⁶¹ Rodgers and Williams, “Parading China’s Nuclear Arsenal,” 3–6.

nuclear forces to exert influence beyond their strictly military function. In doing so, it reinforces the dual nature of China's nuclear posture as both a deterrent and an instrument of coercion.

Synthesis: Structural Transformation of Deterrence

The dynamics examined above—dual-capable ambiguity, C3I entanglement, and perceived parity—collectively illustrate a broader transformation in the nature of deterrence. China's nuclear posture is no longer confined to preventing large-scale war, but actively shapes the conditions under which lower-level conflicts unfold.

This transformation reflects a shift from static deterrence toward what may be termed dynamic or structural deterrence. In this framework, nuclear forces influence not only the likelihood of war, but the entire escalation spectrum, from signaling and coercion to crisis management and operational decision-making.

From the perspective of the Three-Phase Model, this evolution is a defining feature of Phase II. Nuclear weapons simultaneously stabilize the strategic level while destabilizing the theater level, creating a structured duality that aligns with the stability–instability paradox.⁶²

Importantly, this duality is not accidental. Rather, it is embedded in the design and deployment of China's nuclear forces. The integration of advanced technologies, the expansion of dual-capable systems, and the entanglement of command networks all contribute to a deterrence architecture that balances stability with controlled risk.

This structural transformation provides a crucial link between the empirical changes examined in Section 4 and the political and strategic behaviors analyzed in the following section.

⁶² Snyder, "Stability–Instability Paradox," 397–402; Jervis, *Meaning of the Nuclear Revolution*, 31–35.

It demonstrates that China's nuclear buildup is not merely a response to external threats, but a deliberate effort to shape the escalation environment in ways that enhance strategic leverage.

Nuclear Signaling, Coercion, and Phase Transition Risk

Doctrinal Foundations of Nuclear Signaling

An essential yet often underappreciated dimension of China's nuclear strategy lies in the role of nuclear signaling as a deliberate instrument of coercion. While official Chinese doctrine continues to emphasize restraint under the No First Use (NFU) principle, military writings suggest a more complex operational conception in which nuclear forces can be used for signaling, deterrence reinforcement, and psychological influence.⁶³

The most important doctrinal foundation for this interpretation can be found in the *Science of Second Artillery Operations* (2004), which explicitly discusses the role of nuclear weapons in “deterrence operations.”⁶⁴ The text outlines a range of activities—such as missile mobilization, launch exercises, and demonstration strikes—intended to convey resolve and influence adversary behavior without necessarily escalating to full-scale nuclear use.⁶⁵

This doctrinal framework aligns closely with classical theories of coercion. As Schelling argues, nuclear weapons derive much of their strategic utility not from their actual use, but from the manipulation of risk and uncertainty to shape adversary expectations.⁶⁶ In this sense, China's

⁶³ Fravel, *Active Defense*, 236–40.

⁶⁴ Chinese People's Liberation Army Second Artillery, *Science of Second Artillery Operations* (Beijing: PLA Press, 2004), 294–96.

⁶⁵ Gregory Kulacki, trans., “Deterrence Operations,” Union of Concerned Scientists, 2014, 12–18.

⁶⁶ Schelling, *Arms and Influence*, 69–78.

nuclear forces are not merely tools of retaliation, but instruments of controlled signaling within an escalation ladder.

Importantly, this perspective challenges the conventional interpretation of China's NFU policy as a strict operational constraint. Instead, NFU may function primarily as a declaratory principle that coexists with a broader set of signaling practices designed to enhance deterrence credibility and coercive leverage.⁶⁷

Historical Precedents of Nuclear Coercion

Empirical evidence further supports the argument that China has long incorporated coercive nuclear signaling into its strategic repertoire. During the 1996 Taiwan Strait Crisis, senior PLA officials reportedly warned U.S. interlocutors that escalation could expose American cities to nuclear attack, implying a willingness to link regional conflict to strategic consequences.⁶⁸

Similarly, in 2005, Major General Zhu Chenghu openly stated that China would be prepared to use nuclear weapons if the United States attacked Chinese territory in a Taiwan contingency, even suggesting acceptance of significant domestic losses in exchange for imposing costs on U.S. cities.⁶⁹ Although such statements were later downplayed by official channels, they reflect an underlying logic in which nuclear threats are employed to shape adversary decision-making under crisis conditions.⁷⁰

⁶⁷ Tong Zhao, "China's Nuclear Declaratory Policy and Operation Strategy," presentation, Georgia Institute of Technology, 2010, 10–12.

⁶⁸ Barton Gellman, "U.S. and China Nearly Came to Blows in '96," *The Washington Post*, June 21, 1998.

⁶⁹ Bill Gertz, "Chinese General Shakes Nukes at U.S.," *The Washington Times*, July 16, 2005.

⁷⁰ Stephanie Lieggi, "Going Beyond the Stir: The Strategic Realities of China's No First Use Policy," NTI Analysis, 2005, 4–6.

These examples illustrate that Chinese nuclear strategy has historically extended beyond passive deterrence. Rather, it incorporates elements of compellence and risk manipulation, particularly in scenarios involving core national interests such as Taiwan.⁷¹

From the perspective of the Three-Phase Model, these patterns are consistent with Phase II behavior. Even in the absence of overwhelming superiority, nuclear signaling can be leveraged to compensate for conventional inferiority and to constrain the escalation options of a stronger adversary.

Nuclear Signaling as an Instrument of Cognitive and Strategic Influence

In the contemporary period, nuclear signaling has become increasingly integrated into broader forms of cognitive and informational warfare. China's public display of strategic nuclear capabilities—such as intercontinental missiles during high-profile military parades—serves not only military purposes, but also strategic communication objectives.⁷²

These displays are often carefully calibrated. By emphasizing systems capable of striking the U.S. homeland while omitting certain theater-level nuclear assets, China appears to direct its signaling primarily at Washington, rather than regional actors.⁷³ The intended effect is to reinforce perceptions of vulnerability and thereby influence U.S. decision-making in crisis scenarios.

At the same time, Chinese media and affiliated platforms have amplified nuclear-related messaging, including simulated strike scenarios and rhetorical warnings directed at regional

⁷¹ Thomas J. Christensen, "The Meaning of the Nuclear Evolution," *Journal of Strategic Studies* 35, no. 4 (2012): 460–62.

⁷² Xinhua News Agency, "China Unveils Nuclear Triad for First Time in Parade," September 3, 2025.

⁷³ Rodgers and Williams, "Parading China's Nuclear Arsenal," 4–6.

adversaries.⁷⁴ These practices are consistent with the concept of integrated strategic deterrence, in which nuclear, conventional, cyber, and informational tools are combined to shape the adversary's strategic psychology.⁷⁵

Within this framework, nuclear weapons function not only as material capabilities, but as symbols of credible risk. Their visibility and perceived readiness contribute to a psychological environment in which adversaries must account for the possibility of escalation, even if actual nuclear use remains unlikely.

This integration of nuclear signaling into cognitive warfare represents an important evolution in Phase II. It extends the role of nuclear forces beyond deterrence into the realm of strategic influence operations, blurring the line between military capability and political messaging.

Early Indicators of Phase III Behavior

Perhaps the most critical implication of these developments is their relevance to the potential transition toward Phase III. While China has not yet achieved nuclear superiority, its evolving signaling practices exhibit characteristics associated with more advanced stages of nuclear strategy.

In particular, the increasing frequency and explicitness of nuclear-related messaging suggest a shift from purely defensive signaling toward more proactive forms of coercion.⁷⁶ This shift

⁷⁴ Cunningham, "Nuclear Signaling," 130–32.

⁷⁵ Michael S. Chase and Arthur Chan, *China's Evolving Approach to Integrated Strategic Deterrence* (Santa Monica, CA: RAND Corporation, 2016), 15–18.

⁷⁶ Cunningham, "Nuclear Signaling," 132–35.

may reflect growing confidence in China's nuclear capabilities and a corresponding willingness to accept greater levels of strategic risk.

From a theoretical perspective, signaling behavior often precedes full capability realization. As states approach new levels of power, they may begin to experiment with more assertive strategies before achieving complete operational readiness.⁷⁷ In this sense, nuclear signaling can serve as a leading indicator of strategic transition.

Moreover, the role of perception is critical. Even if objective superiority has not been achieved, a belief in relative advantage can shape behavior in ways consistent with Phase III dynamics.⁷⁸ This creates a potential mismatch between material reality and strategic action, increasing the risk of miscalculation.

Thus, China's current nuclear signaling practices may be understood not only as features of Phase II, but as early manifestations of a possible transition toward Phase III. This does not imply inevitability, but highlights the conditional pathways through which escalation behavior may evolve.

Synthesis: Nuclear Signaling and the Dynamics of Strategic Transition

The analysis presented in this section underscores the central role of nuclear signaling in linking capability, perception, and strategic behavior. China's nuclear forces are not merely expanding in quantitative and technological terms; they are increasingly embedded within a broader system of coercive communication and strategic influence.

⁷⁷ Lieber and Press, "New Era of Counterforce," 21–25.

⁷⁸ Jervis, *Perception and Misperception*, 58–60.

This system operates across multiple levels. At the strategic level, nuclear forces reinforce deterrence by maintaining the risk of unacceptable damage. At the theater level, they enable coercive leverage by shaping escalation expectations. At the cognitive level, they influence adversary perceptions through signaling and information operations.

Within the Three-Phase Model, nuclear signaling thus serves as a critical transmission mechanism. It connects the structural changes of Phase II with the behavioral dynamics that may define Phase III. Through signaling, China can test the limits of deterrence, probe adversary responses, and gradually adjust its strategic posture without crossing the threshold into overt nuclear use.

This dynamic has profound implications for regional security. As nuclear signaling becomes more frequent and more explicit, the risk of misinterpretation and unintended escalation increases.⁷⁹ At the same time, the integration of signaling into broader strategic competition suggests that nuclear weapons will play an increasingly central role in shaping crisis behavior.

In sum, China's nuclear signaling practices reveal a strategy that is both adaptive and forward-looking. They reinforce the broader argument of this paper: that China's nuclear buildup is not simply a matter of capability accumulation, but a structured transformation in which deterrence, coercion, and perception are integrated into a coherent strategic system.

⁷⁹ Acton, *Escalation through Entanglement*, 30–34.

Integrated Analysis: China in Phase II

Positioning China within the Three-Phase Model

The preceding sections have developed and empirically applied the Three-Phase Model to China's evolving nuclear strategy. Taken together, the evidence strongly supports the conclusion that China has entered Phase II (the confrontational stage), characterized by the pursuit of mutual vulnerability, the development of a nuclear shield, and the increasing integration of nuclear forces into broader strategies of coercion.

This assessment rests on multiple converging indicators. Quantitatively, China's rapid expansion of its nuclear arsenal, including large-scale silo construction, exceeds the requirements of minimum deterrence and reflects a shift toward parity-oriented force development.⁸⁰ Technologically, the integration of MIRVs, hypersonic systems, and diversified delivery platforms enhances both survivability and penetration capability, enabling China to sustain credible deterrence against an advanced adversary.⁸¹ Structurally, the maturation of a nuclear triad introduces redundancy and resilience, reinforcing strategic stability at higher levels of conflict.⁸²

Equally important are the operational and behavioral dimensions of this transformation. The increasing integration of nuclear and conventional forces, the expansion of dual-capable systems, and the growing role of nuclear signaling all indicate that China's nuclear posture is no longer confined to deterring nuclear attack.⁸³ Instead, it has become embedded within a broader strategic framework that includes escalation management, coercion, and political signaling.

⁸⁰ Kristensen and Korda, "Chinese Nuclear Weapons, 2025," 135–40.

⁸¹ Federation of American Scientists, "Analysis of Chinese Missile Developments," 4–6.

⁸² U.S. Department of Defense, *Military Developments 2025*, 180–84.

⁸³ Saunders and Logan, "Regional Nuclear Capability," 141–46.

Within the logic of the Three-Phase Model, these developments are not anomalous, but consistent with a transition from a posture of constrained deterrence to one of assertive deterrence under conditions of narrowing power asymmetry. China's nuclear forces are thus evolving from instruments of survival into tools of strategic leverage.

The Mechanism of the Nuclear Shield

At the core of China's Phase II strategy lies the mechanism of the nuclear shield, which links strategic deterrence with theater-level coercion. By establishing a credible ability to threaten the U.S. homeland, China seeks to shape the escalation environment in regional conflicts, particularly those involving Taiwan.⁸⁴

This mechanism operates through the creation of mutual vulnerability. When both sides possess secure second-strike capabilities, the perceived costs of large-scale escalation increase, reducing the likelihood of deliberate nuclear war.⁸⁵ However, this same condition alters incentives at lower levels of conflict. If escalation to the strategic level is seen as unlikely or controllable, actors may be more willing to engage in limited or coercive actions at the theater level.⁸⁶

China's nuclear buildup reinforces this dynamic by increasing the credibility of its deterrent while simultaneously expanding its strategic options. The development of survivable and penetrable delivery systems ensures that China can impose unacceptable damage even under adverse conditions, strengthening the deterrent shield. At the same time, the integration of

⁸⁴ Logan and Saunders, *Discerning the Drivers*, 22–24.

⁸⁵ Jervis, *Meaning of the Nuclear Revolution*, 31–35.

⁸⁶ Snyder, "Stability–Instability Paradox," 397–402.

nuclear capabilities into escalation signaling enables China to influence adversary decision-making without crossing the nuclear threshold.

Thus, the nuclear shield is not merely a passive defensive structure. It is an active strategic mechanism that shapes the cost-benefit calculations of adversaries and expands China's freedom of action within a constrained escalation environment.

Institutionalizing the Stability–Instability Paradox

The interaction between deterrence and coercion described above represents a contemporary manifestation of the stability–instability paradox. However, what distinguishes China's current trajectory is the extent to which this paradox is becoming institutionalized within its nuclear posture.

In classical formulations, the paradox emerges as an unintended consequence of mutual deterrence.⁸⁷ In the Chinese case, however, the configuration of nuclear forces, operational practices, and signaling behavior suggests a more structured and deliberate integration of stability and instability.

At the strategic level, China's expanding nuclear arsenal contributes to a condition of mutual vulnerability, reinforcing deterrence against large-scale nuclear conflict.⁸⁸ At the theater level, the same capabilities enable greater risk acceptance, ambiguity, and coercive leverage, increasing the likelihood of limited conflict and escalation.⁸⁹

This dual structure is reinforced by several mechanisms identified in earlier sections:

⁸⁷ Snyder, "Stability–Instability Paradox," 390–92.

⁸⁸ Kristensen and Korda, "Chinese Nuclear Weapons, 2025," 140–43.

⁸⁹ Saunders and Logan, "Regional Nuclear Capability," 144–46.

- The proliferation of dual-capable systems that blur the boundary between nuclear and conventional operations⁹⁰
- The entanglement of C3I systems that increases the risk of inadvertent escalation⁹¹
- The use of nuclear signaling to shape adversary perceptions and influence decision-making⁹²

Together, these elements create a systematic linkage between stability and instability, rather than an accidental coexistence. Nuclear weapons simultaneously constrain and enable action, producing a strategic environment in which risk is both managed and exploited.

This institutionalization is a defining characteristic of Phase II. It demonstrates that China's nuclear buildup is not simply increasing capability, but restructuring the strategic environment in ways that embed the logic of the stability–instability paradox into its deterrence architecture.

Transition Risk toward Phase III

While the evidence clearly positions China within Phase II, it also reveals potential pathways toward a transition to Phase III. These pathways are not deterministic, but conditional, shaped by both material developments and strategic perceptions.

One key driver of transition is the continued expansion and modernization of China's nuclear forces. If current trends persist—particularly in warhead growth, survivability enhancements, and command-and-control integration—China may approach a level of capability

⁹⁰ Saunders and Logan, “Regional Nuclear Capability,” 125–129.

⁹¹ Acton, *Escalation through Entanglement*, 25–30.

⁹² Cunningham, “Nuclear Signaling,” 130–32.

that enables more flexible nuclear options.⁹³ Such developments could support strategies of escalation control, limited nuclear use, or even counterforce operations under specific scenarios.

A second driver lies in the realm of perception. As argued in Section 5, perceived parity can influence behavior independently of objective capability.⁹⁴ If Chinese leadership comes to believe that it has achieved sufficient strategic advantage, it may adopt more assertive and risk-acceptant strategies, consistent with Phase III dynamics.

A third indicator is the evolution of nuclear signaling. As demonstrated in Section 6, China's signaling practices are becoming increasingly explicit and integrated into broader strategic communication efforts.⁹⁵ If this trend continues, signaling may shift from deterrence reinforcement toward more proactive forms of coercion, including risk manipulation and escalation threats.

Importantly, the transition to Phase III does not require a complete break from prior doctrine. Rather, it may occur gradually, as new capabilities and perceptions expand the range of available strategic options. This suggests that the boundary between Phase II and Phase III is porous rather than discrete, increasing the importance of monitoring incremental changes in behavior and capability.

Synthesis: China's Nuclear Strategy as a Coherent System

The integrated analysis presented in this section demonstrates that China's nuclear strategy is best understood as a coherent and adaptive system, rather than a collection of disparate

⁹³ Lieber and Press, "New Era of Counterforce," 21–25.

⁹⁴ Robert Jervis, *Perception and Misperception*, 58–60.

⁹⁵ Cunningham, "Nuclear Signaling," 132–35.

developments. The Three-Phase Model provides a framework for understanding how this system evolves in response to changes in relative power, technological capability, and strategic environment.

China's current position in Phase II reflects a balance between constraint and ambition. On the one hand, nuclear forces continue to serve their traditional role in deterring large-scale conflict. On the other hand, they have become increasingly central to strategies of coercion, escalation management, and political signaling.

This duality is not contradictory, but mutually reinforcing. Strategic stability provides the foundation for theater-level maneuvering, while coercive capabilities enhance the credibility of deterrence. The result is a dynamic equilibrium in which nuclear weapons shape not only the likelihood of war, but the entire structure of strategic interaction.

In this sense, China's nuclear buildup should be understood as a structural transformation of deterrence itself. It reflects a shift from a model based on static principles—such as minimum deterrence and NFU—toward a more complex and adaptive system in which nuclear forces are integrated across multiple domains of strategy.

This interpretation has important implications for both theory and policy. It challenges conventional assumptions about the role of nuclear weapons in preserving stability and highlights the need to consider how emerging capabilities may reshape escalation dynamics. It also underscores the importance of understanding China's strategy not as an anomaly, but as a rational response to shifting conditions of power and competition.

Conclusion

China's ongoing nuclear transformation represents far more than a quantitative increase in warheads or delivery systems. As this study has demonstrated, it reflects a structural reconfiguration of nuclear strategy in which deterrence, coercion, and political signaling are increasingly integrated within a single adaptive framework. By moving beyond conventional interpretations of minimum deterrence, this paper has argued that China's nuclear buildup is best understood as a phase-based strategic transformation conditioned by relative shifts in power.

The Three-Phase Model advanced in this study provides a unifying framework to interpret this transformation. Rather than treating China's nuclear doctrine as static, the model conceptualizes nuclear strategy as evolving across stages of inferiority, confrontation, and potential superiority. Through this lens, China's historical adherence to minimum deterrence and No First Use (NFU) emerges not as a permanent doctrinal commitment, but as a rational adaptation to earlier conditions of strategic weakness.⁹⁶

The empirical analysis presented in this paper demonstrates that China has now entered Phase II (the confrontational stage). This phase is characterized by three mutually reinforcing developments. First, China is pursuing greater survivability, scalability, and redundancy through rapid quantitative expansion and the maturation of a nuclear triad. Second, it is enhancing penetration capability and operational flexibility through technological diversification, including MIRVs and hypersonic systems. Third, it is increasingly integrating nuclear forces into broader strategies of coercion, signaling, and escalation management.⁹⁷

⁹⁶ Cunningham and Fravel, "Assured Retaliation," 7–50; Fravel, *Active Defense*, 236–40.

⁹⁷ Kristensen and Korda, "Chinese Nuclear Weapons, 2025," 135–44; U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2025* (Washington, D.C., 2025), 180–85.

At the core of this transformation lies the emergence of a nuclear shield, which links strategic deterrence with theater-level objectives. By establishing a credible ability to threaten the U.S. homeland, China seeks to constrain the escalation options available to its adversaries while expanding its own freedom of action in regional contingencies.⁹⁸ This dynamic represents a fundamental shift in the function of nuclear weapons—from instruments of passive deterrence to tools of active strategic leverage.

This study further argues that China’s nuclear trajectory is contributing to the institutionalization of the stability–instability paradox. As mutual vulnerability at the strategic level becomes more pronounced, the likelihood of large-scale nuclear war may decrease. At the same time, however, the perceived containment of escalation risks at higher levels creates incentives for more assertive behavior at lower levels of conflict.⁹⁹

The mechanisms driving this paradox are now embedded within China’s evolving nuclear posture. Dual-capable systems introduce ambiguity into escalation dynamics, increasing the risk of misinterpretation. The entanglement of nuclear and conventional C3I systems compresses decision timelines and raises the potential for inadvertent escalation. Meanwhile, nuclear signaling practices influence perceptions of risk and shape adversary behavior under conditions of uncertainty.¹⁰⁰

These developments have significant implications for future strategic stability. While China has not yet achieved nuclear parity—let alone superiority—the perception of narrowing asymmetry is already influencing its strategic behavior. As shown in this study, perceived parity

⁹⁸ Logan and Saunders, *Discerning the Drivers*, 22–24.

⁹⁹ Snyder, “Stability–Instability Paradox,” 397–402; Jervis, *Meaning of the Nuclear Revolution*, 31–35.

¹⁰⁰ Acton, *Escalation through Entanglement*, 25–34; Phillip C. Saunders and David C. Logan, “China’s Regional Nuclear Capability,” 141–46.

can be as consequential as objective capability, shaping risk tolerance and crisis decision-making in ways that may accelerate escalation dynamics.¹⁰¹

Looking ahead, the possibility of a transition to Phase III (conditional nuclear superiority) cannot be dismissed. Such a transition would depend on a combination of sustained technological progress, organizational adaptation, and shifts in the broader balance of power. It would also likely be preceded by changes in signaling behavior and doctrinal interpretation, as China explores the limits of its strategic leverage.¹⁰²

However, this transition is not inevitable. It remains contingent upon both internal and external factors, including the responses of the United States and its allies. This suggests that future strategic outcomes will be shaped not only by China's capabilities, but by the broader interactive dynamics of great-power competition.

The findings of this study carry important implications for deterrence theory and policy. First, they highlight the need to move beyond static conceptions of nuclear strategy toward more dynamic models that account for changing power relationships and evolving operational practices. Second, they underscore the importance of addressing escalation risks across multiple levels, rather than focusing exclusively on strategic nuclear balance. Third, they point to the growing significance of signaling, perception, and cognitive dynamics in shaping nuclear competition.

For policymakers, these insights suggest that maintaining stability will require a comprehensive approach that integrates strategic deterrence with resilience at the theater level.

¹⁰¹ Jervis, *Perception and Misperception*, 58–60.

¹⁰² Lieber and Press, "New Era of Counterforce," 21–25.

Strengthening communication channels, enhancing transparency where possible, and developing mechanisms to manage escalation risks will be critical to preventing crisis instability. At the same time, maintaining credible deterrence will require adapting to a strategic environment in which nuclear and conventional domains are increasingly interconnected.¹⁰³

Ultimately, China's nuclear development should be understood not as an aberration, but as part of a broader transformation in the nature of nuclear strategy in the twenty-first century. As relative power shifts and technological advances reshape the conditions of competition, nuclear weapons are likely to play a more complex and dynamic role than in the past.

The central conclusion of this study is therefore clear: China's nuclear buildup is not merely an expansion of capabilities, but a structured and adaptive transformation that integrates deterrence, coercion, and perception into a coherent strategic system. Recognizing and understanding this transformation is essential for navigating the emerging security environment in the Indo-Pacific and for sustaining stability in an era of renewed great-power competition.

¹⁰³ James M. Acton, *Escalation through Entanglement*, 30–34.

TABLES

Table 1: Three-Phase Model of Nuclear Strategy Transformation

Phase	Structural Condition	Guiding Strategic Logic	Nuclear Strategy Implications
Phase I	Strategic inferiority	Survival-driven deterrence	<ul style="list-style-type: none"> - NFU policy - Minimal but survivable second-strike capability - Low readiness and delayed retaliation posture
Phase II	Emerging mutual vulnerability	Deterrence–coercion integration	<ul style="list-style-type: none"> - Quantitative expansion beyond minimum deterrence - Development of nuclear triad and redundancy - Enhanced penetration capability (MIRV, HGV) - Dual-capable systems and escalation ambiguity - Nuclear signaling for coercive leverage
Phase III	Perceived or partial strategic advantage	Escalation management and risk manipulation	<ul style="list-style-type: none"> - Expanded nuclear options (including limited use) - Greater role of counterforce and escalation control - Increased signaling sophistication - Integration into broader coercive strategy

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