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# The wargaming signalling paradox: when military publication precedes political miscalculation

**Branko Ruzic***[1]
[1] BAE Systems, United Kingdom

*Corresponding author E-mail: branko.ruzic@pm.me

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**Abstract**

This article examines how publishing wargaming results or military planning timelines creates institutional commitment traps leading to strategic miscalculation. Analysing Russia's 2013 Gerasimov article and China's October 2025 15th Five-Year Plan, we identify three paradoxes: publication signals confidence while reflecting overconfidence; aims to deter but constrains flexibility; and demonstrates rigour while omitting critical behavioural factors. China's 2027 PLA centenary deadline is particularly concerning, as Xi Jinping's legitimacy becomes tied to published timelines despite acknowledged wargaming limitations - the same blind spots that contributed to Russia's Ukraine disaster. Contemporary Chinese simulation research exhibits identical problems while claiming 90% success probability.



*Keywords*: wargaming; China; Russia; strategic signalling; military planning; Taiwan; influence operations

## 1. Introduction

On 28 October 2025, as the world watched Russia's invasion of Ukraine continue to demonstrate the catastrophic consequences of strategic miscalculation, the Central Committee of the Chinese Communist Party published its Recommendations for the 15th Five-Year Plan for National Economic and Social Development [1]. Buried within this comprehensive state planning document were specific military modernisation commitments: achieving the People's Liberation Army's centenary goals by 2027, completing full military modernisation by 2035, and attaining world-class military status by 2049. This publication of binding state policy with falsifiable military deadlines raises urgent questions about Chinese strategic intentions - and about Western capacity to interpret adversary signals accurately.

China's publication follows a pattern established by Russia, where General Valery Gerasimov's Feb. 2013 article in Military-Industrial Kurier preceded limited success in Crimea (2014) and catastrophic miscalculation in full-scale invasion of Ukraine (2022). Yet critical differences make China's case more concerning: it represents formal state policy approved by the CCP Central Committee rather than one general's analytical article; it contains specific, falsifiable timelines rather than vague conceptual frameworks; and most significantly, it was published after the world observed Russia's Ukraine disaster expose the dangers of strategic overconfidence based on inadequate wargaming.

The persistence of these methodological gaps is confirmed by contemporary Chinese military simulation research: a June 2025 study by Beijing Institute of Technology researchers claimed "90% probability" of UAV swarm success against Taiwan-style air defence systems, yet the simulation methodology exhibits zero

modelling of adversary will, alliance coordination, or adaptive countermeasures; precisely the factors that proved decisive in Ukraine [2].

This article addresses a puzzle that existing literature has not adequately explained: why would China publish specific military timelines after watching Russia's failure demonstrate the risks of institutional commitment to potentially flawed strategic planning? We argue that understanding this requires examining the relationship between wargaming, publication, and institutional commitment; a relationship that creates predictable pathologies leading to strategic miscalculation.

## 2. The literature gap

Three bodies of literature are relevant but fail to address our central question. First, the substantial literature on wargaming methodology focuses primarily on Western practices and technical capabilities. Works such as Peter Perla and ED McGrady's analysis of wargaming effectiveness [3], or the extensive US military wargaming handbooks, examine how to conduct wargames effectively but rarely analyse how wargaming publication functions as strategic communication or creates institutional commitment. Recent theoretical advances, particularly David Banks' examination of wargaming's 'methodological machinery' [4], provide new frameworks for understanding these dynamics but have not been applied to adversary strategic communication.

Second, the China military studies literature has examined PLA modernisation, doctrine development, and force structure, with important contributions from scholars like M. Taylor Fravel [5], Phillip C. Saunders, and Dennis Blasko. However, this literature treats wargaming primarily as a technical capability rather than examining how its publication might create political dynamics that constrain future decision-making.

Third, strategic signalling theory addresses how states communicate intentions and capabilities but has not adequately incorporated the specific dynamics of wargaming publication. Existing frameworks for costly signalling, commitment mechanisms, and audience costs do not capture how publishing incomplete or methodologically limited wargaming can create false confidence while simultaneously generating political pressure to validate published conclusions.

This article bridges these literatures by developing a theoretical framework for understanding wargaming publication as a distinct form of strategic communication with predictable pathologies. We demonstrate how this framework explains both the Russian case - correcting significant misreadings in Western analysis - and illuminates dangerous dynamics in contemporary Chinese strategic planning

## 3. The argument

We make three core claims. First, publication of wargaming-related materials creates three inherent paradoxes: (1) it signals confidence but can reflect overconfidence from limited empirical validation; (2) it aims to deter adversaries through transparency but creates institutional commitment that constrains future flexibility; and (3) it demonstrates analytical rigour but systematically omits behavioural and influence factors that often determine operational outcomes.

Second, these paradoxes become dangerous when combined with wargaming methodologies that inadequately model adversary will, alliance cohesion, and information warfare effects — precisely the factors that proved decisive in Ukraine. Russia fell into this trap: Gerasimov's 2013 analysis was misread by Western analysts as prescriptive 'doctrine'; limited success in Crimea generated institutional overconfidence; and full-scale invasion plans apparently relied on wargaming that failed to adequately model Ukrainian resistance or Western unity.

Third, China is entering the same institutional trap with elements that make it potentially more dangerous: no empirical validation through limited military conflicts; publication of binding state policy rather than analytical articles; specific falsifiable timelines that tie leadership legitimacy to military outcomes; and, most concerning, publication after observing Russia's failure while showing no evidence of incorporating lessons about influence modelling.

Chinese PLA sources reveal that wargaming systems suffered from acknowledged methodological problems as recently as 2017, including mirror imaging and using PLA operational methods when simulating adversaries - the exact blind spots that contributed to Russia's Ukraine disaster [6]. Contemporary 2025 simulation research from Beijing Institute of Technology demonstrates these problems persist: sophisticated UAV swarm wargaming claims 90% success probability while modelling adversaries through deterministic behaviour trees incapable of adaptation or learning [2].

The 2027 PLA centenary deadline is particularly significant. The US Department of Defense's 2025 report explicitly ties this deadline to the PLA's requirement to achieve 'strategic decisive victory' over Taiwan [8], creating a closing window for potential action before anticipated US force reconstitution and Taiwan's 2028 presidential election, while tying Xi Jinping's political legitimacy to achieving published military objectives on schedule. This combination of institutional commitment, methodological limitations, and time pressure creates conditions for strategic miscalculation.

## 4. Roadmap

Section II develops our theoretical framework and analytical approach by examining what wargaming can and cannot accomplish, identifying three paradoxes inherent in publication, and explaining the methodology-policy disconnect. Section III analyses the Russian case, correcting Western misreading of Gerasimov's actual argument and tracing the publication-to-action sequence from 2013 through Russia's 2022 Ukraine invasion. Section IV examines Chinese wargaming capabilities and limitations, analysing the Oct. 2025 15th Five-Year Plan in context of acknowledged PLA methodological problems, contemporary 2025 simulation research, and 2024 operational exercises. Section V discusses implications for understanding the wargaming-reality gap and its epistemological challenges. Section VI concludes with policy implications for intelligence assessment, strategic stability, and future research needs.

## 5. Theoretical framework and analytical approach

Understanding why states publish wargaming-related materials requires first understanding what wargaming can and cannot accomplish, then examining how publication transforms wargaming from internal analytical tool to external strategic signal with its own dynamics.

### 5.1. Methodological note on case selection

This study employs a structured comparative case analysis of Russia (2013–22) and China (2017–25), selected for three reasons. First, both cases involve major powers publishing military-related materials that subsequently shaped strategic behaviour. Second, the temporal sequence allows examination of learning (or failure to learn) as China observed Russia's Ukraine experience. Third, both cases involve potential conflicts (Ukraine, Taiwan) where wargaming methodology - particularly influence modelling - would prove critical. Our analysis draws on publicly available primary sources (Chinese PLA publications, Russian military journals, official planning documents) and declassified Western assessments, acknowledging limitations inherent in analysing adversary decision-making without access to classified materials.

### 5.2. What wargaming can and cannot do

Wargaming has proven effective for certain analytical tasks while demonstrating consistent limitations in others. A recently declassified UK Ministry of Defence handbook on influence wargaming provides unusually candid assessment of these capabilities and constraints, based on extensive operational experience [9].

As David Banks argues, wargaming operates through five distinct 'methodological machineries': representation, consequential decisions, adjudication, immersion, and bespoke design [4]. It is precisely the immersive and bespoke nature of these machineries that creates both wargaming's analytical power and its epistemological vulnerabilities. The more 'bespoke' a game is to a specific scenario (like a Taiwan blockade), the more 'immersive' it feels to decision-makers, thereby masking the fragility of its underlying behavioural assumptions.

Wargaming excels at modelling physical systems and force-on-force interactions. Two centuries of military history and operational research enable relatively high confidence in projecting outcomes of conventional military operations. When a simulation models tank-versus-anti-tank engagement, the physics-based calculations of penetration, armour protection, and probability of kill rest on extensive empirical data. Similarly, logistics modelling can project fuel consumption, ammunition expenditure, and movement rates with reasonable accuracy. These capabilities make conventional wargaming valuable for force planning, equipment procurement, and operational concept development.

Wargaming struggles profoundly with influence, will, and behavioural factors. The UK handbook's analysis of pre-Ukraine wargaming is revealing: the invasion of Ukraine in 2022 demonstrates the continuing utility of conventional wargaming and highlights the lack of effective influence wargames. Influence wargames were notable for their absence. They might have been used to examine the effectiveness of measures taken to deter

Putin. From the Russian perspective, an examination of the Ukrainian people's will to resist and the anticipated cohesion of the West could have elicited some fundamental insights [9].

The handbook identifies systematic limitations in modelling influence effects:

- Effects are shaped by audiences' perceptions, culture, and beliefs, which can be hard to predict
- External actors may have limited understanding of local attitudes and dynamics
- The baseline of audiences' perceptions can change rapidly as events occur
- Impact of activities will be modified by large numbers of variables and cumulative environmental changes
- Influence effects may have widely differing timelines in both time-to-effect and persistence

These are not merely technical problems amenable to better models. They reflect fundamental epistemic challenges in predicting human behaviour under extreme stress, particularly for populations and leaders one does not fully understand. Banks' framework illuminates why: the 'adjudication machinery' that works for physical combat outcomes (governed by physics and probabilities) breaks down when applied to human will and societal cohesion, where the variables resist quantification and the causal mechanisms remain poorly understood.

## 6. The three paradoxes of publication

When wargaming results or plans are published - whether in academic journals, official planning documents, or media statements - they cease functioning purely as internal analytical tools and become strategic signals. This transformation creates three paradoxes.

### 6.1. Paradox 1: confidence signal versus overconfidence trap

Publication signals to adversaries, allies, and domestic audiences that extensive analysis supports the published conclusions. The implicit message is 'we have modelled this scenario thoroughly and are confident in our capabilities and plans'. This can serve deterrence by demonstrating preparation and capability. However, this confidence signal may reflect overconfidence generated by limited empirical validation. The Russian case illustrates this dynamic: success in Crimea (2014) using methods associated with Gerasimov's 2013 analysis apparently generated institutional confidence that these approaches would scale to full invasion. Yet Crimea provided no validation of assumptions about large-scale conventional operations, Ukrainian national will, or Western response. Limited success created false confidence that full-scale application would succeed.

China faces a more severe version of this paradox: no modern combat experience means zero empirical validation of wargaming conclusions. Unlike Russia, which had at least tested elements of its approach in Crimea, Georgia, and Syria, China's last significant combat was the 1979 Sino-Vietnamese War. Contemporary PLA wargaming rests entirely on theoretical modelling without battlefield reality checks.

### 6.2. Paradox 2: deterrence intent versus commitment effect

States typically publish military plans and capabilities to deter potential adversaries: 'We have prepared for this scenario; attacking would be costly and likely fail'. Transparency about capabilities and planning can prevent conflicts by clarifying red lines and demonstrating resolve. Yet, publication creates institutional commitment that constrains future flexibility. Once plans become public, especially when tied to specific dates or tied to leadership legitimacy, backing down clearly signals weakness. This is particularly acute in authoritarian systems where leader legitimacy depends on demonstrated strength.

The commitment effect becomes dangerous when combined with the first paradox: if published plans rest on inadequate analysis but leadership legitimacy becomes tied to validating those plans, institutional pressure to act can override warning signs that original assumptions were flawed. Leaders may feel compelled to follow through on published commitments even as evidence accumulates that outcomes will be unfavourable.

### 6.3. Paradox 3: demonstrated rigour versus systematic blind spots

Publication of wargaming results demonstrates analytical sophistication and systematic planning. Detailed scenarios, quantitative modelling, and structured analysis convey methodological rigour that distinguishes professional military planning from mere opportunism or impulse. However, this appearance of rigour can mask systematic blind spots in methodology. As the UK handbook notes, conventional wargaming's strength in

modelling physical systems creates false confidence that all relevant factors have been addressed. The very sophistication of technical modelling (detailed algorithms for combat outcomes, precise logistics calculations, complex coordination mechanisms) can obscure what has been omitted: adversary agency, societal cohesion, information environment dynamics, and psychological factors.

These omissions are not random gaps but systematic blind spots resulting from methodological limitations. Physics-based models work for physics-based phenomena; they fail for human behaviour. Yet the rigour applied to the former creates halo effect suggesting equal validity for conclusions about the latter. In Banks' terms, the 'bespoke design' machinery creates scenarios that feel comprehensive while systematically excluding variables that resist the wargaming method's other machineries.

## 7. The Methodology-Policy disconnect

These three paradoxes create a dangerous disconnect between methodological reality and policy implications. Decision-makers receive wargaming results suggesting certain courses of action are feasible or even likely to succeed. The sophistication of the analysis (complex models, detailed scenarios, extensive iterations) conveys confidence in conclusions. Publication further validates findings through institutional endorsement.

Yet key assumptions remain unvalidated and may be unvalidatable. How will adversary populations respond to attack? Will alliances hold under pressure? How will information warfare shape perceptions? These questions resist the quantitative modelling that works for conventional military operations. Wargaming may provide educated guesses, but the appearance of analytical rigour can easily mask the fragility of the underlying behavioural assumptions.

## 8. Case analysis: Russia and the misreading of Gerasimov

The Russian case illustrates the dangers of the wargaming signalling paradox, particularly the misreading of an analytical article as prescriptive doctrine and the institutional overconfidence generated by limited success.

### 8.1. The Gerasimov article: description, not prescription

General Valery Gerasimov's Feb. 2013 article, 'The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations' [12], was widely misread in the West as the 'Gerasimov Doctrine'; a blueprint for hybrid warfare. Mark Galeotti, who popularised the term, has since retracted it, noting the article was descriptive, not prescriptive [15]. Gerasimov was observing a trend, particularly in Western-backed colour revolutions, not prescribing a new Russian doctrine.

The article's core argument was that non-military means had become more effective than military force in achieving strategic goals: the role of nonmilitary means of achieving political and strategic goals has grown, and in some cases, they have exceeded the power of force of weapons in their effectiveness. The entire experience of the 'Arab Spring' and the events in North Africa and the Middle East confirm this. A perfectly thriving state can, in a matter of months and even days, be transformed into an arena of fierce armed struggle, become a victim of foreign intervention, and sink into a chaos of humanitarian catastrophe. The proportion of nonmilitary means in achieving political and strategic goals has grown to four to one [15]. This excerpt confirms the article's descriptive nature: Gerasimov was observing a trend, particularly in Western-backed colour revolutions, not prescribing a new Russian doctrine. The misreading of this observation as a Russian blueprint for hybrid warfare created a fundamental error in Western analysis.

### 8.2. The Publication-to-Action sequence

Despite Western misinterpretation, a pattern did emerge connecting publication to action:

- 2013: Gerasimov article published, interpreted (incorrectly) as Russian doctrine,
- 2014: Crimea annexation using 'little green men', information warfare, rapid fait accompli,
- 2014-22: Donbas conflict, hybrid warfare, frozen conflict management,
- 2022: Full-scale invasion of Ukraine - catastrophic failure.

The critical observation is that Crimea appeared to validate concepts associated (however incorrectly) with Gerasimov's analysis. The operation succeeded: minimal casualties, rapid territorial gain, Western response limited to sanctions, domestic Russian support high. This limited success apparently generated institutional confidence that similar approaches would scale to full invasion.

Yet Crimea validated nothing about large-scale conventional operations, Ukrainian national will to resist, or coordinated Western military assistance. The scenario was fundamentally different: a largely ethnic Russian population in a region with existing Russian military presence, rapid operation before effective response could materialise, and a Ukrainian government in political crisis.

### 8.3. The unexplained gap in russian performance

Russia's 2022 invasion exposed what we term the 'unexplained gap' - a puzzling inconsistency between sophisticated technical military capabilities and catastrophic operational failures in domains requiring influence modelling. Conventional wargaming conducted by Western institutions - notably by RUSI and published in War on the Rocks shortly after invasion began - correctly predicted Russian forces would fail to achieve rapid victory [16]. These analyses, using conventional force-on-force modelling, projected logistics failures, inability to achieve air superiority, and sustained Ukrainian resistance.

Yet Russian planning apparently projected quick success. This suggests either Russian wargaming was fundamentally flawed or, more likely, it modelled a different scenario than what actually occurred. If Russian wargames assumed Ukrainian government collapse, minimal popular resistance, and Western hesitation, then their technical military modelling may have been accurate for the wrong scenario.

The 'unexplained gap' in Russia's 2022 performance was not merely a failure of logistics or tactics, but a fundamental failure to 'start with the political' [16]. By over-weighting the technical 'machinery' of force-on-force modelling, Russian planners systematically under-weighted the political-informational environment - specifically Ukrainian national will and Western alliance cohesion - which proved to be the decisive variables that wargaming is least equipped to adjudicate.

The UK Ministry of Defence handbook specifically cites this failure:

Despite the high degree of simplification necessary, players described the decisions they had to make as being remarkably close to reality and in some cases a scarily accurate reflection of their situation. The game demonstrated the existing fragile ecosystem... The invasion of Ukraine in 2022 demonstrates the continuing utility of conventional wargaming and highlights the lack of effective influence wargames [9].

Simultaneously, Russia demonstrated selective competence: hypersonic missile deployment, strategic deception in force build-up, electronic warfare effectiveness, economic resilience to sanctions, and adaptation to Western weapons over time. This mix of catastrophic failure and notable success - the 'unexplained gap' - suggests compartmentalised capability with systematic blind spots in certain areas.

The most plausible explanation combines several factors: excellent technical military capabilities in specific domains; adequate wargaming of conventional military operations; catastrophically inadequate modelling of influence factors (Ukrainian will, Western response, information warfare); and institutional overconfidence from Crimea success leading to assumption that limited validation scaled to full invasion.

### 8.4. Lessons for adversary assessment

The Gerasimov case yields several lessons directly relevant to assessing Chinese publications.

First, Western interpretations can be fundamentally wrong despite confidence. The 'Gerasimov Doctrine' was invented by Western analysts, became embedded in policy discourse, and persisted even after its originator retracted it [15]. This misreading raises troubling questions: if Western analysts so thoroughly misinterpreted a single published article, our confidence in assessing more complex Chinese strategic communications may require recalibration.

Second, limited success creates false validation. Crimea's success did not validate assumptions about full-scale invasion, but apparently generated institutional confidence that it did. Small-scale testing provides weak evidence for large-scale application, especially when scenarios differ fundamentally.

Third, publication creates commitment even when based on flawed analysis. Whether or not Gerasimov's article constituted 'doctrine', Russian actions following its publication created institutional momentum. Success in Crimea reinforced this momentum. By 2022, political and institutional factors may have overridden warning signs that invasion assumptions were flawed.

Fourth, technical sophistication masks analytical gaps. Russia demonstrated impressive capabilities in specific military domains: hypersonics, strategic deception, and electronic warfare. This technical competence created appearance of comprehensive capability that obscured systematic blind spots in influence modelling.

## 9. Case analysis: China's 15th five-year plan and PLA wargaming

China's Oct. 2025 publication of military modernisation timelines must be understood in context of PLA wargaming capabilities (Table 1), acknowledged limitations, contemporary simulation practice, and the absence of empirical validation through combat.

### 9.1. The october 2025 publication

The Central Committee of the Communist Party of China's 'Recommendations for the 15th Five-Year Plan for National Economic and Social Development', approved by the 20th Central Committee at its Fourth Plenum and published 28 Oct. 2025, contains extensive military commitments [1]. Section XIV states:

Achieve the centenary goals of the People's Liberation Army on schedule, advance high-quality national defence and military modernisation... Accelerate advanced combat capabilities construction. Strengthen strategic deterrence capabilities, safeguard global strategic balance and stability... Advance new domain/new quality combat forces at scale, accelerate unmanned intelligent combat capabilities.

The document establishes specific timelines: 2027 (PLA centenary goals), 2035 (full modernisation), and 2049 (world-class military). These are not aspirational statements but binding state policy approved at the highest CCP level.

The significance of the 2027 centenary goal is further validated by the US Department of War's 2025 report, which explicitly ties this deadline to the PLA's requirement to achieve 'strategic decisive victory' over Taiwan [8]. This external validation of the internal CCP timeline completes the 'Commitment Trap': when both the adversary and the domestic audience accept a published date as a 'decisive' milestone, the political cost of non-action by that date becomes existential for the leadership.

This publication occurred simultaneously with significant military leadership purges - nine senior military leaders removed in 2024-25, including a Central Military Commission Vice Chairman [17]. This juxtaposition of confident public planning and internal upheaval suggests complex dynamics within PLA institutions.

### 9.2. Chinese wargaming infrastructure: capabilities and acknowledged limitations

China has invested heavily in wargaming since the late 1990s, following PLA realisation after the 1991 Gulf War that modern warfare required sophisticated operational planning tools. The institutional development reveals both impressive capabilities and acknowledged systematic problems.

#### 9.2.1. Development timeline

Under direction of Major General Hu Xiaofeng, appointed by the Central Military Commission in 1997, the PLA consolidated disparate wargaming efforts into unified systems. Hu's academic pedigree (student of Dr. Qian Xuesen, father of China's nuclear and space programmes) gave him impeccable credentials. His military background from the National University of Defence Technology provided operational understanding.

The evolution of Chinese computerised wargaming demonstrates institutional commitment:

- 1979: First operational planning analysis research structure,
- 1997: Hu Xiaofeng takes charge, CMC-directed consolidation begins,
- 1999: Unification of warfighting laboratories into single system,
- Early 2000s: 'Whetstone' (剑刃/Sword Sharpening) series - campaign-level wargames,
- Mid-2000s: 'Absolute Victory' series - strategic-level incorporating economic/political factors,
- 2007+: Integrated strategic-campaign wargaming systems.

#### 9.2.2. The Naval Blue Team centre

Located at the Naval Command College in Nanjing, the Blue Team Centre represents China's most sophisticated adversary simulation capability. As Ryan Martinson documented in 2024, the Centre maintains a dedicated corps of experts studying potential enemies to play them in wargames [6]. Its annual 'Sea Plan' (筹) wargame represents a 7-10-day capstone exercise each winter, with the centre supporting Navy, theatre commands, and Central Military Commission wargames. The centre's mission requires experts to 'shift their identities and thought processes to understand mission from opponent's viewpoint' - precisely the capability needed to avoid mirror imaging.

### 9.2.3. Acknowledged methodological problems

Yet PLA sources reveal significant limitations. Dean Cheng's 2015 analysis notes that early systems suffered institutional resistance: 'Leaders don't trust it, offices aren't familiar with it, units don't wish to use it' [18]. Systems were clunky with poor programmer-user coordination. Multiple organisations developed redundant systems with limited commonality, failing to support joint operations training.

More critically, the Naval Blue Team Centre's 2017 self-assessment admitted research was 'not deep, not thorough, and not professional', and that games occasionally reverted to 'Red vs. Red confrontations' despite dedicated adversary simulation capabilities [6]. The Centre identified three persistent problems:

(1) Mirror imaging: analysing adversaries from Chinese perspectives.
(2) System substitution: using PLA command systems when simulating adversaries.
(3) Methodological projection: employing PLA operational methods when playing opposing forces.

As Martinson noted in his 2024 USNI analysis: 'These problems, which are certainly not unique to China, were cited in 2017. It is unclear to what extent the centre has remedied them in the years since' [9]. This admission is remarkable for several reasons.

First, it demonstrates PLA awareness of exact methodological limitations that contributed to Russia's 2022 Ukraine disaster. The problems China admitted in 2017 - mirror imaging, using own methods when simulating adversaries - are precisely those the UK Ministry of Defence identified as universal wargaming challenges in their 2023 handbook [2].

Second, publication of these limitations suggests either confidence they have been resolved or institutional pressure to acknowledge problems. Yet no subsequent publications indicate how, or whether, these issues were addressed.

Third, China published its 15th Five-Year Plan with specific military timelines just eight years after admitting these problems and seven years after watching Russia's Ukraine failure expose similar blind spots. The plan contains no evidence that influence modelling - the critical gap in Russian wargaming - has been incorporated.

## 9.3. Contemporary wargaming practice: the 2025 Beijing Institute of Technology study

Direct evidence of contemporary Chinese wargaming methodology emerged in June 2025, when researchers from Beijing Institute of Technology published a detailed UAV swarm simulation study at an international conference [2]. The paper, focused on breaching Taiwan-style air defence systems (explicitly modelling HIMARS and associated air defence), demonstrates both the sophistication of Chinese technical modelling and the persistence of behavioural blind spots identified in 2017.

The simulation exhibits impressive technical capabilities: high-fidelity physics modelling in Unreal Engine 4, AI-driven behaviour trees for autonomous decision-making, detailed damage assessment with K/F/M-level categorization (Kill, Firepower-loss, Mobility-loss), and Monte Carlo-based effectiveness evaluation across five metrics (detection, grouping, search, strike, penetration). The researchers concluded that '27 UAVs... achieving over a 90% probability of annihilating the blue team under the air defence system.' [2]

Yet the methodology reveals systematic limitations precisely in the domains that proved decisive in Ukraine:

(1) Adversary behaviour is deterministic, not adaptive: Blue Team AI follows fixed response patterns coded in behaviour trees (detect - air defence or evasion). The paper explicitly states: 'The AI behaviour logic for the UAVs is as follows: In the search state, the perception component detects enemy rocket artillery, updates the blackboard key value 'enemy spotted', and the UAV enters the strike state.' [2]. No modelling of defenders learning swarm patterns and adapting countermeasures mid-engagement.
(2) Influence factors are hardcoded probabilities, not dynamic modelling: Signal jamming = 20% probability of UAV destruction upon entering jamming zone. Personnel-operated machine guns = 10% probability of UAV destruction without collision detection. These fixed probabilities ignore defender morale degradation, coordination breakdown under stress, or civilian panic affecting military operations.

(3) No alliance coordination: Despite Taiwan scenario implying US/Japanese intervention (HIMARS is US equipment), simulation models only ROC systems in isolation. No modelling of integrated air defence with US Patriot batteries, Japanese Aegis destroyers, or coordinated electronic warfare.
(4) Information warfare is completely absent: Zero simulation of how information operations might affect defender cohesion, civilian resistance, or political will. The simulation tracks only kinetic effects.
(5) Scripted scenarios without free-play: The paper acknowledges: 'UAVs entering the interference zone of the device have a 20% chance of being destroyed' and 'bullets have a 10% chance of being destroyed without colliding with the UAV.' [10]. These are designer-imposed probabilities, not emergent outcomes from adversarial free-play wargaming.

Most revealing is the confidence level: "90% probability" based on thousands of Monte Carlo iterations, but all iterations assume defenders behave according to programmed behaviour trees. The paper provides no evidence of human red-teaming to challenge optimistic assumptions, no discussion of adversary adaptation, and no consideration of the behavioural uncertainties that proved decisive in Ukraine.

Compare this to the US Army CGSC experience discussed in Section V.C, where officers "repeatedly intervened to increase enemy lethality when the model underestimated peer missile salvo density" and required 'constant human override to prevent unrealistic outcomes.' [11]. The Chinese simulation provides no evidence of similar override mechanisms to correct systematic underestimation of adversary capabilities or will.

The publication pattern is concerning: released at an international conference in June 2025 by researchers from China's premier defence research universities (Beijing Institute of Technology is a key PLA research partner, with deep ties to defence development programs). This suggests findings are feeding into institutional planning, creating the commitment dynamic - published results generate confidence independent of validation against adaptive adversaries.

Table 1: Evidence of persistent methodological gaps in chinese wargaming

| Year | Source | Admitted/revealed limitation |
|---|---|---|
| 2017 | Naval Blue Team Centre | Mirror imaging, using PLA methods when simulating adversaries, research "not deep, not thorough, and not professional" |
| 2025 | BIT UAV Swarm Study | Deterministic adversary behaviour trees, hardcoded probability values (20% jamming, 10% guns), no alliance coordination, zero influence modelling, no information warfare simulation |
| 2025 | 15th five-year plan | No discussion of behavioural factors, influence operations, or Ukraine lessons; specific 2027/2035 deadlines with no caveats about methodological uncertainty |

### 9.4. The 2024 operational testing

Throughout 2024, the PLA conducted unprecedented exercises around Taiwan apparently testing components wargamed at the Blue Team Centre and other facilities:

- Joint Sword 2024A (23–24 May): Symbolic encirclement, coordinated naval-air operations [12].
- Joint Sword 2024B (14 Oct.): Smaller scope but increased Coast Guard integration [13].
- Dec. Winter Training (8 consecutive days): 60+ vessels sustained presence around First Island Chain

Analysis reveals potential insights into Chinese wargaming conclusions.

Heavy naval emphasis over amphibious assault suggests wargaming may show blockade as more feasible than invasion. Coast Guard integration indicates inter-agency coordination wargaming. Sustained presence operations test logistics capabilities over time. Strategic messaging focus (deterring US/Japan intervention) suggests strategic-level wargaming incorporation.

Yet notable gaps persist: no large-scale amphibious assault exercises (most difficult component); limited visible integration of information warfare; no evidence of modelling Taiwanese civilian response or will to resist; exercises remain scripted rather than free-play adversarial.

Comparison to pre-Ukraine Russian exercises is instructive: Russia also conducted extensive exercises before 2022, including Zapad-2021 testing many components later employed in Ukraine. Like Chinese exercises, these

were technically sophisticated (equipment, coordination) and strategically ambitious (multi-domain operations) but methodologically limited (assumed adversary compliance, didn't model will to resist).

### 9.5. The Publication decision in context

China's decision to publish the 15th Five-Year Plan with specific military timelines must be understood against this backdrop (Table 2). The paradox of China's 2025 position is the simultaneous acceleration of military capability, notably the 'world's fastest nuclear force ramp-up' [19], alongside the most significant military purges in decades. This suggests that the 'Commitment Trap' created by the 2027 and 2035 timelines is overriding institutional instability; the leadership is compelled to maintain the appearance of 'on-schedule' modernisation to preserve political legitimacy, even as the human infrastructure of the PLA is under extreme strain.

Table 2: Comparative Analysis of Russian and Chinese Cases

| Factor | Russian case (pre-2022) | Chinese case (pre-2027) |
|---|---|---|
| **Wargaming status** | Adequate conventional, inadequate influence modelling. | Adequate conventional, acknowledged methodological flaws (2017), contemporary evidence (2025 BIT study) shows persistence of behavioural blind spots. |
| **Publication type** | Analytical article by a General (2013). | Binding state policy by CCP Central Committee (2025). |
| **Empirical validation** | Limited success in Crimea (2014) led to overconfidence. | Zero modern combat experience. Reliance entirely on theoretical modelling. |
| **Commitment level** | Institutional momentum reinforced by limited success. | High: Tied to Xi Jinping's political legitimacy and PLA centenary. |
| **External lesson** | Observed Western colour revolutions (Gerasimov's focus) | Observed Russia's catastrophic failure in Ukraine (2022). |
| **Contemporary evidence** | No public wargaming studies pre-invasion | 2025 BIT study: 90% confidence from deterministic adversary modelling |

### 9.6. Four possible interpretations

#### 9.6.1. Interpretation 1: problems were fixed but not published

- China resolved wargaming limitations between 2017–25.
- Classified improvements in influence modelling.
- Publication signals confidence in hidden capabilities.
- Problem: Why not signal improved methodology given deterrence value? Why would 2025 BIT researchers publish simulation with obvious behavioural gaps if classified systems had solved these problems?

#### 9.6.2. Interpretation 2: problems acknowledged, acceptable risk accepted

- PLA knows wargaming has blind spots.
- Accepts uncertainty as inherent.
- Publication is deterrence, not preparation.
- Problem: Why publish specific dates if accepting high uncertainty? Why does 2025 BIT study claim 90% confidence if uncertainty acknowledged?

#### 9.6.3. Interpretation 3: institutional denial

- Like Russia pre-Ukraine, believes technical sophistication suffices.
- Mirror imaging leads to underestimating adversary will.
- Publication reflects overconfidence from incomplete wargaming.
- Problem: Notably, the PLA published self-criticism in 2017 - clearly aware of issues.

However, the 2025 BIT study provides strong evidence for this interpretation. Published after Ukraine demonstrated influence factors are decisive, after the 2017 Blue Team Centre admitted mirror imaging problems, yet the simulation still models adversaries as deterministic behaviour trees with hardcoded probability values. The 90% confidence claim rests on Monte Carlo iterations where every iteration assumes defenders follow programmed responses - statistical rigor masking behavioural fragility.

#### 9.6.4. Interpretation 4: commitment trap (most dangerous)

- Xi's prestige tied to 2027/2035 dates.
- Publication creates political pressure independent of wargaming validity.
- Cannot back down without appearing weak.
- Forced to validate published timelines regardless of wargaming conclusions.
- This is the Gerasimov pattern.

The evidence supports Interpretation 4 as most plausible, with elements of Interpretation 3 operating simultaneously. The simultaneity of confident publication and military purges suggests internal stress. The 2027 deadline creates closing window (before US rearmament, before Taiwan's 2028 election). The 2025 BIT study demonstrates that despite awareness of methodological problems (2017 admission) and observation of Russia's failure (Ukraine 2022), contemporary Chinese wargaming continues exhibiting identical behavioural blind spots while publishing high confidence claims. This suggests institutional momentum is overriding analytical caution.

## 10. Discussion: The wargaming-reality gap

The comparison of Russian and Chinese cases reveals fundamental challenges in how military powers - and those analysing them - understand the relationship between wargaming and reality. The core problem is not that wargaming is flawed, but that its inherent methodological limitations are systematically obscured by the rigour of its technical components and amplified by the political act of publication.

The 15th five-year plan (2026-30) represents the CCP's formal attempt to 'fix' the procurement and methodological bottlenecks exposed by the Russia-Ukraine conflict [10]. By merging 'new quality productive forces' with 'new-type combat capabilities', Beijing is attempting to engineer its way out of the wargaming-reality gap. However, this 'fix' remains vulnerable to the same 'Methodological Machinery' flaws identified by Banks: it prioritises technical innovation over the behavioural and influence modelling that remains the PLA's acknowledged blind spot.

### 10.1. The epistemological challenge

The wargaming-reality gap presents an epistemological challenge for both the wargamer and the analyst. For the wargamer, the challenge is to avoid mistaking the model for reality. For the analyst, the challenge is to correctly interpret the signal being sent by the publication of the model's conclusions.

Three approaches to interpreting adversary publications were identified.

Option A: Take publications at face value

- Assume publications reflect genuine intent and capability.
- Risk: Falling into the adversary's signalling trap (e.g., the 'Gerasimov Doctrine' misreading).
- Both cases: Publications are clearly not a direct reflection of reality.

Option B: Publications as disinformation

- Assume publications are intended to deceive.
- Risk: Missing genuine warning signs or commitment mechanisms
- Both cases: Publications contain too much verifiable detail (e.g., PLA wargaming flaws, 2025 BIT study methodological specifics) to be pure deception.

Option C: Ignore publications entirely

- Focus only on observable actions and capabilities.
- Risk: Losing intelligence entirely, unable to assess intentions.
- Both cases: Publications do reveal something about thinking, even if not what we initially assume.

A more sophisticated approach requires:

(1) Analyse WHAT is published (content)
Analyse WHY published (timing, venue, authority level).
(2) Analyse WHAT'S OMITTED (gaps reveal priorities and concerns).
(3) Track SUBSEQUENT ACTIONS (validation or contradiction)
Assess METHODOLOGICAL LIMITATIONS (do they acknowledge analytical gaps?)
Compare STATED CAPABILITIES to DEMONSTRATED PERFORMANCE (the 'gap').

Applied to China's 15th five-year plan and 2025 BIT study:

- Content: Specific military timelines (Five-Year Plan), 90% probability claims (BIT study), emphasis on strategic deterrence and new-domain forces
- Timing: Published during military purges, after Ukraine demonstrated influence importance
- Omissions: No discussion of influence modelling, Taiwanese will, alliance responses, information warfare (both documents)
- Subsequent actions: 2024 exercises test naval components but avoid most difficult scenarios
- Limitations: 2017 admission of mirror imaging; 2025 BIT study reveals deterministic adversary modelling, hardcoded probabilities
- Gap: Sophisticated systems claimed but persistent evidence of fundamental problems

### 10.2. The role of organisational culture and cognitive bias

Both cases highlight how organisational cultures and cognitive biases amplify wargaming limitations.

Several factors appear consistently:

- Confirmation bias: Success in limited scenarios (Crimea, 2024 exercises) interpreted as validating broader capabilities rather than highlighting differences in scope and complexity.
- Institutional momentum: Once plans are published and resources committed, organisational pressures favour continuation even as warning signs emerge. This is especially acute when leader legitimacy is tied to plan success.
- Mirror imaging: Despite awareness of this bias (China's 2017 admission), it persistently reappears because simulating genuinely alien perspectives is cognitively difficult and organisationally challenging. The 2025 BIT study confirms this: adversaries modelled through behaviour trees that assume they follow programmed logic.
- Technical sophistication bias: Impressive capabilities in specific domains (Russian hypersonics, Chinese naval systems, sophisticated AI-driven behaviour trees) create halo effect suggesting comprehensive capability that may not extend to areas requiring different expertise.
- Closed information systems: Authoritarian political systems may amplify these biases by restricting information flows and punishing dissent, making it harder for contrary evidence to reach decision-makers.

### 10.3. The AI wargaming paradox: contemporary evidence

Recent empirical evidence from the US Army Command and General Staff College (CGSC) validates the theoretical framework developed in this article while simultaneously raising troubling questions about Chinese wargaming confidence. In a Nov. 2025 exercise, CGSC employed AI-enabled wargaming using hybrid pipelined ontological-augmented generation models to adjudicate a joint task force operation in an Indo-Pacific A2/AD scenario - precisely the type of conflict China would face in a Taiwan contingency [7].

The results demonstrated both AI's analytical power and its systematic limitations. The AI-enabled teams achieved throughput gains of 5x over traditional analogue methods, completing nine full wargaming turns in three hours versus one to two turns for analogue teams. Each turn generated hundreds of Monte Carlo iterations producing probabilistic outcomes with apparent statistical rigour. Yet human intervention proved indispensable

throughout: officers 'intervened repeatedly' to 'increase enemy lethality when the model underestimated peer missile salvo density', correct 'optimistic attrition estimates', and enforce doctrinal constraints the AI systematically violated [9].

Most significantly, the AI exhibited precisely the blind spots this article identifies as universal wargaming challenges. It systematically underestimated adversary capabilities - the mirror imaging problem China admitted in 2017 and the 2025 BIT study continues to exhibit through deterministic behaviour trees. It required constant human override to prevent unrealistic outcomes - the validation gap that proved catastrophic in Ukraine. And despite sophisticated technical modelling, officers noted that 'success required rigorous human control' to maintain credibility, particularly for influence factors the system could not adequately model [2].

The CGSC experience illuminates the Chinese dilemma. If the US Army (operating with transparent AI limitations, extensive human oversight, documented intervention protocols, and eight years of iterative development) still requires officers to repeatedly correct systematic underestimation of adversary lethality and capabilities, what confidence can we have in Chinese wargaming outputs where:

- 2017 methodological flaws remain 'unclear' if resolved.
- 2025 BIT study shows adversaries modelled as deterministic entities with hardcoded probabilities.
- Authoritarian information systems may restrict contrary evidence from reaching decision-makers.
- Zero combat experience provides no empirical reality check.
- Published studies claim 90% confidence without evidence of human red-team override.

The contrast is stark: CGSC's institutionalisation of AI wargaming explicitly emphasises that 'AI augments, not supplants' human judgment, requires dedicated training in 'prompt engineering' and 'hallucination detection', and acknowledges that even sophisticated systems produce outputs requiring constant validation.[1] China's 15th five-year plan contains no such caveats, no discussion of human override protocols, and no acknowledgment that influence modelling - the decisive factor in Ukraine - remains problematic. The 2025 BIT study similarly provides no evidence of human intervention to challenge the 90% probability claim. This asymmetry in transparency about limitations may itself be evidence of the overconfidence trap.

## 11. Policy implications and conclusions

### 11.1. Intelligence assessment and strategic warning

The patterns identified have direct implications for intelligence assessment of adversary intentions and capabilities.

First, publication of wargaming or planning documents should be treated as a distinct category of intelligence requiring specialised analysis. Such publications are simultaneously signals (intended to communicate something to external audiences) and commitments (creating internal organisational dynamics). Standard frameworks for analysing capabilities or intentions may be insufficient.

Second, we should systematically assess adversary wargaming methodologies and acknowledged limitations. China's 2017 Blue Team Centre self-criticism and 2025 BIT study provide rare insights into PLA analytical gaps; insights that should inform assessment of subsequent publications. Similarly, observable patterns in exercises reveal what scenarios are being tested and, critically, what scenarios are not being tested.

Third, the 'gap' between stated capabilities and observable performance should be a primary intelligence focus. Russia's mix of sophisticated systems and catastrophic failures suggests compartmentalised capabilities. China's simultaneous confident publication (15th Five-Year Plan, BIT study claiming 90% probability) and military purges suggests internal stress. The 2025 BIT study's revelation of deterministic adversary modelling despite 2017 awareness of mirror imaging problems suggests methodological stagnation. These inconsistencies may reveal more about actual capability than stated plans.

Fourth, we must develop better frameworks for assessing influence and behavioural factors that conventional wargaming underweights. If our adversary assessment relies on the same conventional modelling that Russian and Chinese wargaming apparently used, we may miss the factors most likely to determine outcomes. Taiwanese

will to resist, alliance cohesion under pressure, information environment dynamics; these are precisely what wargaming models poorly and precisely what proved decisive in Ukraine.

Fifth, institutional commitment to published plans creates warning indicators. When leaders tie their legitimacy to specific timelines (Xi and 2027), when publications create domestic political pressure, when organisational momentum builds behind plans - these suggest reduced flexibility and increased conflict risk regardless of underlying analytical validity. The commitment trap operates independently of whether the original analysis was sound.

### 11.2. Deterrence and strategic stability

Understanding the wargaming signalling paradox has implications for how we approach deterrence.

Transparency about our own capabilities and plans carries risks as well as benefits. While deterrence theory emphasises the value of demonstrating capability and resolve, publication can create commitment traps domestically while potentially signalling analytical confidence we don't actually possess. If adversaries perceive our publications as reflecting comprehensive analysis when they actually rest on significant uncertainty about influence factors, miscalculation can result from both sides.

We should not assume adversary analytical capabilities are either uniformly strong or uniformly weak. The 'gap' phenomenon - sophisticated systems coexisting with acknowledged analytical limitations (2017) and demonstrated behavioural blind spots (2025 BIT study) - suggests compartmentalised capability. Deterrence postures should account for the possibility that adversaries possess impressive technical capabilities while having systematic blind spots in other areas.

The timing of publications matters as much as content. China's 2027 deadline is not arbitrary; it represents a perceived window of opportunity before US force reconstitution and Taiwan's 2028 elections. Publication creates deadline pressure that may increase conflict risk as the date approaches, independent of whether conditions favour success. This suggests heightened warning indicators as we approach 2027, particularly if Chinese leaders perceive they are falling behind schedule.

Crisis management should account for adversary commitment to published plans. If Chinese leaders believe they cannot back away from 2027 goals without severe domestic political costs, their decision calculus in a crisis differs from what deterrence theory might predict. Preserving adversary 'face' and avoiding forcing leaders into public backdowns becomes essential for crisis stability. Crisis off-ramps must account for the commitment trap by providing face-saving alternatives that appear to validate published timelines without requiring actual military action.

## 12. Study limitations

Several limitations constrain this analysis. We lack access to classified Chinese wargaming materials or internal PLA debates about methodological improvements since 2017. The 2025 BIT study provides valuable contemporary evidence but represents academic research rather than operational PLA wargaming - though the institutional connections (BIT as key PLA research partner) suggest findings likely inform military planning. Our assessment of the 'commitment trap' interpretation rests on circumstantial evidence - published timelines, observable exercises, acknowledged limitations, and contemporary simulation practice - rather than direct insight into Chinese leadership decision-making. The comparative analysis is limited to two cases (Russia and China), which may not capture the full range of how states use wargaming publication strategically. Future research with access to additional primary sources, particularly from Chinese military institutions, may refine or challenge our conclusions. Additionally, the temporal proximity of events analysed (particularly the 2025 Chinese publications) means that definitive assessments of intentions and outcomes must await further developments.

This analysis points to several areas requiring further research

First, systematic study of how different military powers approach wargaming methodology is needed. The UK handbook, Chinese PLA materials, and US CGSC experience provide rare insights, but comprehensive understanding requires accessing wargaming literature across multiple countries and time periods. This includes historical cases: How did pre-World War II wargaming shape planning? What methodological debates occurred? When did influence factors get recognised as important?

Second, we need better frameworks for modelling influence and behavioural factors in strategic analysis. This is not just an academic exercise but operational necessity. If influence factors proved decisive in Ukraine and will likely prove decisive in any Taiwan scenario, analytical tools must evolve. This requires drawing on behavioural economics, psychology, sociology, and other social sciences while maintaining policy relevance.

Third, comparative analysis of publication-to-action patterns across cases could reveal predictive indicators. Are there consistent warning signs before states act on published plans? What distinguishes deterrent publications from preparatory ones? Can we identify factors that increase commitment trap risks versus those that preserve flexibility?

Fourth, the role of organisational culture and political systems in shaping military planning deserves attention. Does authoritarianism amplify commitment trap risks through restricted information flows and punishment of dissent? Or do authoritarian systems provide flexibility through opacity about decision-making? The Russia and China cases suggest the former, but more systematic analysis is needed.

### 12.1. Conclusions

We return to our opening puzzle: Why would China publish specific military timelines after watching Russia's failure demonstrate the risks of institutional commitment to potentially flawed strategic planning?

China may believe it has solved problems Russia did not. Better wargaming methodology, more sophisticated analysis of influence factors, recognition of Ukraine lessons - all possible. Yet absence of evidence that acknowledged 2017 problems were fixed, combined with 2025 BIT study demonstrating identical behavioural blind spots (deterministic adversary modelling, hardcoded probabilities, no influence factors), and absence of discussion about influence modelling in the Five-Year Plan, suggests this confidence may be misplaced.

Publication may serve primarily deterrent rather than preparatory function. Demonstrating analytical sophistication and firm resolve may aim to discourage US intervention or Taiwanese independence moves. Yet publication's commitment effect operates regardless of original intent.

Institutional and political factors may override analytical caution. Xi Jinping's political legitimacy is tied to achieving published modernisation goals. The 2027 deadline is not arbitrary but symbolically important (PLA centenary). Organisational momentum behind published plans may be difficult to reverse even if analysis suggests caution.

Most likely, all three operate simultaneously with uncertain weighting. China possesses genuine analytical capabilities and sophisticated wargaming infrastructure. It also faces acknowledged methodological limitations in areas likely to prove decisive - limitations that persist in contemporary practice as evidenced by the 2025 BIT study. And it has created institutional commitment through high-level publication that constrains future flexibility.

This creates dangerous ambiguity for all parties. China may be uncertain whether its analysis is adequate. The United States cannot confidently assess Chinese analytical validity. Both sides may misread each other's signals while believing their interpretations are sound. And the 2027 deadline creates time pressure that may force decisions before uncertainty is resolved.

The wargaming signalling paradox thus persists: publication aims to demonstrate capability while potentially revealing limitation; seeks to deter while creating commitment; signals analytical sophistication while obscuring systematic blind spots. Until military powers develop adequate methodologies for modelling influence factors - and until we develop better frameworks for interpreting adversary publications - the risk of strategic miscalculation based on incomplete analysis will remain.

In 2017, China's Naval Blue Team Centre admitted its wargaming suffered from mirror imaging, used PLA methods when simulating adversaries, and produced research that was 'not deep, not thorough, and not professional'. In 2022, these exact methodological blind spots contributed to Russia's catastrophic miscalculation in Ukraine.

In Jan. 2026, the US Army's most advanced AI-enabled wargaming required constant human intervention to correct systematic underestimation of adversary capabilities. In June 2025, Beijing Institute of Technology researchers published UAV swarm simulation claiming 90% probability of success while modelling adversaries as deterministic entities following programmed behaviour trees, with hardcoded probability values and zero influence modelling. Yet in Oct. 2025, China published state policy with specific military deadlines but with no

evidence these fundamental problems had been resolved and no incorporation of the influence modelling lessons from Ukraine.

This represents either confidence in undisclosed capabilities or a repetition of Russia's institutional trap. The evidence surveyed in this article, from acknowledged wargaming limitations to contemporary simulation practice to observable exercise patterns to simultaneous publication and purges, suggests the latter interpretation is more plausible. Whether that assessment is correct will be demonstrated by events. But the risk that we are watching another major power enter a commitment trap based on potentially inadequate analysis is significant enough to demand urgent policy attention.

The greatest danger may not be that we misread Chinese signals, but that both sides are reading tea leaves while believing in their interpretations. The Gerasimov case demonstrates that confidence in our analytical frameworks, whether ours or theirs, should itself be questioned.

The wargaming signalling paradox ensures that publication reveals thinking while creating commitment, demonstrates rigour while exposing blind spots, and aims to deter while risking the opposite. Until wargaming adequately models the human factors that determine conflict outcomes, every published result should be read as both signal and warning - of capabilities, yes, but also of limitations neither side may fully recognise.

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