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Key Points

- ◆ Analysts should question assumptions about whether, how, and to what effect the People's Liberation Army (PLA) is learning and adapting based on foreign conflicts. China's openness to learning might be less or different than it was in the 1990s.
- ◆ Many of the potential "lessons learned" from Ukraine confirm strategies the PLA has been considering for years, including joint operations, nuclear signaling to deter U.S. intervention, achieving information dominance, decapitation strikes, political work, personnel development, and logistics support.
- ◆ A few potentially impactful lessons have received less attention: a reassessment of the PLA ground force's near-complete shift to battalions and brigades, insights on successful deception in a Taiwan scenario, and greater PLA focus on protracted conflict.
- ◆ If the PLA adopts these lessons, it could be less vulnerable to the U.S. and Ukrainian approaches that hindered Russia's offensive in 2022. However, there are numerous steps the United States and Taiwan can take to preserve advantages.

Rightsizing Chinese Military Lessons from Ukraine

by Joel Wuthnow

Russia's failures in the early phases of the 2022 Ukraine conflict, and Ukraine's successes, have raised questions about the implications for China's People's Liberation Army (PLA). U.S. and other foreign analysts have identified several lessons the PLA could learn from the Ukraine conflict that would improve China's prospects in a future conflict with Taiwan and the United States or potentially with a different regional rival.¹ The PLA has made it frustratingly difficult to answer these questions using direct evidence: several months into the conflict, PLA officers have produced almost nothing detailing their views on the implications of the conflict for future Chinese operations and modernization.² It is also doubtful that internal assessments, if they exist, will be available in a way that can substantiate foreign speculation.

Analysis of possible Chinese lessons learned remains consequential despite the absence of direct evidence because PLA adaptations, if they occur, could tip the scales in a future conflict. The PLA, for instance, might take steps to inoculate itself from the mistakes that hindered early Russian operations, or it could find counters to the approaches that made Ukrainian forces particularly lethal. U.S. policymakers cannot assume that China will fail to learn lessons and should begin thinking about the implications of likely PLA adaptations before those changes become apparent. This imperative will only become more crucial in a period of heightened military tension in the Taiwan Strait, which is expected to continue well after Speaker of the House Nancy Pelosi's August 2022 visit to Taipei.

This paper contributes to the discussion in three ways. First, it clarifies assumptions about when and how PLA learning and adaptation take place. In particular, it questions whether the same conditions and processes that allowed the PLA to improve itself on the basis of foreign lessons in the 1990s continue to hold today. Second, it argues that many of the popularly discussed potential insights from Ukraine merely confirm some of what the PLA is already

thinking or doing. Arguments that the PLA has already basically internalized include perfecting joint operations, decapitating Taiwan's leadership at the outset of an invasion, and prioritizing political work. Long before Russia used nuclear signals to minimize U.S. intervention in Ukraine, Chinese analysts discussed similar moves under the label of "integrated strategic deterrence." None of these insights will push the PLA in a new direction, but they could inspire reflection and adjustments.

Third, the PLA could derive other insights from Ukraine that have larger implications: reassessments of the ground force's near-complete shift to a brigade and battalion model that failed for Russia in Ukraine, a stronger focus on strategic deception early in a Taiwan campaign, and preparations for a protracted struggle involving staunch resistance in Taiwan and participation from a larger-than-anticipated set of U.S. allies. If the PLA does adapt, foreign approaches such as the use of Javelin anti-tank missiles to decimate PLA ground forces, the release of intelligence to deny China an element of surprise and undercut its narrative, or efforts to expand the conflict beyond China's capacity could all be less effective than they were with Russia. The conclusion considers potential improvements in China's way of warfare and offers recommendations for how U.S. policy should evolve to preserve advantages in Asia even if the PLA can absorb such lessons.

Assumptions

Arguments that the PLA will learn from Russian military successes or failures in Ukraine, and that those lessons will inform future Chinese military decisions, rest on three assumptions. Evidence that any of these assumptions are incorrect or only partially supported would weaken those arguments.

PLA Decisionmakers Are Teachable. For lessons from the Ukraine conflict to be impactful, senior PLA officials will need to be open to thinking or acting in a new way. The shock of the Gulf War motivated then-Central Military Commission (CMC) Vice Chairman Liu Huaqing to require the PLA to take stock of U.S. successes, which

ultimately influenced a major revision to Chinese military strategy in 1993.³ PLA analysts were undoubtedly surprised by Russia's poor performance in Ukraine,⁴ but whether the event will become a catalyst for future Chinese decisions will depend on a similar conviction by advocates on the CMC that the PLA can gain something of value from a close examination of Russian operations. However, senior leaders might be less open than their predecessors for several reasons:

- ◆ The perception that Ukraine is so different from likely PLA contingencies that some potential lessons do not easily transfer (in contrast to, for instance, the Falklands Islands campaign, which was more like a Taiwan contingency)⁵

- ◆ A sense of superiority in China's own preparations and capabilities ("they might have failed, but we won't"), reflecting an arrogance that was not present in the early 1990s when the PLA was still in an early phase of modernization and sensed vulnerability to the United States

- ◆ Cognitive dissonance: the PLA has refined its approach to dealing with regional adversaries over the last three decades, which might have created intellectual blinders that could hinder its ability to absorb new lessons and adapt.

Whether those conditions are present will depend, to some extent, on the background, experience, and beliefs of China's military leaders. One might expect, for instance, veterans of the 1979 Sino-Vietnamese war (including CMC Vice Chairman Zhang Youxia and CMC member Li Zuocheng) to be interested in the details of Russia's offensive and implications for the PLA ground forces. A new CMC will be appointed after the 20th Party Congress in late 2022, and its members, who are unlikely to have combat experience, might have a different outlook.

There Is a Rational Strategic Planning Process. The CMC might require the PLA to produce lessons from Ukraine, but whether those lessons will translate into doctrinal, training, or acquisition changes will depend on the nature of the strategic planning process. A rational system would methodically prioritize and integrate lessons, even if that results in unpopular decisions that re-

quire PLA actors to accept cuts or act differently. This might ultimately be how the system works, especially if Xi Jinping can cut through bureaucratic obfuscation.

However, a strategic planning process encumbered with institutional bargaining would have different effects. It is possible, and perhaps likely, that each of the services will discover “lessons” that justify their preexisting agendas. The ground forces will argue that their manning has been dangerously depleted due to Xi’s reforms and needs to be restored to avoid Russia’s failures in the land domain; the Strategic Support Force (SSF) will argue that Ukraine demonstrates the importance of the information domain and thus the need for increased funding for the SSF; the Air Force will highlight threats from advanced enemy air defenses and lobby for greater investments to perform its suppression of enemy air defense mission; and so forth. The CMC would have to decide whether these arguments justify changes. Even if the CMC can make difficult choices—which cannot be taken for granted in communist systems—the effect might only be to further an interest group’s agenda, rather than to require the PLA to adapt.⁶

Adaptation Will Influence China’s Decisionmaking Calculus. Lessons from Ukraine could influence PLA doctrine or force posture, but it is still not necessarily the case that those changes will be sufficient to affect Chinese use of force decisions. At best, the effect would be to update Chinese leaders’ perceptions of the PLA’s likely effectiveness in a conflict. In the near term, Russia’s failures could diminish Beijing’s appetite to take risks, at least until the causes of Russia’s failures are understood and adjustments are made. In the long term, a PLA that has adapted—and has convinced leaders that those reforms are successful—could give the CMC greater confidence, increasing its risk propensity.⁷

There is no guarantee, however, that adaptation will impact decisions. While the degree and effectiveness of adaptation could influence the PLA’s chances of victory, Beijing could decide to use (or refrain from using) force regardless of those changes under several circumstances:

- ◆ An expanding crisis within China makes use of force attractive to rally nationalist sentiment and preserve the regime.⁸

- ◆ Taiwan, by itself or in conjunction with Washington, moves dangerously close to China’s definition of “independence,” requiring increased military pressure regardless of the PLA’s ability to recover the island.

- ◆ Chinese leaders are so wary of the economic risks and consequences of using force that even updated doctrine, training, or hardware resulting from the military lessons from Ukraine have no impact. The Ukrainian situation could underscore China’s perceived vulnerability to sanctions coordinated by the United States and key European and Asian allies.

In sum, while the PLA is observing Russian operations in Ukraine, its ability to distill and act on lessons from that conflict depends on internal variables such as perceptions, processes, and leadership priorities. Analysts should thus be careful about making predictions, even if the lessons seem logical for China, and look for signs that their assumptions are correct. Those signs could include leadership statements, professional PLA assessments (or lack thereof), and evidence that the lessons from the Ukraine conflict are making their way into the new set of PLA operational guidelines currently under development.⁹

Reinforcing Lessons

Lessons the PLA may be deriving from Ukraine can be divided into two categories. The first set of takeaways, which might be called “reinforcing lessons,” confirm the value of previous PLA decisions in terms of strategy and capabilities. Chinese analysts may seek to understand why the Russian military failed in many of these areas—nuclear signaling to reduce U.S. and allied intervention being a rare example of an apparent Russian success—and scrutinize whether the PLA may need to adapt or deepen reforms to avoid similar problems. Yet because the PLA has already committed to these approaches, these lessons will not push China in a new direction.

The initial assessments from foreign analysts on PLA lessons from Ukraine conform to this first category. As documented in the table, these analysts from the United States, Taiwan, and Australia have identified a long list of potential insights for the PLA. The following discussion explains why the need to avoid Russian failures or emulate their successes in these areas reinforces existing Chinese priorities, but also suggests that China in some cases might revisit or refine current preparations.

Perfecting Joint Operations. The most common observation from foreign analysts is that Russia’s failure to execute effective joint (and combined arms) operations on the Ukrainian battlefield justifies China’s efforts over the past three decades to excel in this area but underscores the difficulties of operating in a contested environment. Drawing lessons from the Gulf War, China’s military

strategy identified “joint operations” as the “basic form of operations” [基本作战形式] in 1993, a concept modified in 2004 to “integrated joint operations.”¹⁰ The PLA unveiled its first generation of joint doctrine in 1999 and conducted more frequent joint training in the 2000s. The structural reforms launched by Xi Jinping in 2015 created a modern joint command structure, which promotes joint training in peacetime and a smoother transition onto a wartime footing.¹¹

The most recent update to China’s military strategy, promulgated in 2019, retained the focus on integrated joint operations, though PLA analysts have begun to explore a new model of “multi-domain integrated joint operations,” which highlights “cross-domain effects,” including in the space and cyberspace areas, and the need to deepen command and coordination across the services at the tactical

Table. Foreign Analyses of PLA Lessons from Ukraine

	Corbett, Ma, and Singer	Y.Y. Lin	Finkelstein	Dibb	Lin and Culver	Sacks
PLA will focus more on joint and combined arms operations and study Russia’s failures	X	X	X	X		X
PLA will study utility of nuclear signaling in deterring U.S., allied intervention			X		X	X
PLA will redouble commitment to information dominance, including information blockade	X				X	
PLA will focus on early achievement of air and sea superiority		X				
PLA will prioritize decapitation strikes to prevent organized resistance					X	X
PLA will emphasize political work and put greater attention on self and enemy morale			X	X	X	
PLA will put more emphasis on enlisted and officer recruitment, development	X			X		
PLA will increase its scrutiny of logistics and equipment maintenance preparations	X			X		

Sources: Thomas Corbett, Ma Xiu, and Peter W. Singer, “What Lessons Is China Taking from the Ukraine War?” *Defense One*, April 3, 2022, available at <<https://www.defenseone.com/ideas/2022/04/what-lessons-china-taking-ukraine-war/363915/>>; Ying-Yu Lin, “What the PLA Is Learning from Russia’s Ukraine Invasion,” *The Diplomat*, April 20, 2022, available at <<https://thediplomat.com/2022/04/what-the-pla-is-learning-from-russias-ukraine-invasion/>>; David Finkelstein, “Beijing’s Ukrainian Battle Lab,” *War on the Rocks*, May 2, 2022, available at <<https://warontherocks.com/2022/05/beijings-ukrainian-battle-lab/>>; Paul Dibb, “China Will Be Watching and Learning from Russia’s Poor Performance in Ukraine,” *ASPI Strategist*, May 3, 2022, available at <<https://www.aspistrategist.org.au/china-will-be-watching-and-learning-from-russias-poor-performance-in-ukraine/>>; Bonny Lin and John Culver, “China’s Taiwan Invasion Plans May Get Faster and Deadlier,” *Foreign Policy*, April 19, 2022, available at <<https://foreignpolicy.com/2022/04/19/china-invasion-ukraine-taiwan/>>; David Sacks, “What Is China Learning from Russia’s War in Ukraine,” *Foreign Affairs*, May 16, 2022, available at <<https://www.foreignaffairs.com/articles/china/2022-05-16/what-china-learning-russias-war-ukraine>>.

level.¹² Chinese sources also note that the 14th Five-Year Armed Forces Development Plan (2021–2025) centers on deepening ‘joint command, joint operations, and joint theater support.’¹³ Russia’s apparent failure to adequately prepare for joint operations, and the consequences of that failure in terms of force cohesion, essentially confirms that this is the right agenda for the PLA; however, PLA leaders might be prompted to scrutinize why exactly Russia failed and whether the PLA needs to adjust its approach to jointness. One example would be the installation of permanent joint command structures below the theater level, which could be instrumental in improving joint operations between frontline units in wartime.¹⁴

Nuclear Signaling to Deter U.S. Intervention. Another frequent observation is that China will conduct nuclear signaling at the outset of a regional contingency to deter U.S. intervention, learning from Russia’s apparent success in dissuading the United States and its allies from becoming directly engaged in Ukraine by raising its nuclear alert status. Like joint operations, this “lesson” would reconfirm existing thinking within the PLA. In a 2016 RAND report, Michael Chase and Arthur Chan found that PLA strategists were already discussing the use of nuclear signals, including “raising the readiness levels of the strategic missile force” and “conducting launch exercises” to deter U.S. intervention despite China’s no-first-use policy.¹⁵ Such actions were consistent with PLA concepts of “integrated strategic deterrence,” featuring a blending of nuclear and conventional, and military and nonmilitary, tools.

China has also been expanding its nuclear capabilities, providing a larger menu of options for achieving “integrated strategic deterrence.” This includes an increase in deliverable nuclear warheads (which are expected to increase from the 200s to 700 by 2027), expansion of intercontinental ballistic missile silo fields, new dual-capable ballistic missiles and a nuclear-capable strategic bomber, progress on longer-range submarine-launched ballistic missiles, evidence of a transition to a launch-on-warning posture, and research on low-yield nuclear weapons.¹⁶ These changes, along with takeaways from the Ukraine case, could mean that Chinese leaders are more inclined to incorporate nuclear signals into a strategy for deter-

ring U.S. intervention. Some tools, such as shorter-range missiles and bombers, might also be useful in persuading Japanese, Australian, or other regional leaders to stay neutral in a regional conflict.

Achieving the “Three Dominances.” Chinese military doctrine emphasizes superiority in the information, air, and sea domains—collectively referred to as the “three dominances” [三权]—as a prerequisite for island landing operations.¹⁷ The PLA’s 2013 *Science of Military Strategy* describes “information dominance” as the “foundation for seizing battlefield initiative; without information dominance it will be difficult to effectively organize the friendly forces to seize command of the air and command of the sea.”¹⁸ “Information dominance” features a prominent role for the space, cyber, and electronic warfare forces within the SSF, which attempts to target adversary command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems, whereas air and sea dominance play to the strengths of the Air Force and Navy, respectively. Each of these services has seen growing budget share in recent years.

The vulnerability of Russian ground forces, from a PLA perspective, might be attributable to a failure to quickly achieve the “three dominances.” Specific failures include:

- ◆ Russia’s reliance on unsecured communications, which enabled Ukrainian defenders to pinpoint Russian locations and eliminate several senior Russian commanders
- ◆ Russia’s inability to leverage electronic warfare or other means to degrade Ukraine’s ability to command and control forces
- ◆ Inadequate stockpiles of Russian precision-guided munitions necessary to destroy key Ukrainian C4ISR and air defense targets
- ◆ The effectiveness of Ukrainian integrated air and missile defenses, which eliminated Russia’s ability to achieve air dominance in key locations
- ◆ Russia’s unwillingness or inability to prevent the provision of surface-to-air missiles, launchers, and radars from foreign suppliers during the conflict
- ◆ Ukraine’s use of shore-based anti-ship missiles, which were effective in sinking the Russian flagship *Moskva* and other surface ships.

Russia's failures, according to foreign analysis, are likely to redouble China's conviction that the "three dominances" must be achieved prior to a Taiwan campaign and would also be relevant to other land conflicts, such as an escalation of border tensions with India.¹⁹ This could involve reassessments of PLA naval, air, and information warfare capabilities relative to China's likely opponents, as well as scrutiny of the most effective systems operated by Ukraine and their weaknesses. However, in some cases, PLA analysts could discount lessons. For instance, the PLA might look incredulously on the use of personal cell phones by Russian commanders, concluding that such mistakes are unlikely to be repeated by their own forces. China might also be less concerned with Taiwan's ability to receive resupply of key anti-ship and anti-air systems in wartime because of the PLA's ability to enforce an island blockade.

Decapitating the Taiwan Government. Russia's inability to topple the Volodimir Zelensky government allowed Ukraine to organize an effective resistance and rally domestic and international support. Russia's failure underscores the PLA's incentive to decapitate the Taiwan leadership at the outset of a landing campaign to reduce the prospects of a protracted struggle and prevent Taiwan from eliciting foreign aid. Indeed, there is evidence that the PLA has already planned to target Taiwan's leaders, including doctrine for the use of special operations forces in an island landing that includes strikes on adversary leadership and mockups of Taiwan's presidential palace at a PLA training range in Inner Mongolia.²⁰ Russia's failures might encourage the PLA to review its capabilities to achieve those effects.

China's leadership might also reassess the tradeoffs of a strategy of incremental coercion to achieve unification without necessarily needing to invade the island and fight the United States. The unveiling of military exercise closure areas near several major Taiwan ports following Speaker Pelosi's August 2022 visit suggests that Beijing views air and maritime blockade as potentially effective in influencing U.S. and Taiwan calculations.²¹ However, Zelensky's resistance during the period of the Russian build-

up and initial operations might convince Beijing that the potential costs of permitting the adversary to organize and rally the public and to receive external assistance outweigh the benefits in terms of escalation control. Bonny Lin and John Culver suggest that the calculus from Beijing's perspective might change: "the safer bet may be for the PLA to move faster and shorten its timelines for mobilization and key operations. A rapid invasion would allow China to minimize the possibility of U.S. and foreign intervention."²²

Winning the Battle of Morale. Some foreign assessments argue that the PLA will redouble its commitment to wartime political work, which has both internal and external dimensions.²³ Internally, the Chinese Communist Party (CCP) perceives control of political narratives as critical to its ability to govern, including maintaining support for its goals within the military.²⁴ Nevertheless, Chinese strategists also harbor concerns that adversaries will seek to weaken support for the regime by manipulating information and thus argue for tighter wartime control of social media and other avenues through which soldiers receive information.²⁵ Russia's failure to dominate the narrative, including proposing a convincing rationale for the war and preventing Russian personnel from listening to alternative viewpoints, might serve as a reminder to PLA political commissars to ensure that such failures are not repeated in Chinese operations.

Russia also proved unable to break Ukrainian resolve, in part because it failed to decapitate the regime and establish "information dominance" within Ukraine. China has already developed a propaganda campaign to weaken Taiwan morale in peacetime, including publicizing coercive military actions around the island and injecting disinformation into Taiwan discourse.²⁶ In wartime, the PLA would attempt to "break enemy resolve" by broadcasting messages that reduce popular confidence in Taiwan's ability to resist and by other means.²⁷ Russia's apparent underestimation of Ukrainian resolve might prompt the PLA to revisit its assumptions about whether Taiwan's population can be quickly subdued. However, China might focus on its advantages—such as its stronger ability to control

information flows on the island (for example, by cutting undersea cables and seizing broadcast towers) and to enforce a physical blockade, which could shatter adversary morale—as reasons for confidence.

Developing Skilled PLA Leaders. An impression of foreign observers is that the PLA will interpret poor Russian performance as a reminder that Chinese military effectiveness depends on qualified personnel in both the enlisted ranks and the officer corps. This injunction would support China's longstanding priority on human capital development. At the enlisted level, China has undertaken several reforms in recent years, including changing the conscription cycle to improve readiness and professionalizing the noncommissioned officer corps.²⁸ Recent legislation also seeks to attract more technically able college graduates by opening conscription offices on college campuses.²⁹ Russia's failures might spur the PLA to accelerate such reforms.

China has instituted programs designed to recruit, retain, and develop a qualified officer corps as well. These include implementing educational and training reforms and increasing salaries and benefits for officers.³⁰ Of relevance for future regional contingencies would be cultivating officers with a stronger background in joint operations: the PLA has established a command structure better suited to joint operations, but it still lacks officers with significant joint expertise.³¹ The lack of cohesion among Russian forces in Ukraine might reinforce China's commitment in this respect. One example would be offering education in joint operations to more junior PLA officers (which has begun to occur with a new PLA Joint Operations College); another would be changing the promotion incentive structure to reward the handful of PLA officers with significant joint experience.

Ensuring Logistics and Maintenance Support. The Russian failure to provide real-time logistics and maintenance support for ground forces has brought increased attention to the challenges for the PLA in supporting units across the 100-kilometer Taiwan Strait—which could present even graver challenges for support units.³² PLA analysts do not appear to have underestimated the

challenges of transporting and sustaining units across the strait and into a contested environment; research from the PLA logistics community catalogues prodigious needs in terms of lift, materiel, and support services such as medical facilities.³³ Moreover, a centerpiece of PLA reforms during the Xi era was the creation of a Joint Logistic Support Force (JLSF), which includes stronger central oversight over logistics resources than the previous system. This could facilitate more rapid and efficient resupply of munitions and other items to the frontlines.³⁴

Nevertheless, Russia's challenges in Ukraine could spur PLA leadership to scrutinize logistics preparation for Taiwan or other regional scenarios. A specific weakness in the Russian case was mobile logistics units failing to keep pace with advancing armored columns. The PLA conducts training in which JLSF mobile support brigades rendezvous with combat units and provide services such as oil resupply and vehicle repair that the supported units cannot handle organically.³⁵ Such training might receive greater attention after Ukraine. Organizationally, the PLA might also give greater attention to improving the institutional linkages between the theaters—which are responsible for planning and executing campaigns—and the JLSF, which does not report to the theaters in peacetime.³⁶ The Russian case might remind the PLA that a failure to manage those relationships could have negative consequences in wartime.

In sum, most of the lessons foreign analysts suspect the PLA is learning from Ukraine are in areas that the PLA already emphasized before and during the Xi era. This confirms that the PLA has adopted the right agenda, but it could also prompt reflection on whether adjustments need to be made to operational concepts, capabilities, human capital, and organizations to make the system better suited to wartime exigencies, which China of course has not faced for decades.

Potential New Directions

A second category of takeaways consists of what might be called “pivotal lessons” that force the PLA to reconsider its assumptions or move in a new direction. This

section examines three potential lessons in this category: a reexamination of whether the ground forces' brigade and battalion model is suitable for high-intensity conflict against a committed adversary; Chinese attempts to learn from Russia's failure to mask preparations for conflict and therefore degrade foreign indications and warnings; and the reexamination of assumptions that a regional conflict, especially over Taiwan, could be limited in duration and scale, and thus potentially necessitate preparation for protracted conflict.

Reexamining Ground Force Reforms. The PLA has followed U.S. and Russian examples in streamlining its ground force structure.³⁷ Divisions have mostly been replaced by smaller combined arms brigades, which consist of four combined arms battalions, and single reconnaissance, artillery, air defense, engineer and chemical defense, communications, and combat support battalions. Amphibious brigades have a similar structure but different equipment.³⁸ Chinese combined arms battalions, modeled on Russian battalion tactical groups, are the lowest units capable of independent battlefield maneuver, and they have organic reconnaissance, air defense, and combat engineering platoons.³⁹ The new system reduced inefficiency by removing one command layer and promoted modularity by increasing standardization.

Still, Russian ground force operations in Ukraine exposed several weaknesses of smaller maneuver units in high-intensity combat, including brigade commanders who have too many responsibilities and who "quickly become overwhelmed and . . . unable to coordinate operations effectively," insufficient staff at the brigade and battalion levels familiar with specialized functions, inadequate coordination of air defense troops, and limited organic logistics capabilities.⁴⁰ Russia previously recognized the flaws in its brigade model after the 2014 incursion into Crimea and reintroduced some divisions,⁴¹ but it failed to employ those assets in 2022, perhaps because it did not anticipate the scale of the conflict. Those problems were compounded by a committed adversary making use of highly effective systems such as Javelins and the Next Generation Light Anti-Tank Weapons (NLAWS).

Russia's poor performance could presage similar difficulties for the PLA. In a Taiwan scenario, PLA amphib-

ious brigade and battalion commanders might be unable to effectively coordinate forces, like their Russian counterparts.⁴² Those problems would be intensified by the self-assessed inability of PLA officers to exercise sound judgment, though the PLA is attempting to reduce those problems through opposition force training and other drills.⁴³ As in Russia, inadequate communication across echelons could result in poor air defense and friendly fire incidents. Most worrisome for the PLA is the question of whether defenders would be able to use similar systems as Ukraine to exploit limitations in the brigade and battalion structure, including decimating isolated columns.⁴⁴ Indicators of PLA adaptation would be revised training regimens, augmentation of brigade and battalion staff, and a relook at the internal structure of these units.

Blurring Indications and Warnings. Russia attempted to mask its wartime mobilization under the cover of large-scale exercises, but the scale of the buildup meant that adversaries could easily discern Russia's motives. The United States exploited Russia's failure to mask intent by revealing details about the buildup, thus depriving Moscow of the element of surprise and weakening its narrative that its forces were responding to Ukrainian provocations. Washington also revealed Russian attempts to fabricate a pretext for military operations, making it easier to convince other countries to sanction Russian aggression.

From China's perspective, Russia's gambit could be seen as an attractive but poorly executed approach. PLA doctrine for an island landing describes a mobilization phase lasting several months as units move to a higher state of readiness and critical munitions, troops, and equipment are moved from the interior to the coasts, followed by a preparatory (that is, missile bombardment), sea-crossing, and landing phase.⁴⁵ China might study Russia's attempts to conceal its own preparations under the cover of exercises but might improve on Russia's failures. This would involve studying the signs that allowed the United States to correctly assess Russia's intent and working those lessons into its own mobilization process. This might entail not only expanding the scale of exercises to match actual combat requirements, but also injecting more discrete elements, such as the dispatch of

medical units to forward locations.⁴⁶ China would then replicate this activity on multiple occasions to normalize such activity and reduce adversary warning.

The PLA might also consider using deception in the later phases of the campaign. A critical question would be whether to conduct an extended bombardment. Missile strikes occurring over the course of several days would reveal China's intent but would also potentially have a greater likelihood of securing air and sea superiority and offer an opportunity to negotiate from a position of strength. An alternative would be combining the bombardment and sea crossing into a single phase. Under the cover of an exercise, Chinese forces could "keep going" across the strait, joined by missile strikes once en route (just as Russian ground forces rolled across the Ukrainian border at the same time as firepower strikes commenced in February 2022). This would be riskier from a military perspective, but the benefit would be delaying critical political decisions in Taiwan and the United States until the last possible moment. Taiwan, for instance, might not have time to mine its harbors, and U.S. forces might not be able to deploy sufficient forces in time.

Preparing for a Protracted Conflict. Russia's failure to achieve a quick victory in Ukraine despite large advantages in conventional forces might lead Chinese planners to revisit their own assumptions about whether Taiwan (or another regional adversary) could be defeated in a short time, thus limiting the military and economic costs and risks of war. This would require the PLA to prepare for a much larger protracted conflict both within the target state and against a coalition that might be willing to fight on its behalf.

In a Taiwan context, Chinese doctrine assumes that resistance will crumble soon after a successful landing. This might be true if the PLA is able to decapitate Taiwan's leadership and seal the island from foreign assistance, but the scale of Ukrainian resistance might signal that even under those conditions, the PLA could be entering a quagmire. For instance, Taiwan "insurgents" could exploit urban terrain and armed drones to pin down Chinese forces⁴⁷—those problems could be even greater if Taiwan builds a capable civil defense force (as Ukraine

did after the Crimean incursion) and stockpiles resources and critical munitions for a longer struggle. PLA doctrine might be required to detail post-landing operations, and Chinese forces such as the People's Armed Police might conduct relevant training.⁴⁸

Beijing also seeks to limit the number of foreign antagonists it must face in a regional conflict.⁴⁹ The willingness of major European countries to revisit their dependence on Russia while providing lethal aid to Ukraine might prompt China to revisit the assumption that European or Asian allies of the United States could be persuaded to stay neutral in a Taiwan conflict. A greater than anticipated number of actors might become directly involved: Japan and the United Kingdom have recently shown greater interest in planning for a Taiwan contingency. Some of these states might help Taiwan oppose a Chinese blockade or offer basing for U.S. forces. If Ukraine is a guide, more Western European nations and U.S. allies in Asia might also be willing to cut off the PLA's access to foreign technology. Anticipating an expansion of the conflict, the PLA might further indigenize supply chains, expand critical stockpiles, and even increase critical long-range munitions to hold other countries at risk.

Conclusion and Implications

China's ability to harness lessons from the Ukraine conflict should not be overstated, but the United States and others should plan based on the assumption that the PLA ultimately will use what David Finkelstein calls the Ukrainian "battle lab" to improve its operations and capabilities.⁵⁰ To be sure, despite the apparent surprise of Russia's poor performance in Ukraine, China's military leaders might be too confident in their own capabilities and decades of planning for regional conflicts to have the same willingness to absorb lessons as their predecessors did after the Gulf War. Meanwhile, other challenges, including inefficient strategic planning and use of force decisions that rest more on economic costs than on military balances, could reduce the salience of any lessons PLA analysts acquire.

Moreover, most of the lessons that foreign observers suspect the PLA could take away from Ukraine would only

reconfirm choices Chinese leaders have already made. This is true in terms of operational concepts (joint operations, integrated strategic deterrence, the “three dominances,” and decapitation strikes), human capital development, Xi’s strong focus on political work to make sure Chinese troops have the “correct attitude,” and logistics reforms. PLA observers might take a second look at some of these areas with an eye toward flaws in Russia’s approach and battlefield adaptations that resulted in limited territorial gains later in the conflict, but the effect would be to confirm and improve China’s way of warfare as it currently stands, not move the PLA in a new direction.

However, in at least a few areas, there is a chance that China will learn pivotal lessons that will allow it to avoid Russia’s mistakes. These would include ground force reforms to reduce the vulnerability of combined arms battalions to withering strikes, sophisticated deception plans integrated into a landing campaign, and different assumptions and planning for a conflict that neither ends in a short timeframe nor involves only a minimal number of opponents. Such lessons could improve China’s capabilities as well as its confidence and complicate some of the tools that were available to the defense in countering Russian operations in Ukraine, such as effective use of Javelins and NLAWs, declassification of intelligence for use in information operations, and efforts to expand the conflict beyond the aggressor’s capacity and comfort level.

PLA adaptation, if it does occur, will take time, thus offering the United States, its allies, and Taiwan an opportunity to make improvements to retain advantages for the defense that existed in Ukraine. Those steps might include:

- ◆ Increasing production of critical munitions that proved effective against Russian forces but that might be required in much greater numbers to deal with the PLA⁵¹
- ◆ Encouraging Taiwan to stockpile assets such as Javelins, NLAWs, Stingers, and armed drones that might be useful against a landing force but that would be difficult to resupply in the face of a successful PLA blockade
- ◆ Demonstrating the ability and resolve to deny the PLA the opportunity to achieve information dominance, including through the supply of capabilities similar to Starlink that were effective in Ukraine

- ◆ Assisting Taiwan in developing continuity-of-government plans

- ◆ Communicating that efforts to send nuclear signals would be highly escalatory and damage China’s ability to control the pace and intensity of the conflict

- ◆ Refining indications and warnings for offensive PLA operations that might be much more discreet than in the Russian case, and socializing U.S. policymakers about those indicators ahead of time to reduce future indecision

- ◆ Assisting Taiwan in building credible civil defense forces, including training in the use of defensive weapons and tactics proven to be effective in Ukraine

- ◆ Identifying foreign inputs into PLA supply chains and determining areas where the PLA is *not* likely to be able to indigenize or source technology from Russia or others unlikely to join international sanctions⁵²

- ◆ Conducting increasingly detailed planning and exercises relevant to a Taiwan or other regional contingency with Japan, the United Kingdom, and Australia, while also holding discussions on how other allies and partners might contribute behind the scenes.

The stakes of Chinese adaptation from Ukraine should be clear. While China might not have a near-term timetable to use force against Taiwan, the CCP has linked unification to the great rejuvenation of the Chinese people, a goal intended to be achieved by 2049.⁵³ Ukraine began planning and training in earnest to defend against a Russian offensive after the 2014 Crimean conflict.⁵⁴ If the PLA moves directly from peacetime coercion to full combat operations, Taiwan, the United States, and others might not have such a clear warning and the time needed to further defensive preparations in the Pacific. Given that the approaches that succeeded in blunting Russian operations in 2022 may not be as effective against an adaptive China, now is the time to take decisive steps such as those outlined above to enhance deterrence and reduce the PLA’s chance of achieving a quick victory.

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Notes

- ¹ For eight examples, see the information in the table.
- ² An exception is an article by Senior Colonel Li Minghai of the PLA National Defense University that used the Ukraine conflict as a template to discuss his views on the significance of “cognitive warfare.” See Li Minghai, “The Cognitive Domain Is Becoming the Main Battlefield in Future Intelligentized Hybrid Warfare” [认知域正成为未来智能化混合战争主战场], *Global Times* [环球时报], March 17, 2022, available at <<https://yrd.huanqiu.com/article/47DoZ45dMzV>>. One possible reason for lack of PLA analysis is guidance not to publicly critique the failures of Russia during a time when China is seeking to highlight stronger Sino-Russian ties.
- ³ M. Taylor Fravel, “Shifts in Warfare and Party Unity: Explaining China’s Changes in Military Strategy,” *International Security* 42, no. 3 (January 2018), 74–76.
- ⁴ David Finkelstein, “Beijing’s Ukrainian Battle Lab,” *War on the Rocks*, May 2, 2022, available at <<https://warontherocks.com/2022/05/beijings-ukrainian-battle-lab/>>.
- ⁵ Christopher D. Yung, “Sinica Rules the Waves? The People’s Liberation Army Navy’s Power Projection and Anti-Access/Area-Denial Lessons from the Falklands/Malvinas Conflict,” in *Chinese Lessons from Other Peoples’ Wars*, ed. Andrew Scobell, David Lai, and Roy Kamphausen (Carlisle, PA: Strategic Studies Institute, 2011), 75–114.
- ⁶ Susan L. Shirk, *The Political Logic of Economic Reform in China* (Berkeley: University of California Press, 1993), 125. Moreover, discussions with PLA officers following the reforms suggested that there was no central mechanism capable of making difficult acquisition decisions.
- ⁷ Bonny Lin and John Culver, “China’s Taiwan Invasion Plans May Get Faster and Deadlier,” *Foreign Policy*, April 19, 2022, available at <<https://foreignpolicy.com/2022/04/19/china-invasion-ukraine-taiwan/>>.
- ⁸ Andrew Scobell refers to this as the “imploding China” scenario. See Andrew Scobell, “China’s Calculus on the Use of Force: Futures, Costs, Benefits, Risks, and Goals,” in *Crossing the Strait: China’s Military Prepares for War with Taiwan*, ed. Joel Wuthnow et al. (Washington, DC: NDU Press, 2022), 65–85.
- ⁹ David M. Finkelstein, *The PLA’s New Joint Doctrine: The Capstone of the New Era Operations Regulations System* (Arlington, VA: CNA, 2021).
- ¹⁰ M. Taylor Fravel, *Active Defense: China’s Military Strategy Since 1949* (Princeton: Princeton University Press, 2019).
- ¹¹ Joel Wuthnow, “A Brave New World for Chinese Joint Operations,” *Journal of Strategic Studies* 40, no. 1–2 (2017), 169–195.
- ¹² Marcus Clay and Roderick Lee, “Unmasking the Devil in the Chinese Details: A Study Note on the *Science of Military Strategy 2020*,” China Aerospace Studies Institute, January 2022, 11; Joel Wuthnow and M. Taylor Fravel, “China’s Military Strategy for a ‘New Era’: Some Change, More Continuity, and Tantalizing Hints,” *Journal of Strategic Studies*, March 1, 2022, 26–27; Phillip C. Saunders, “China’s Approach to Multi-Domain Conflict,” in *Getting the Multi-Domain Challenge Right*, ed. Brad Roberts (Livermore, CA: Lawrence Livermore National Laboratory, 2021), 52–58.
- ¹³ “Do a Good Job in Starting the Work of National Defense and Army Construction During the 14th Five-Year Plan and Greet the 100th Anniversary of the Communist Party of China with Outstanding Achievements” [做好‘十四五’时期国防和军队建设开局起步工
- 作, 以优异成绩迎接中国共产党建党100周年], *PLA Daily* [解放军报], March 10, 2021, 65–84, available at <http://www.mod.gov.cn/topnews/2021-03/10/content_4880715.htm>.
- ¹⁴ The PLA has experimented with joint command posts in training exercises but does not appear to have permanent joint commands, similar to U.S. joint task forces, below the theater level.
- ¹⁵ Michael S. Chase and Arthur Chan, *China’s Evolving Approach to “Integrated Strategic Deterrence”* (Santa Monica, CA: RAND, 2016), ix.
- ¹⁶ *Military and Security Developments Involving the People’s Republic of China: Annual Report to Congress* (Washington, DC: Office of the Secretary of Defense, 2021), 92–94.
- ¹⁷ Zhang Yuliang, ed., *Science of Campaigns* [战役学] (Beijing: National Defense University Press, 2006), 310.
- ¹⁸ *Science of Military Strategy* [战略学] (Beijing: Academy of Military Sciences, 2013), 129–130.
- ¹⁹ Lin and Culver, “China’s Taiwan Invasion Plans May Get Faster and Deadlier.”
- ²⁰ John Chen and Joel Wuthnow, *Chinese Special Operations in a Large-Scale Island Landing*, China Maritime Studies Institute Report No. 18 (Newport, RI: U.S. Naval War College, January 2022).
- ²¹ Xin Chen, “China Warns Shipping Against Sailing Into Military Drill Areas Off Taiwan,” *Lloyd’s List*, August 3, 2022, 113–137, available at <<https://lloydlist.maritimeintelligence.informa.com/LL1141809/China-warns-shipping-against-sailing-into-military-drill-areas-off-Taiwan>>.
- ²² Lin and Culver, “China’s Taiwan Invasion Plans May Get Faster and Deadlier.”
- ²³ Finkelstein, “Beijing’s Ukrainian Battle Lab.” For a discussion of PLA political work reforms, see Morgan Clemens and Benjamin Rosen, “The Impact of Reform on the PLA’s Political Work System,” in Roy D. Kamphausen, ed., *The People of the PLA 2.0* (Carlisle, PA: U.S. Army War College Press, 2021), 1–40.
- ²⁴ Central Propaganda Department and Central National Security Office, *Overall National Security Concept Study Outline* [总体国家安全观学习纲要] (Beijing: People’s Press, 2022), 58.
- ²⁵ Xiao Tianliang, ed., *Science of Military Strategy* [战略学] (Beijing: National Defense University Press, 2020), 212–216.
- ²⁶ Some of these operations are conducted by the PLA Strategic Support Force. For a discussion, see Ying-Yu Lin, “A New Type of Cross-Border Attack: The PLA’s Cyber Force,” in *The PLA Beyond Borders: Chinese Military Operations in Regional and Global Context*, ed. Joel Wuthnow et al. (Washington, DC: NDU Press, 2021), 295–311.
- ²⁷ Xiao, *Science of Military Strategy*, 216.
- ²⁸ Marcus Clay and Dennis J. Blasko, “People Win Wars: The PLA Enlisted Force, and Other Related Matters,” *War on the Rocks*, July 31, 2020, available at <<https://warontherocks.com/2020/07/people-win-wars-the-pla-enlisted-force-and-other-related-matters/>>.
- ²⁹ “Regular Press Conference of the Ministry of National Defense on August 26,” PRC Ministry of National Defense, August 26, 2021, available at <http://eng.mod.gov.cn/news/2021-08/30/content_4893499.htm>.
- ³⁰ Kenneth Allen and Brendan Mulvaney, “Changes in the PLA’s Military Education,” in Kamphausen, *The People in the PLA 2.0*, 167–204; Kevin McCauley, *Cultivating Joint Operations Talent: PLA Education and Training Reforms* (Fort Eustis, VA: Foreign Military Studies Office, April 21, 2022).
- ³¹ Joel Wuthnow, *Gray Dragons: Assessing China’s Senior Military Leadership*, INSS Strategic Perspectives No. 16 (Washington, DC: NDU Press, forthcoming).

³² On Russia's challenges, see Ann Marie Dailey, "What's Behind Russia's Logistical Mess in Ukraine? A U.S. Army Engineer Looks at the Tactical Level," *New Atlanticist*, March 21, 2022, available at <<https://www.atlanticcouncil.org/blogs/new-atlanticist/whats-behind-russias-logistical-mess-in-ukraine-a-us-army-engineer-looks-at-the-tactical-level/>>.

³³ Chung Chieh and Andrew N.D. Yang, "Crossing the Strait: Recent Trends in PLA 'Strategic Delivery' Capabilities," in Wuthnow et al., *The PLA Beyond Borders* (Washington, DC: NDU Press, 2021), 51–72.

³⁴ LeighAnn Luce and Erin Richter, "Handling Logistics in a Reformed PLA: The Long March Toward Joint Logistics," in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, ed. Phillip C. Saunders et al. (Washington, DC: NDU Press, 2019), 257–292; Joel Wuthnow, "A New Era for Chinese Military Logistics," *Asian Security* 17, no. 3 (February 11, 2021), 279–293.

³⁵ "Northern Theater Command Unit Conducts Thousand-Kilometer Maneuver to Test Logistic and Equipment Support Capabilities" [北部战区部队千里机动检验后装保障能力], CCTV.com, June 23, 2019, available at <<http://m.news.cctv.com/2019/06/23/ARTIqV5KuLooXdEzYLuhjty190623.shtml>>.

³⁶ This represented a shift from the pre-reform system, in which the seven military regions each possessed a Joint Logistic Department. Those organizations have been incorporated into new Joint Logistic Support centers that report to a central JLSF commander. For a discussion, see Joel Wuthnow, "Joint Logistics Support to PLA Theater Operations," paper presented at the U.S. Army War College PLA Conference, March 31, 2022.

³⁷ Bruce Meng-Zhang Yang, "Elite Troop System, Synthetic Force Structure, High Efficiency Function: The PLA's Path from Divisions to Brigades," paper presented at the CAPS-RAND-NDU PLA Conference, December 1, 2018.

³⁸ Joshua Arostegui, "PLA Army and Marine Corps Amphibious Brigades in a Post-Reform Military," in Wuthnow et al., *Crossing the Strait*, 161–193.

³⁹ Dennis J. Blasko, "The Biggest Loser in Chinese Military Reforms," in Saunders et al., *Chairman Xi Remakes the PLA*, 360.

⁴⁰ Gustav Gressel, "Combined Faces: Russia's Early Military Failures in Ukraine," *European Council on Foreign Relations*, March 15, 2022, available at <<https://ecfr.eu/article/combined-faces-russias-early-military-failures-in-ukraine/>>.

⁴¹ Andrew Radin et al., *The Future of the Russian Military* (Appendices) (Santa Monica, CA: RAND, 2019), 70–71.

⁴² Arostegui, "PLA Army and Marine Corps Amphibious Brigades in a Post-Reform Military."

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14, 2017), available at <<https://jamestown.org/program/evolution-plas-red-blue-exercises/>>.

⁴⁴ Sophie Williams and Olga Pona, "Bloody River Battle Was Third in Three Days—Ukraine Official," BBC, May 13, 2022, available at <<https://www.bbc.com/news/world-europe-61399440>>.

⁴⁵ Michael Casey, "Firepower Strike, Blockade, Landing: PLA Campaigns for a Cross-Strait Conflict," in Wuthnow et al., *Crossing the Strait*, 113–137.

⁴⁶ Vivian Salama, "Russia Sends Medical Units to Ukrainian Front," *Wall Street Journal*, January 27, 2022, available at <<https://www.wsj.com/articles/russia-says-it-sees-little-scope-for-optimism-in-u-s-proposals-on-ukraine-11643290065>>.

⁴⁷ Sale Lilly, "Killing Rats in a Porcelain Shop: PLA Urban Warfare in a Taiwan Campaign," in Wuthnow et al., *Crossing the Strait*, 139–157; Elsa B. Kania and Ian Burns McCaslin, *The PLA's Evolving Outlook on Urban Warfare: Learning, Training, and Implications for Taiwan* (West Point, NY: Institute for the Study of War, 2022).

⁴⁸ Lilly, "Killing Rats in a Porcelain Shop," in Wuthnow et al., *Crossing the Strait*. Lilly reports that the People's Armed Police has not conducted counterinsurgency training relevant to Taiwan. Most of its practical experience is in the very different environment of western China.

⁴⁹ This is consistent with PLA writings on escalation control. See, for example, Alison A. Kaufman and Daniel M. Harnett, *Managing Conflict: Examining Recent PLA Writings on Escalation Control* (Arlington, VA: CNA, 2016), 66.

⁵⁰ Finkelstein, "Beijing's Ukrainian Battle Lab."

⁵¹ This would be consistent with Taiwan's current asymmetric defense approach. For further analysis, see Drew Thompson, *Winning the Fight Taiwan Cannot Afford to Lose*, INSS Strategic Forum 310 (Washington, DC: NDU Press, October 2021).

⁵² According to one analysis, for instance, China is particularly dependent on foreign supply chains in high-end electronic components and specialized steel alloys. See Ben Murphy, *Chokepoints: China's Self-Identified Strategic Technology Import Dependencies* (Washington, DC: Georgetown Center for Security and Emerging Technology, May 2022).

⁵³ Brian Hart, Bonnie S. Glaser, and Matthew P. Funaiolo, "China's 2027 Goal Marks the PLA's Centennial, Not an Expedited Military Modernization," *China Brief* 21, no. 6 (March 26, 2021), available at <<https://jamestown.org/program/chinas-2027-goal-marks-the-plas-centennial-not-an-expedited-military-modernization/>>. The 2049 timeframe was contained in Xi Jinping's report to the 19th Party Congress in 2017.

⁵⁴ Amy Mackinnon and Jack Detsch, "Ukraine's Military Has Come a Long Way Since 2014," *Foreign Policy*, December 23, 2021, available at <<https://foreignpolicy.com/2021/12/23/ukraine-russia-military-buildup-capabilities/>>.

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