



The Lessons of the Russo-Ukrainian War for the Chinese People's Liberation Army

With Focus on the Implications
for a Taiwan Contingency

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Chapter

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Central Military Commission Chairman Xi Jinping delivering a speech at the headquarters of the Eastern Theater Command in July 2023
(Xinhua/Kyodo News Images)

War with New and Old Characteristics

The Russo-Ukrainian War, launched in February 2022, has entered its fourth year. The war in Ukraine, the first full-scale war in Europe since World War II, is described as having a profound effect on military doctrines and operations of various countries, and it has been a subject of a number of studies.¹

The People's Republic of China (PRC) is no exception. The People's Liberation Army (PLA) is said to have drawn many lessons from the Russo-Ukrainian War, regarding which scholars in not only Japan but also the United States, Taiwan, and other regions have published research findings. Among them is Joel Wuthnow, who contends that the PLA confirmed the effectiveness of its military doctrines and operational concepts through the war. This article reaches the same conclusion on this point.² Furthermore, in a paper published in *Studies on Chinese Communism*, Taiwanese scholars explore a range of operational domains that the Russo-Ukrainian War has brought attention to and examine their impact on a potential PLA invasion of Taiwan.³ In another study, Japanese researcher Yatsuzuka Masaaki discusses the PLA's lessons from Ukraine, mainly in the space, cyber, and cognitive domains, taking into account observations made by Chinese researchers.⁴

However, the PLA has not released any official documents that comprehensively assess the conflict to the author's knowledge. There are commentaries in the *PLA Daily* (the PLA's official newspaper) recalling the Russo-Ukrainian War, references made to the war by senior PLA officials, and analyses of the conflict by PLA researchers.

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- 1) For studies in Japanese, see Koizumi Yu, *Ukuraina senso* [The Russo-Ukrainian War] (Chikuma Shobo, 2022); Takahashi Sugio, ed., *Ukuraina senso wa naze owaranai no ka: dejitaru jidai no soryokusen* [Why the Russo-Ukrainian War does not end: Total war in the digital age] (Bungei Shunju, 2023); Tsuchiya Motohiro, Kawaguchi Takahisa, Sasaki Takahiro, Yatsuzuka Masaaki, and Yamamoto Tatsuya, "Ukuraina kara higashi Ajia e: shin ryoiki ni okeru tatakai to sono kyokun" [From Ukraine to East Asia: Warfare in the new domains and its implications], KCS Report no. 1, Center for Strategy, Keio University Global Research Institute (2024). For studies in English, see Jeffrey Mankoff, ed., *Lessons and Legacies of the War in Ukraine: Conference Report*, Strategic Perspectives 43 (Washington, DC: NDU Press, 2024), among others.
 - 2) Joel Wuthnow, "Rightsizing Chinese Military Lessons from Ukraine," *Strategic Forum* (National Defense University) no. 311 (September 2022).
 - 3) "俄乌战争对共军的启示与调整" [The enlightenment and adjustment of the Russo-Ukrainian War to the People's Liberation Army], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 87–152.
 - 4) Yatsuzuka Masaaki, "Chugoku wa nani wo manande iru ka" [What has China learned], chap. 3, in Tsuchiya et al., "Ukuraina kara higashi Ajia e," 23–30.

This article addresses the question of what lessons the PLA took away from the Russo-Ukrainian War. Its analysis focuses on (1) the impact on the PLA's current and future military doctrines, operational concepts, and force management policies, (2) the impact at the strategic and policy levels, and (3) the impact at the operational level. Through this analysis, this article reveals that, unlike in the Gulf War in 1991, the PLA's military doctrines and operational concepts have changed little before and after the war. Rather, the lessons from Ukraine have reaffirmed that the PLA was right about its existing military doctrines and operational concepts. That is not to say that the Russo-Ukrainian War had no impact on the PLA. This article shows that the takeaways from the conflict are requiring the PLA to make various adjustments, both at the high level of strategies and policies by the Chinese Communist Party (CCP) and the military leadership, and at the operational level by PLA forces.

There are not necessarily many comprehensive analyses of the PLA's lessons from the Russo-Ukrainian War. Wuthnow's research conducts a comprehensive study similar to this article but does not contain a detailed analysis of the PLA's prevailing operational concepts, including the "System of systems operation" [*tixi zuozhan*, 体系作战] concept and the "Integrated Joint Operation" [*yitihua lianhe zuozhan*, 一体化联合作战] concept.

The rationale for conducting such a comprehensive analysis in this paper stems from my concern about the potential impact of the lessons learned by the PLA on future contingencies involving Taiwan. Several studies have examined how the lessons from the Russo-Ukrainian War may be reflected in a Taiwan contingency.⁵ However, many of these analyses do not necessarily include adequate studies of what military doctrines and operational concepts the PLA had prior to the conflict. Nor do they necessarily examine in detail the adjustments the PLA has made since the outbreak of the war, or the adjustments that would be made in the future. To answer these questions,

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- 5) Yamaguchi Shinji, "Roshia Ukuraina senso ga Chugoku no Taiwan shinko shinario ni ataeru eikyo (jo)" [The impact of the Russo-Ukrainian War on China's Taiwan invasion scenario (Part 1)], *Foresight* (May 13, 2022); Yamaguchi Shinji, "Roshia Ukuraina senso ga Chugoku no Taiwan shinko shinario ni ataeru eikyo (ge)" [The impact of the Russo-Ukrainian War on China's Taiwan invasion scenario (Part 2)], *Foresight* (May 13, 2022); Wuthnow, "Rightsizing Chinese Military Lessons from Ukraine"; Matsuda Yasuhiro, Fukuda Madoka, and Kawakami Yasuhiro, eds., "*Taiwan yuji*" *wa yokushi dekiruka: Nihon ga torubeki senryaku to wa* [Can a "Taiwan contingency" be deterred?: What strategy Japan should adopt] (Keiso Shobo, 2024).

this article presents an empirical analysis as much as possible based on the limited information available, building on the findings of previous research and relying on *PLA Daily* commentaries, PLA textbooks, as well as Chinese, Hong Kong, and Japanese media reports.

The PLA's Reaffirmation of its Military Doctrines, Operational Concepts, and Force Management Policies

The lessons from the Russo-Ukrainian War confirmed for the PLA that it has advanced the right military doctrines and operational concepts, according to Wuthnow.⁶ This is due to the fact that the use of outer space, the deployment of unmanned weapons, and warfare in the cyber and cognitive domains—which have attracted attention in the Ukraine war—are all areas that the PLA has emphasized in its existing military doctrine and operational concepts.⁷

The Reaffirmation of Military Doctrines: “Informationized Local Wars” and “Intelligentized Warfare”

Xi Jinping, who was appointed chairman of the Central Military Commission (CMC) at the 18th National Congress of the CCP in November 2012, placed emphasis on strengthening joint operations capabilities. At the Third Plenary Session of the 18th Central Committee of the CCP in November 2013, Xi announced the implementation of national defense and military reforms (hereinafter, “PLA reforms”). Under Xi’s direction, the PLA undertook the largest and most thorough reforms since 1949, aiming to build a joint operations structure with informatized warfare in mind.⁸

The “informationized local wars” was the military doctrine that served as the theoretical foundation for the PLA reforms. From around 2014, the

6) Wuthnow, “Rightsizing Chinese Military Lessons from Ukraine,” 3–7.

7) For a military analysis of the Russo-Ukrainian War, see, for example, Koizumi, *Ukuraina senso*; Takahashi, ed., *Ukuraina senso wa naze owaranai no ka*.

8) Sugiura Yasuyuki, *China Security Report 2022: The PLA's Pursuit of Enhanced Joint Operations Capabilities*, English edition (Tokyo: NIDS, 2021), 8–9.

Xi regime began to propose this doctrine as a replacement for the previous one, “local wars under the conditions of informationization.”^{9, 10}

The Science of Military Strategy 2020, edited by the PLA National Defense University (NDU), identifies six characteristics of “informationized local wars.” First, the wars are subject to various constraints—not only political and economic factors, but also social factors including domestic and international public opinion and international law. Second, information dominance, defined as superior intelligence capabilities, is a prerequisite for achieving control of the air, sea, and other domains. Third, the battlefield space is larger and more multi-dimensional with intangible battlefields, such as electromagnetic, cyberspace, and psychological cognitive domains, added to tangible battlefields, such as land, sea, airspace, and space. Furthermore, air and space battlefields are merged and integrated, becoming a strategic commanding point for seizing the initiative in war. Fourth, the basic operational form is “Multi-domain Integrated Joint Operations,” focused on countering adversaries through “System of systems”¹¹ confrontation. Fifth, war progress, strike targets and means are controlled accurately, leading to a shift to highly efficient, cost-effective, low-risk, and low-cost small and medium precision operations. Sixth, the intelligitization of the military

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- 9) The PLA defines “local wars under the conditions of informationization” as “local wars that rely on information systems and involve weapons and equipment having a certain level of informationization and corresponding operational methods. They are a basic form of combat in the transitional period from the industrial age to the information age. Informatized warfare is a manifestation of this evolutionary trend.” All-Military Military Terminology Management Committee, PLA Academy of Military Science (AMS), ed., 中国人民解放军军语 (全本) [PLA military terminology (unabridged)] (PLA Academy of Military Science Press, 2011), 48.
- 10) M. Taylor Fravel, *Active Defense: China's Military Strategy since 1949* (Princeton: Princeton University Press, 2019), 230–234.
- 11) The PLA has two terms for system, *xitong* [系统] and *tixi* [体系]. The *xitong*-system denotes individual military systems, such as information support system, command and control system, and firepower strike system. The *tixi*-system is a more advanced stage of the *xitong*-system and is a large system consisting of many *xitong*-systems. It is the Chinese translation of the term “System of systems” employed by the U.S. forces. 王勇男 [Wang Yongnan], 体系作战制胜探要 [An examination of the key factors of victory in system of systems operations] (National Defense University Press, 2015), 2–4; Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern Warfare* (Santa Monica: RAND Corporation, 2018), 2–5. This report refers to *xitong* as system, and to *tixi* as System of systems or System.

is accelerating and is becoming increasingly prominent.¹² These are not necessarily notions independently conceived by the newly inaugurated Xi Jinping leadership but build upon concepts already considered within the PLA since the Hu Jintao era.¹³

China's National Defense in the New Era (hereinafter, the “defense white paper”), which was published in July 2019, refers to “intelligentized warfare” as the next form of warfare. It cites “the application of cutting-edge technologies such as artificial intelligence (AI), quantum information [technology], big data, cloud computing and the Internet of Things [IoT]... in the military field” as driving the emergence of “intelligentized warfare.”¹⁴

An NDU scholar defines “intelligentized warfare” as “integrated warfare waged in the land, sea, air, space, cyber, electromagnetic, and cognitive domains using intelligentized weaponry and equipment and their corresponding operational methods, based on IoT information systems.”¹⁵ The characteristics of intelligentized warfare, as noted by scholars, include: (1) command and control through joint decision-making by humans and machines using AI, cloud control, among other technologies, (2) the building of weapons and equipment systems featuring unmanned aerial vehicles (UAVs), and the realization of “swarm attack,” and (3) further integration and fusion of traditional and new-type security domains (e.g., cyber, electromagnetic, and space) as well as physical (land, sea, air, and space) and non-physical (e.g., cognitive, social, and cyber) security spaces, and the need to seize the initiative and control in confrontation operations in the cognitive space.¹⁶

As of writing, the PLA has not designated “intelligentized warfare” as a new military doctrine superseding “informationized local wars.”

12) 肖天亮 [Xiao Tianliang], ed., 战略学 (2020年修订) [The science of military strategy (2020 rev.)] (National Defense University Press, 2020), 182–185.

13) Sugiura, *China Security Report 2022*, 24.

14) State Council Information Office of the People's Republic of China, 新时代的中国国防 [China's national defense in the new era], 中华人民共和国国防部 [Ministry of National Defense of China].

15) 庞宏亮 [Pang Hongliang], 21世纪战争演变与构想: 智能化战争 [Evolution and conceptualization of 21st century warfare: Intelligentized warfare] (Shanghai Academy of Social Sciences Press, 2018), 84.

16) Iida Masafumi, “PLA's Perception about the Impact of AI on Military Affairs,” *Security & Strategy*, no. 2 (January 2022): 7–15; Yatsuzaka Masaaki, “PLA's Intelligentized Warfare: The Politics on China's Military Strategy,” *Security & Strategy*, no. 2 (January 2022): 27–28.

Even after introducing “intelligentized warfare,” the *PLA Daily* has repeatedly underscored the importance of the integrated development of mechanization, informatization, and intelligentization. At a collective study session of the CCP Central Politburo in July 2020, Xi Jinping himself mentioned “accelerating the integrated development of mechanization, informatization, and intelligentization.”¹⁷ Since the outbreak of the Russo-Ukrainian War, references to “intelligentized warfare” have become more prominent in *PLA Daily* commentaries. However, terms such as “informatized and intelligentized warfare” have also appeared.¹⁸ It remains to be seen if the PLA will designate “intelligentized warfare” as a new military doctrine in future documents such as defense white papers.

The ongoing Russo-Ukrainian War has brought to the forefront the active use of drones,¹⁹ the significance of cyber and electromagnetic space, and warfare in the cognitive domain.²⁰ As noted above, these are all prioritized in “informationized local wars” and “intelligentized warfare.” Through the Russo-Ukrainian War, the PLA appears to have reaffirmed the correctness of these military doctrines. Indeed, commentaries in the *PLA Daily*’s Military Forum—believed to be written with Ukraine in mind—underline the importance of “informatization” and “intelligentization.”²¹

In this context, Zhao Xiaozhuo of the PLA Academy of Military Science (AMS) assessed that the Ukrainian military’s operational concepts, operational approaches, and organizational structure exhibited similarities to those of informatized warfare. Conversely, he criticized that the Russian military, despite being considered the second most powerful military force in

17) Yatsuzaka, “PLA’s Intelligentized Warfare,” 25–26.

18) 解放军报 [PLA Daily], July 20, August 22, August 31, and September 14, 2023.

19) On the use of UAVs in the Russo-Ukrainian War, see Chapter 2.

20) Osawa Jun, “Shinryoiki ni okeru tataikaikata no shoraizo: Roshia Ukuraina senso kara miru haiburiddo senso no shinkyokumen” [The future of warfare in new domains: A new phase of hybrid war revealed by the Russo-Ukrainian War], in *Ukuraina senso wa naze owaranai no ka*, ed. Takahashi, 145–180.

21) 解放军报 [PLA Daily], July 2 and September 12, 2024.

the world, retained traces of “mechanized war”²² in its operational concepts and tactics.²³

The Reaffirmation of Operational Concepts: The “System of Systems Operation” Concept and the “Integrated Joint Operation” Concept

The basic operational forms in the “informationized local wars” doctrine are the “System of systems operation” concept and the “Integrated Joint Operation” (IJO) concept.

“System of systems operation” is an operational concept that was developed based on the evolution of C4ISR in the U.S. military.²⁴ It builds upon the concept of “System warfighting capability based on information systems” advocated during Hu Jintao’s rule.²⁵ The main characteristics are: (1) simultaneous detection of battlefield conditions and real-time information sharing, (2) integration of all military services to conduct highly efficient operations, (3) coordination and synchronization of all military services to work together as a coherent unit, (4) viewing the enemy as a complete operational System of systems and identifying and striking its critical points to dismantle the enemy’s overall structure, (5) simultaneously achieving decentralization and concentration in operational command and control, and (6) consolidating various capabilities in support activities, such as information support and logistics support, to achieve accurate support systems.²⁶

The “System of systems operation” concept emphasizes the following points.

22) The PLA defines “mechanized war” as “a type of war conducted primarily with mechanized weapons and equipment and corresponding operational methods. It is a basic form of warfare in the industrial age characterized by quick mobility, powerful firepower, expansive battlefields, and high levels of attrition.” All-Military Military Terminology Management Committee, AMS, ed., 军语, 48.

23) 赵小卓 [Zhao Xiaozhuo], “从乌克兰危机看战争形态演变” [Evolving forms of war: A perspective from the Ukraine crisis], 国家安全研究 [China Security Studies] (February 2023), 135–139.

24) Engstrom, *Systems Confrontation and System Destruction Warfare*, 10–11.

25) On “System warfighting capability based on information systems,” see Sugiura, *China Security Report 2022*, 14–15.

26) 王, 体系作战制胜探要, 19–24.

Information leading: placement of the highest priority on information dominance.

Joint dominance: comprehensive seizure of information, air, sea, space, and land dominance.

Coordinated actions: the integration of service branches by fusing operational units, elements, and systems, with command and control at the core and information transmission serving as the bridge based on information networks.

Precise and accurate control: achieving maximum effectiveness at minimum cost by relying on integrated electronic information systems and using intelligentized precision-guided strike capabilities to strike key targets of the enemy's operational System of systems.

System destruction: identifying and striking critical nodes of the enemy's operational System of systems (political leadership, command centers of the state and military, energy facilities, transportation networks, public morale, and military forces).

Efficient operations: using precision-guided strikes and stealth technology, securing asymmetric superiority through the comprehensive utilization of military force and non-military capabilities such as diplomacy, and breaking the enemy's will to resist.

First strike: achieving operational objectives with minimal damage through real-time and accurate battlefield sensing, efficient decision-making, and first-strike capabilities.

Asymmetric warfare: disrupting the enemy's battlefield sensing systems, paralyzing the enemy's command system by precision-guided strikes, decapitation strikes and cyberattacks, and weakening the enemy's positioning and navigation capabilities.

Real-time and proactive adjustment: conducting operations based on battlefield information and conditions, while emphasizing shared operational intentions and objectives set by higher command by using electronic information systems comprehensively.

Deception activities: using electronic information systems comprehensively to create favorable conditions through initiative and information technology superiority.²⁷

27) Ibid., 28–66.

This operational concept's basic guiding philosophy is "controlling the enemy through integrated operations, asymmetric strikes, and System paralysis." Such concepts are fundamentally aimed at flexibly employing a variety of operational methods and approaches for fusing military struggle with political, diplomatic, and economic struggle based on strategic intent, comprehensively employing the operational forces of all military services and other supporting forces, building an integrated operational System of systems, and concentrating overall strength to destroy the overall structure of the enemy's operational System of systems. Through such force employment, the PLA seeks to exploit its own strengths to strike at the enemy's weaknesses and coordinate all operational depths and domains, thereby striking the critical and vulnerable nodes of the enemy's operational System of systems. Furthermore, the PLA aims to achieve its operational objectives by swiftly defeating the enemy through rapid victory and precise strikes, thereby quickly paralyzing the enemy's overall operational System of systems and effectively undermining the enemy's will to fight.²⁸

Similar to the aforementioned "System of systems operation" concept, the IJO concept was proposed during the Hu Jintao era.²⁹ The latter concept is defined as "operations that employ informatized weaponry, equipment, and operational methods based on networked information systems in order to achieve integrated coordination in land, sea, air, space, cyberspace, electromagnetic space, and the cognitive domain. It is a basic form of operation corresponding to informatized warfare."³⁰ As its operational philosophies, this concept emphasizes "information leading" (placing the highest priority on information dominance), "precision operations" (operations to achieve objectives in the shortest time and with the least effort involving a careful examination of space, time, goals, means, and effects), "keypoint strike" (precision strikes that combine soft- and hard-kill methods to destroy or paralyze the enemy's core operational System of systems), and "win by integrated operations" (integrating military, politics, economy, and diplomacy to achieve victory through a combination of various means in the land, sea, air, space, information, psychological, and cognitive domains).

28) Ibid., 67.

29) 谭亚东 [Tan Yadong], ed., 联合作战教程 [Lectures on joint operations] (Academy of Military Science Press, 2012), 11; Joel Wuthnow, "A Brave New World for Chinese Joint Operations," *Journal of Strategic Studies* 40, nos. 1-2 (February 2017): 176.

30) All-Military Military Terminology Management Committee, AMS, ed., 军语, 68.

Based on the “IJO” concept, the PLA expanded its operational domains beyond the traditional security domains of land, sea, and air to include the new-type security domains of space, cyberspace, electromagnetic space, deep sea, and the cognitive domain.³¹

The operation capabilities that are deemed necessary to realize these operational concepts are the “joint operation capabilities based on network information System of systems” and “all domain operations capabilities,” both of which were introduced at the 19th National Congress of the CCP in October 2017. A PLA textbook defines “joint operation capabilities based on network information System of systems” as “a System of systems operation capability that uses network information System of systems as the link and backbone, and integrates operation capabilities required for joint operations, such as real-time sensing, highly efficient command and control, precision strikes, rapid maneuver, all-direction defense, and comprehensive safeguards, thereby doubling the effect.” The operations specified are integrated operations based on networks, cloud, and terminals; multi-dimension and all-domain operations; and integrated information-firepower fusion operations. They are characterized by an emphasis on precision, stealth, unmanned operations, and gaining information dominance, and by achieving strategic objectives through short decisive wars.³²

According to Zhang Qianyi at AMS, “all domain operations capabilities” are defined as “the capability of an armed force to effectively launch hostilities against an enemy and to achieve deterrence and victory in war on domestic and foreign battlefields, or in the full range of space and security domains such as the land, the sea, the air, space, cyberspace, the electromagnetic spectrum, and the cognitive domain, as well as burgeoning domains such as the deep sea, quantum computing, artificial intelligence, and biological security, by layering effects in multiple domains, controlling new domains to gain the strategic initiative, and striving for comprehensive superiority through cross-domain integration.”³³ This notion also further expands the operational domains of the PLA’s IJO concept and places emphasis on fusing various domains.

31) 谭, ed., 联合作战教程, 14, 68–84.

32) 张志刚 [Zhang Zhigang], 基于网络情报体系的联合作战 [Joint operations based on the network information systems] (Ordnance Industry Press, 2019), 7–13.

33) 解放军报 [PLA Daily], September 25, 2018.

The “System of systems operation” concept and the IJO concept, both based on the above operation capabilities, have continued to be upheld even after “intelligentized warfare” was proposed.³⁴ Nevertheless, *The Science of Military Strategy 2020*, edited by NDU, introduces the “Multi-domain Integrated Joint Operations” concept, which underscores adaptation to “intelligentized warfare.” *The Science of Military Strategy 2020* defines that “Multi-domain integrated joint operations are based on unified command and centered on unified operational objectives. Various operational forces, operational units, and operational elements are integrated into a seamlessly fused operational system of systems through a network information system. Highly coordinated, integrated, and interlinked operations are conducted in many domains, including land, sea, air, space, cyber, electromagnetic, and intelligence, in accordance with a unified plan.” It is regarded as an advanced stage of joint operations.³⁵

Zhao Xiaozhuo lauded the Ukrainian military’s sinking of the *Moskva* missile cruiser, the flagship of Russia’s Black Sea Fleet, as well as attack on the Russian military’s temporary barracks using the High Mobility Artillery Rocket System (HIMARS), citing them as “System of systems operation capabilities” with excellent detection, surveillance, information transmission, command and control, and precision strike capabilities.³⁶ The *PLA Daily* Military Forum commentaries, which were published after the outbreak of the Russo-Ukrainian War and examine future warfare, have also highlighted the importance of the “System of systems operation” concept and the IJO concept.³⁷

The Reaffirmation of Force Management Policies: The Integration of Combat in the Physical, Information, and Cognitive Domains

The Russo-Ukrainian War has called attention to the importance of warfare in the cognitive domain, centered on information warfare and psychological

34) 解放军报 [PLA Daily], January 5, 2021.

35) 肖, ed., 战略学, 264–267.

36) 赵, “从乌克兰危机看战争形态演变,” 135–139.

37) 解放军报 [PLA Daily], February 1, April 4, May 7, and May 16, 2024.

warfare.³⁸ Furthermore, studies suggest that the PLA has learned lessons from warfare in the cognitive domain in Ukraine.³⁹

Li Minghai at NDU posits that the fundamental underlying dynamic of the Russo-Ukrainian War is rooted in cognitive domain operations. He defines “cognitive domain operation” as narratives that integrate military, political, economic, public opinion, psychological, legal, and other methods and means, and a form of cognitive counteraction to create influence on the target’s cognition and alter its decision-making and behavior for the achievement of the goals in a nation’s security strategy. He considers it both a new form of operation and an advanced mode of warfare. Li highlights the following characteristics of cognitive domain operations in the Russo-Ukrainian War: (1) the use of cognitive narratives with a political dimension by national leaders, (2) the waging of cognitive operations in hybrid warfare, (3) the blurring of the distinction between peacetime and wartime by the international media, and (4) the introduction of novel approaches to offense and defense in cognitive domains enabled by scientific and technological advancements.⁴⁰

Moreover, the PLA has traditionally accorded importance to warfare in the cognitive domain since the Red Army era. Since 2003, it has incorporated the “Three Warfares,” namely public opinion warfare, psychological warfare, and legal warfare, into its military operations.⁴¹ The PLA envisions that wars in the cognitive domain are integrated with wars in the physical domain, including land, sea, air, and space, and the information

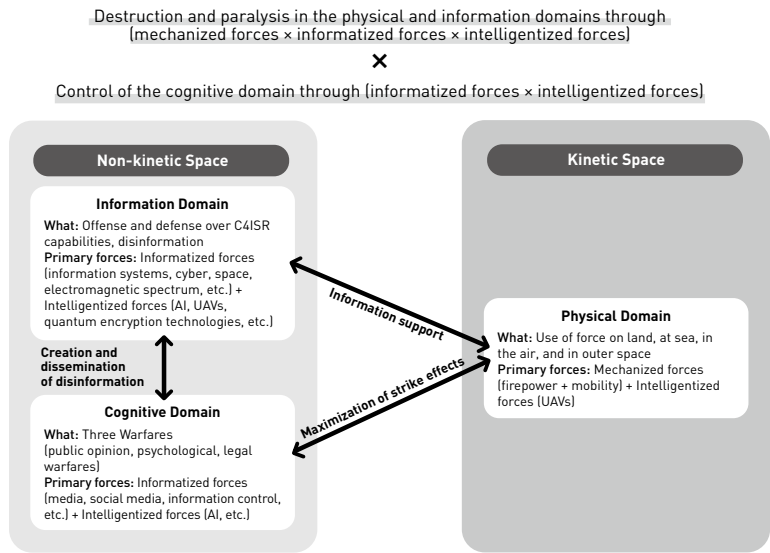
38) Osawa, “Shinryoiki ni okeru tataikaikata no shoraizo,” in *Ukuraina senso wa naze owaranai no ka*, ed. Takahashi, 145–180.

39) 曾怡碩 [Zeng Yisuo], “俄烏戰爭中雙方認知作戰對共軍的啟示與調整” [The enlightenment and adjustments for the Chinese People’s Liberation Army on cognitive operations by both sides in the Russo-Ukrainian War], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 125–126.

40) 环球时报 [Global Times], March 17, 2022.

41) Yamaguchi Shinji and Momma Rira, “China’s Increasing Influence Operations,” in *China Security Report 2023: China’s Quest for Control of the Cognitive Domain and Gray Zone Situations*, English edition, ed. Yamaguchi Shinji (Tokyo: NIDS, 2022), 37–46. For details on the “Three Warfares,” see also Saito Ryo, “Chugoku no sansen (yoronsen, shinrisen, horitsusen) to Taiwan no hansansen” [Three types of Chinese warfare (media [public opinion], psychological and legal), and Taiwan’s countermeasures], *Rikusen Kenkyu*, no. 58 (June 2010), 23–54; Dean Cheng, *Cyber Dragon: Inside China’s Information Warfare and Cyber Operations* (New York: Praeger Publishing, 2016), 44–53; Sugiyura, *China Security Report 2022*, 82–86.

Figure 1.1. The PLA's concept of military forces and operational domains



Source: Prepared by the author based on a September 15, 2022 report in the *Yomiuri Shimbun* morning edition, supplemented with various sources and reports.

domain, such as cyberspace and the information dimension.⁴² Figure 1.1 illustrates the relationship between the main elements and military forces of wars in the physical, information, and cognitive domains.

Warfare in the physical domain, a kinetic space, constitutes the use of force accompanied by destructive activities on land, at sea, in the air, and in outer space. The primary forces used are mechanized forces (firepower + mobility), comprised of traditional military assets (including missile forces) in the land, sea and air , along with intelligitized forces, such as UAVs. Non-kinetic space can be divided into the information domain and the cognitive domain. In the information domain, the main activities include offense and defense over C4ISR capabilities and the creation and dissemination

42) Jin Yuan-Chou and Igarashi Takayuki, “Chugoku ga mezasu hisesshokugata ‘johoka senso’: Butsuri ryoiki saibaa ryoiki ninchii ryoiki wo odan shita ‘tatakawazu shite katsu’ tatakai” [China’s blueprint for non-contact information warfare: “Winning without fighting” across physical, cyber, and cognitive domains], *Anzenhoshō Senryaku Kenkyū* 4, no. 1 (December 2023): 21–26.

of disinformation. The primary forces consist of informatized forces, such as information systems, cyberattacks, space assets, and electromagnetic operations, as well as intelligentized forces, including AI, UAVs, and quantum encryption technologies. In the cognitive domain, the activities are mainly the “Three Warfares,” and the primary forces are informatized forces, such as media, social media, and information control, along with intelligentized forces, including AI used to spread information.

Warfare in the physical, information, and cognitive domains is not conducted independently; rather, it is carried out in an integrated manner to maximize their respective outcomes. The PLA seeks to combine mechanized, informatized, and intelligentized forces to inflict destruction and paralysis on the adversary in the physical and information domains. To maximize these effects, it then aims to combine informatized and intelligentized forces, thereby dominating the adversary in the cognitive domain.

The PLA's policy on force management is evident in its recent military activities around Taiwan. The military exercises conducted around Taiwan during Nancy Pelosi's visit to Taiwan in August 2022, as well as the “Joint Sword” military exercises carried out around Taiwan in April 2023 following Tsai Ingwen's stopover in the United States, are prime examples of such actions. During both military exercises, the PLA deployed the army, navy, air force, and rocket force and spread a mix of true and false reports to keep Taiwan, the United States, and its allies in check.⁴³

This trend did not change in Joint Sword 2024A, which took place in May 2024 coinciding with the inauguration ceremony for Taiwanese President Lai Chingte. Although no live-fire drills were carried out in this exercise, footage released by the PLA included simulated live firing using

43) 楊太源 [Yang Tai-Yuan], “‘戰備警巡和聯合利劍演習’研析” [Analysis of the PLA's “combat readiness patrol and Joint Sword exercise”], 中共研究 [Studies on Chinese Communism] 57, no. 2 (June 2023): 30–46; Sugiura Yasuyuki, “Three Trends in the PLA's Military Activities around Taiwan,” *Think China*, September 18, 2023.

3D animation.⁴⁴ Additionally, experts from NDU and AMS appeared in Chinese media to explain the purpose, content, and effects of the exercise.⁴⁵ *Global Times*, an English-language media outlet affiliated with *People's Daily*, reported that the Taiwanese Air Force felt pressure from the series of exercises. The report claimed that young pilots, exhausted and demoralized, wished to retire even if they had to pay fines, and that the Taiwan Air Force was on the verge of collapse, citing comments from an internet user identifying himself as an active-duty Air Force pilot.⁴⁶ These examples appear to be public opinion warfare activities mindful of warfare in the cognitive domain.



A large screen in Beijing showing the news on Joint Sword 2024A in May 2024 (Kyodo)

On October 14, 2024, the spokesperson for the PLA Eastern Theater Command announced that a military exercise called “Joint Sword 2024B” would be conducted around Taiwan. This exercise was held coinciding

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- 44) “东部战区台岛周边开展联合演训” [The Eastern Theater Command conducts joint exercises around Taiwan], CCTV News, May 23, 2024; “独家视频: 多科目, 高强度! 东部战区台岛周边演习最新现场” [Exclusive video: Numerous elements, high intensity! The latest from the Eastern Theater Command’s exercises around Taiwan], CCTV News, May 23, 2024; “击‘台独大本营’ 多军种联合打击3D虚实动画发布” [Attack on political center of Taiwan Independence: 3D VR video of a joint strike by multiple military services released], CCTV News, May 24, 2024; “直击现场! 东部战区持续位台岛周边开展‘联合利剑2024A’ 演习视频发布” [From the scene! Video of the Eastern Theater Command’s ongoing Joint Sword 2024A exercise around Taiwan], Xinhua Net, May 24, 2024.
- 45) “‘毁, 困, 阻’ 一体设计! 解放军在台岛周边开展联合演训 专家: 已具备对全岛全方位无死角打击能力” [“Destruction, blockade, and interdiction” in an integrated design! The PLA conducts joint drills around Taiwan; Expert: The PLA already possesses capability to strike the whole of Taiwan from all sides without blind spots], 环球网 [Huanqiu Net], May 23, 2024; “国防大学张弛: 解放军掌控整个台海战场主动权” [Zhang Chi, PLA National Defense University: The PLA has seized initiative in the entire Taiwan Strait battlefield], 环球网 [Huanqiu Net], May 24, 2024; “‘联合利剑——2024A’ 演习距台岛很近有何深意? 专家解析” [What is the deep meaning of the “Joint Sword 2024A” exercise being conducted right near Taiwan? An expert’s analysis], 环球网 [Huanqiu Net], May 25, 2024.
- 46) Liu Xuanzun, “PLA Drills Shock ‘Taiwan Independence’ Secessionist Forces,” *Global Times* (hereinafter GT), May 27, 2024.

with the Lai Chingte government's first Double Ten Day address. The spokesperson explained that the exercise served as a strong deterrent against "Taiwan independence forces," and was a legitimate and necessary action to safeguard national sovereignty and maintain national unity.⁴⁷

As with Joint Sword and Joint Sword 2024A, the PLA released many videos of Joint Sword 2024B. A portion of the videos were prepared in advance, while the remainder were recorded on the day of release and disseminated promptly.⁴⁸ Chinese military experts noted that such release of videos by the Eastern Theater Command was intended to warn "Taiwan independence forces" that any attempts to divide the country would fail.⁴⁹ Likewise, the China Coast Guard released a video showing activities conducted by its vessels participating in Joint Sword 2024B.⁵⁰

For this exercise, commentary was again provided by researchers from military research institutions, including NDU, AMS, and the Naval Research Academy. First, they provided detailed explanations of the content and purpose of the exercise. Second, they explained about cutting off Taiwan's supply of liquefied natural gas through blockade operations and the significant impact this would have on Taiwan's economy and society.⁵¹ Third, they argued that the exercise was legal under the provisions on non-interference in internal affairs in the 1949 United Nations (UN) Draft Declaration on Rights and Duties of States, as well as Chinese domestic laws, such as the

47) 解放军报 [PLA Daily], October 14, 2024.

48) "现场记录! '联合利剑2024B' 演习更多细节" [On-site documentary! More details on the Joint Sword 2024B exercise], 环球网 [Huanqiu Net], October 14, 2024; "现场视频! 东部战区开展 '联合利剑2024B' 演习" [Live video! The Eastern Theater Command conducts Joint Sword 2024B exercise], 环球网 [Huanqiu Net], October 14, 2024; "Chinese Military Releases Video Clip on Combat Readiness as Warning to 'Taiwan Independence' Forces," *China Military Online*, October 10, 2024.

49) Li Yawei, "PLA Eastern Theater Command's New Training Video Serves as Warning to 'Taiwan Independence' Forces: Experts," *GT*, October 13, 2024.

50) "视频: 多支海警舰艇编队环台岛巡航管控" [Video: Multiple China Coast Guard vessel formations cruise and patrol around Taiwan's main island], 环球网 [Huanqiu Net], October 14, 2024.

51) "'联合利剑2024B' 演习对台岛实施要港封控, 专家: 有能力对台能源进口进行封锁" [In the Joint Sword 2024B exercise, the PLA imposes blockade and restrictions on key ports of Taiwan; Expert: China capable of blocking Taiwan's energy imports], 环球网 [Huanqiu Net], October 14, 2024.

Constitution of the People's Republic of China, the National Security Act, the National Defense Act, and the Anti-Secession Act.⁵²

One notable change from Joint Sword 2024A was the PLA's reference to "peaceful unification" with Taiwan during Joint Sword 2024B. A commentary in the *PLA Daily* published on the day of the exercise criticized President Lai Chingte's address, stating it would bring "great disaster" to the people of Taiwan. At the same time, it asserted that China would strive for "peaceful unification" with utmost sincerity and effort but would never renounce the use of force, so as not to leave even the slightest space for "Taiwan independence."⁵³ On the same day, the spokesperson for the Ministry of National Defense expressed a similar view on "peaceful unification," and stated that the exercise was not in any way directed at compatriots in Taiwan.⁵⁴ In addition, it was announced that the exercise would conclude in one day.⁵⁵

It seems that these changes are related to the Xi leadership's return to containing Taiwan through military intimidation and diplomatic pressure and conducting United Front Work toward Taiwan.⁵⁶ In particular, the changes may have had in mind the simultaneous promotion of the "cross-strait integrated development strategy," which was proposed in the 14th Five-Year Plan in March 2021 and is based on the "Opinions of the CPC Central Committee and the State Council on Supporting Fujian in Exploring New Pathways for Promoting Integrated Development between the Two Sides of the Straits and Building a Demonstration Zone for Integrated Cross-Straits

52) "解放军开展 '联合利剑2024B' 演习, 专家: 赖清德谋 '独' 挑衅, 解放军必亮剑惩戒" [The PLA implements Joint Sword 2024B exercise; Expert: Lai Chingte is conducting provocations in the pursuit of "independence," the PLA must draw its sword to punish him], 环球网 [Huanqiu Net], October 14, 2024.

53) 解放军报 [PLA Daily], October 14, 2024.

54) "国防部警示 '台独' 分子: 利剑高悬头顶, 谋 '独' 死路一条" [The Ministry of National Defense warns "Taiwan independence" elements: A sharp sword hangs high overhead, the pursuit of "independence" is a one-way path to destruction], 环球网 [Huanqiu Net], October 14, 2024.

55) "东部战区圆满完成 '联合利剑2024B' 演习" [The Eastern Theater Command successfully concludes the Joint Sword 2024B exercise], 环球网 [Huanqiu Net], October 14, 2024.

56) On United Front Work by the Xi leadership, see Fukuda Madoka, "Toitsu sensen kosaku e kaiki suru shukinpei seiken no tai Taiwan seisaku" [The Xi Jinping administration's Taiwan policy returning to United Front Work], *Tōa*, no. 670 (April 2023), 10–17; Fukuda Madoka, "2024 nen Taiwan soto senkyo no kekka to ChuTai kankei e no eikyo" [The 2024 Taiwan presidential election results and their impact on cross-strait relations], *Tōa*, no. 681 (March 2024), 74–81.

Development” released in September 2023. The “cross-strait integrated development strategy” emphasizes strengthening ties between Xiamen and Kinmen and between Fuzhou and Matsu, and calls for accelerating the opening and development of the Pingtan Comprehensive Experimental Area. It is asserted that this strategy will serve to enhance economic and social relations between Fujian Province and Taiwan.⁵⁷ In June 2024, Wang Huning, chairman of the National Committee of the Chinese People's Political Consultative Conference, attended a meeting held in Xiamen on pushing forward the building of a demonstration zone for cross-strait integrated development and instructed the promotion of the “cross-strait integrated development strategy.”⁵⁸ Shortly after Joint Sword 2024B, Xi Jinping visited Fujian Province from October 15 to 16 and instructed the province to make a significant step forward under the strategy.⁵⁹

For Joint Sword 2024B, videos were also made to win over the Taiwanese public. A music video created by the Eastern Theater Command for the exercise showed Air Force aircraft and Navy warships. Yet, in line with China's claim that the exercise was not directed at the Taiwanese people, the video ended with the lyrics, “There are smiles on the faces of our Taiwanese compatriots,” and scenes of people enjoying themselves.⁶⁰

In this way, the PLA has put efforts into propaganda activities for military actions around Taiwan. Such developments seem to align with the so-called “Three Warfares” approach comprised of public opinion warfare, psychological warfare, and legal warfare.

Summary

For the PLA, the Russo-Ukrainian War confirmed that it was right about its existing military doctrines and operational concepts, including the “informationized local war” and “System of systems operation” concepts, the IJO concept, and “intelligentized warfare” under consideration for

57) 人民日报 [People's Daily], September 13, 2023; 福建日报 [Fujian Daily], December 28, 2023.

58) 人民日报 [People's Daily], June 15, 2024.

59) 解放军报 [PLA Daily], October 17, 2024.

60) “东部战区发布演训MV ‘坐着军舰看花东’” [The Eastern Theater Command releases exercise music video “Seeing Hualien and Taitung from a Warship”], 环球网 [Huanqiu Net], October 14, 2024.

future warfare, as well as the PLA's force management policy of integrating combat in the physical, information, and cognitive domains, as seen in the Joint Sword 2024 exercises. In this sense, it is unlikely that there will arise a situation similar to the Gulf War in January 1991, which shocked the PLA and drastically changed its military doctrines.⁶¹

Adjustments Considering the Russo-Ukrainian War

The limited impact on military doctrines and operational concepts does not imply that the Russo-Ukrainian War had no impact on the PLA. As the following analysis shows, it appears that the PLA has validated the efficacy of its existing policies and is making or is expected to make adjustments based on the lessons from Ukraine at the strategic and policy levels and the operational level, mindful of a Taiwan contingency.

Adjustments at the Strategic and Policy Levels

(1) Potential Revision of the PLA's Nuclear Doctrine

It has been observed that Russia's nuclear capabilities have served as a deterrent in the Russo-Ukrainian War, dissuading the United States and NATO countries from direct involvement in the war.⁶² This has raised the possibility that China may adopt a similar approach as Russia in a Taiwan contingency.⁶³ Some Chinese scholars acknowledge the effectiveness of Russia's nuclear threats.⁶⁴

61) On changes made to military doctrines based on the Gulf War's outcomes, see Fravel, *Active Defense*, 182–216.

62) Fukuda Junichi, “Roshia Ukuraina senso: sono yokushi hatan kara Taiwan kaikyō yuji ni nani wo manaberu no ka” [The Russo-Ukrainian War: What can be learned from the failure of deterrence for a Taiwan Strait contingency?], in *Ukuraina senso wa naze owaranai no ka*, ed. Takahashi, 77–81, 92–94.

63) Wuthnow, “Rightsizing Chinese Military Lessons from Ukraine,” 5; 舒孝煌 [Shu Hsiao-Huang], “中共試射東風41洲際彈道飛彈意涵” [The meaning of China's test firing of the DF-41 intercontinental ballistic missile], Institute for National Defense and Security Research (September 2024).

64) Bonny Lin and Brian Hart, “Accelerating Profound Changes Unseen in a Century: Chinese Assessments of and Responses to Russia's Invasion of Ukraine,” in *War in Ukraine: Conflict, Strategy, and the Return of a Fractured World*, ed. Hal Brands (Baltimore: Johns Hopkins University Press, 2024), 246.

The PLA is considering military options to prevent direct U.S. military intervention in a Taiwan contingency. China envisions, for example: (a) using intimidation, (b) waging information offensive and defensive operations, (c) enforcing restrictions on behavior, (d) striking individual operational platforms and small-scale fleets in the sea and airspace, and (e) striking carrier strike groups and overseas bases. While conducting the “Three Warfares” of public opinion warfare, psychological warfare, and legal warfare, the PLA aims to flexibly employ both intimidation and actual military actions, including striking U.S. forces. It seeks to use intimidation to avoid triggering full-scale hostilities and employ limited combat to prevent a major war.⁶⁵

Against this backdrop, the PLA Rocket Force has been bolstering its nuclear deterrence capabilities. In the political report of the 20th National Congress of the CCP in October 2022 (hereinafter, the “20th Party Congress”), Xi Jinping instructed the PLA to “establish a strong system of strategic deterrence.”⁶⁶ In November 2022, the U.S. Department of Defense (DOD) indicated that China had accelerated the expansion of its nuclear forces in 2021 and estimated that its stockpile of operational nuclear warheads had increased to 400. Furthermore, the DOD projected that if China continued this pace of nuclear expansion, the PLA would increase its number of nuclear warheads to approximately 1,500 by 2035.⁶⁷ As of December 2024, the DOD estimates that China’s nuclear warhead count will rise to over 1,000 by 2030.⁶⁸

In September 2024, the PLA announced that the Rocket Force conducted and successfully completed an intercontinental ballistic missile (ICBM) launch drill using simulated warheads in the Western Pacific.⁶⁹ This was

65) 张培高 [Zhang Peigao], ed., 联合战役指挥教程 [Lectures on joint theater command] (Academy of Military Science Press, 2012), 212–218.

66) 习近平 [Xi Jinping], “高举中国特色社会主义伟大旗帜 为全面建设社会主义现代化国家而团结奋斗: 在中国共产党第二十次全国代表大会上的报告” [Hold High the Great Banner of Socialism with Chinese Characteristics and Strive in Unity to Build a Modern Socialist Country in All Respects: Report to 20th CPC National Congress] (hereinafter, the “20th Political Report”), October 16, 2022, 42.

67) [U.S.] Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China* 2022, 94.

68) [U.S.] Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China* 2024, 101.

69) 解放军报 [PLA Daily], September 26, 2024.

the first time in 44 years that China had carried out an ICBM drill in the Western Pacific. Taiwanese scholars and Hong Kong media noted that the drill was aimed at enhancing nuclear deterrence capabilities. They also referred to other objectives, including: (a) demonstrating both domestically and internationally that the Rocket Force, which had been shaken



CMC Chairman Xi Jinping inspecting the Rocket Force in October 2024 (Xinhua/Kyodo News Images)

by corruption scandals since the summer of 2023, remains ready to operate nuclear weapons accurately in a contingency, and (b) keeping in check U.S. moves to deploy missiles to allies, such as Japan and the Philippines, in preparation for a Taiwan contingency.⁷⁰

In October 2024, soon after the Joint Sword 2024B exercise around Taiwan concluded, Xi Jinping visited a Rocket Force unit in Anhui Province. At that time, he instructed the Rocket Force to enhance its “strategic deterrence capabilities and combat capabilities,” stating that it must have a greater sense of crisis and war mentality.⁷¹

In November 2024, the HQ-19 surface-to-air missile system was unveiled for the first time at the China International Aviation & Aerospace Exhibition (Zhuhai Airshow). Hong Kong media described the HQ-19 as comparable to the Terminal High Altitude Area Defense (THAAD) system of the United States, and published an expert’s comment that the HQ-19 will enhance

70) Seong Hyeon Choi, “With Launch into Pacific Ocean, China Tests ICBM that Could Reach the US Mainland,” *South China Morning Post* (hereinafter *SCMP*), September 25, 2024; Seong Hyeon Choi and Amber Wangi, “China’s ICBM Test a Sign PLA Rocket Force Stands Ready despite Corruption Scandals,” *SCMP*, September 26, 2024; 舒, “中共試射東風41洲際彈道飛彈意涵”; 丁果 [Ding Guo], “中國發射洲際導彈落入太平洋反制美國在菲日部署導彈” [Chinese-launched ICBM falls into the Pacific: A retaliation against U.S. missile deployments in the Philippines and Japan], *亞洲週刊* [Yazhou Zhoukan], no. 40 (October 2024): 26–28.

71) 解放军报 [PLA Daily], October 20, 2024.

the strategic credibility of China's nuclear strike and nuclear counterstrike capabilities.⁷²

As Beijing continues to build up its nuclear deterrence capabilities, some have begun to speculate that it will revise its long-standing No First Use (NFU) policy.⁷³ China affirmed its adherence to the NFU principle in the defense white paper of July 2019.⁷⁴ In October 2022, Li Song, ambassador for disarmament affairs of China to the UN, reiterated that there had been no change in the PRC's traditional nuclear strategy, including the NFU policy.⁷⁵ In 2021, however, Sha Zukang, former ambassador for disarmament affairs to the UN, stated that the NFU policy may not apply to the United States.⁷⁶ Additionally, Japanese media reported that PLA researchers have taken stock of the Russo-Ukrainian War and proposed revising the NFU principle. However, the report also stated that such discussions are still at the research stage and China is considered to be upholding the NFU policy at this time.⁷⁷

In the future, China may make some revisions to the NFU policy, given that it undermines the credibility of a Chinese nuclear threat to dissuade U.S. intervention in a Taiwan contingency. Yet, announcing this policy adjustment would provoke backlash from the international community, making such a decision far from easy.

(2) Overcoming the PLA's Inferiority in the Cognitive Domain

The PLA has attached importance to cognitive warfare and has explored adaptation to the "Three Warfares." Conversely, China remains wary of cognitive domain operations by Western countries, mainly the United States. In the political report of the 20th Party Congress, Xi Jinping instructed a rigorous crackdown on the infiltration, sabotage, subversion, and separatist activities of hostile forces.⁷⁸

72) Seong Hyeon Choi and Liu Zhen, "Chinese Navy to Show Off its Warplanes for First Time at Zhuhai Air Show," *SCMP*, November 6, 2024; [Hong Kong] 文匯報 [Wen Wei Po], November 6, 2024.

73) Office of the Secretary of Defense, *Annual Report to Congress: PRC 2022*, 95; Kyodo News, February 11, 2023.

74) State Council Information Office, 新时代的中国国防, 12.

75) 解放军报 [PLA Daily], October 20, 2022.

76) Laura Zhou, "China Should 'Fine-tune' Nuclear Weapons Policy amid US Pressure, Ex-diplomat Says," *SCMP*, September 22, 2021.

77) *Yomiuri Shimbun*, March 30, 2023.

78) 习, "20th Political Report," 40–41.

The PLA is wary of “hybrid warfare,” viewing it as a political war initiated against China by the United States and other Western countries.⁷⁹ The Russo-Ukrainian War has served to exacerbate these concerns within China. In May 2023, Wang Haijiang, commander of the Western Theater Command, wrote in a *Study Times* commentary that a new genre of hybrid warfare has emerged from the Russo-Ukrainian War, and that military operations had become intertwined with political, financial, scientific and technological, cyber, and cognitive warfare. He argued that, in order to counter Western containment, decoupling, suppression, and military intimidation directed at China, the PLA needed to strengthen integrated national strategic systems and capabilities—an advanced form of military-civil fusion advocated by Xi Jinping.⁸⁰

The PLA recognizes that it is at a disadvantage in public opinion warfare, which plays a critical role in cognitive domain operations. A researcher at NDU noted that, judging objectively, “the West is strong while we are weak” in the struggle for international public opinion, and emphasized that China makes a comeback.⁸¹

(3) PLA Organizational Reform Considering the Emphasis on Space and Information Domains

In April 2024, the PLA announced the establishment of the Information Support Force. At the same time, it announced the dissolution of the Strategic Support Force, which was established in December 2015, and the formation of the Aerospace Force and the Cyberspace Force. As a result, the PLA is now comprised of four services (Army, Navy, Air Force, and Rocket Force) and four arms (Aerospace Force, Cyberspace Force, Information Support Force, and Joint Logistic Support Force).⁸²

The establishment of the Information Support Force, Aerospace Force, and Cyberspace Force is regarded as being consistent with the prevailing national defense policy to strengthen capabilities in new-type security domains, as proposed in Xi Jinping’s political report at the 20th Party Congress: “increase the proportion of new-domain forces with new combat

79) Derek Solen, *Fight Fire with Fire: The PLA Studies Hybrid Warfare*, China Aerospace Studies Institute (March 2022), 10–14.

80) 学习时报 [Study Times], May 15, 2023.

81) 解放军报 [PLA Daily], December 8, 2023.

82) 解放军报 [PLA Daily], April 20, 2024.

capabilities.”⁸³ It is also consistent with the policy to strengthen “strategic capabilities in emerging areas” and “new quality combat capabilities,” which Xi instructed to the military delegation at the National People's Congress (NPC) held in March 2024.⁸⁴

Xi stated that “strategic capabilities in emerging areas” are a crucial component of national strategic systems and capabilities, serving as a force that drives the qualitative development of the economy and society, as well as in national security and military struggles. While the precise definition remains unclear, a commentator's editorial in the *PLA Daily* delineates the concept as encompassing the nation's emerging scientific and technological fields, such as AI, big data, blockchain, quantum technology, biotechnology, and new energy, and spanning multiple domains, including maritime, space, cyberspace, biotechnology, new energy, and AI, and as having a strong dual-use nature.⁸⁵

In April, after the NPC concluded, Wang Haijiang, commander of the Western Theater Command, wrote a commentary in *Study Times* in which he mentioned the importance of “strategic capabilities in emerging areas.” He argued that these areas are precisely key to beating the military competition. In addition, Wang stressed the need for strengthening “strategic capabilities in emerging areas,” noting that intelligentized and unmanned systems have been deployed on a large scale in recent actual combat, and that “Starlink+,” “network+,” and “intelligence+” have promoted the rebuilding of a kill chain and kill network.⁸⁶

A *PLA Daily* commentary defines “new quality combat capabilities” as entirely new, highly efficient, and multidimensional combat capabilities, which are formed by relying on the means and operational principles of emerging science and technology and constitute “System warfighting capability based on information systems.” “New quality combat capabilities” are further defined as a model and form of new-type combat capabilities that employ new technologies, new equipment, new tactics, among other means and bring together comprehensive sensing, real-time command and

83) 习, “20th Political Report,” 42.

84) 解放军报 [PLA Daily], March 8, 2024.

85) 解放军报 [PLA Daily], March 8, 2024.

86) 学习时报 [Study Times], April 22, 2024.

control, precision strikes, all-direction defense, and collective safeguards.⁸⁷ “New quality combat capabilities” are considered to be new System of systems operation capabilities that primarily rely on “strategic capabilities in emerging areas,” mainly deep sea, space, cyberspace, and AI, and are characterized by the creation of “network+,” “intelligence+,” and “digital+.”⁸⁸ “Strategic capabilities in emerging areas” are regarded as the material foundation for “new quality combat capabilities” and as accelerating and promoting their development.⁸⁹

The above suggests that “new quality combat capabilities” place emphasis on the military use of new operational assets (e.g., AI and UAVs) and emerging strategic technologies (e.g., quantum computer technology, blockchain technology, and big data) in new-type security domains (e.g., space, cyberspace, the electromagnetic spectrum, the cognitive domain, and the deep sea). In addition, a *PLA Daily* commentary explaining “new quality combat capabilities” refers to the need for organizational reform, stating that it was “necessary to optimize the structure and formation of military power.”⁹⁰

The 2024 organizational reform was implemented based on the two concepts of “strategic capabilities in emerging areas” and “new quality combat capabilities.” The role of the Information Support Force is to build and ensure the PLA’s internal network information System of systems necessary for the execution of joint operations. The establishment of this force has been assessed as contributing to the enhancement of both “joint operation capabilities based on network information System of systems” and “all domain operations capabilities,” as well as helping to achieve the goal set for the PLA’s centenary and accelerate the building of a world-class military.⁹¹

87) 解放军报 [PLA Daily], May 2, 2024. In a 人民日报 [People’s Daily] commentary dated November 29, 2015, “new quality combat capabilities” had been defined as “a System warfighting capability based on information systems and a basic form of combat capabilities under the conditions of informationization, integrating comprehensive sensing, real-time command and control, precision strikes, all-direction defense, and collective safeguards,” suggesting that the concept is subject to modification as appropriate based on the emergence of new technological innovations and new patterns of warfare.

88) 解放军报 [PLA Daily], April 23, 2024.

89) 解放军报 [PLA Daily], April 21 and April 30, 2024.

90) 解放军报 [PLA Daily], March 31, 2024.

91) 解放军报 [PLA Daily], April 20, 2024.

The spokesperson for the Ministry of National Defense underscores that the establishment of the Aerospace Force would contribute to improving secure access to and open use of outer space, as well as enhancing crisis management and the efficacy of comprehensive governance in space. He also noted that the establishment of the Cyberspace Force will transform the means for ensuring cybersecurity, and has significance for defending the nation's cyber frontiers, promptly detecting and countering intrusions into cyberspace, and safeguarding the nation's cyber sovereignty and information security.⁹² While the establishment of the Aerospace Force and the Cyberspace Force may have been to strengthen the military use of space and the operational use of cyberspace, respectively, their establishment, too, was in line with the policy of strengthening “strategic capabilities in emerging areas” and “new quality combat capabilities.”

(4) Proactive Unveiling of UAVs and Anti-UAV Air Defense System of Systems

Both the Russian and Ukrainian militaries have deployed numerous military and commercial UAVs in the Russo-Ukrainian War, not only those produced domestically but also those sourced from the United States, European countries, Israel, Turkey, Iran, among other countries. The PLA, too, has placed emphasis on the development and operation of UAVs, and Chinese-made UAVs have reportedly been sold to Russia and used for targeting, surveillance, and strike missions.⁹³

Under these circumstances, Chinese military UAV manufacturers have been proactively unveiling UAV-related weapons. The latest model from the Wing Loong series, the Wing Loong-3 (GJ-3)—a versatile UAV capable of both reconnaissance and strike missions—debuted at the Zhuhai Airshow in November 2022. The same show advertised anti-UAV air defense System of systems, which integrate air defense weaponry, AI, and anti-missile technologies, and are believed to be capable of countering enemy swarm attacks. Unmanned surface vessels and unmanned underwater vehicles

92) 解放军报 [PLA Daily], April 20, 2024.

93) 舒孝煜 [Shu Xiao-Yu], “俄烏戰爭雙方無人機運用對共軍啟示與調整” [The enlightenment and adjustments for the Chinese People's Liberation Army on UAV use by both sides in the Russo-Ukrainian War], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 133–144; [U.S.] Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2023*, 15.

also made appearances at the airshow.⁹⁴ At a helicopter exhibition held in Tianjin in September 2023, the latest unmanned reconnaissance and attack aircraft, the KVD-002, considered a variant of the Cai Hong series used by the PLA Army, was unveiled for the first time.⁹⁵ The Zhuhai Airshow in November 2024 displayed the Jiu Tian UAV, believed to be capable of swarm attacks, and the *Hujing* large stealth unmanned vessel. Based on the above, Hong Kong media reported that China has surpassed the United States in unmanned forces.⁹⁶

Some suggest that China proactively disseminates information on UAV-related weapons in order to maintain checks and balances with the United States and Taiwan.⁹⁷ Yet, the military UAVs operated by the PLA have not been deployed in the Russo-Ukrainian War, and consequently, China may fall behind other countries in the accumulation of combat data. For this reason, the PRC may be seeking to overcome this inferiority by promoting military UAV exports.

Adjustments at the Operational Level

(1) Challenges Facing Cyberattacks and Precision-Guided Strikes

When the Russo-Ukrainian War initially broke out, Chinese military experts predicted that the Russian military's "special military operation" would resemble the "hybrid warfare" that was waged during the Crimea crisis in

94) [Hong Kong] 大公網 [Ta Kung Pao], November 8, 2022; Cao Siqi, Liu Xuanzun, and Guo Yuandan, "PLA Air Force Displays Three 'Firsts' at Airshow China," *GT*, November 7, 2022; Deng Xiaoci and Fan Wei, "Exclusive: New Anti-drone Defense System to Debut at Airshow China, Offering Smart and Effective Solutions to Unmanned Modern Warfare," *GT*, November 7, 2022; Minnie Chan, "China's Anti-drone Defences to Take Centre Stage at the Zhuhai Air Show," *SCMP*, November 7, 2022; Amber Wang, "China Unveils Wing Loong-3 Intercontinental Military Drone with Self-defence Mechanism at Zhuhai Air Show," *SCMP*, November 9, 2022; Kristin Huang, "China Showcases Never before Seen Range of Unmanned Maritime Vehicles at Zhuhai Air Show," *SCMP*, November 13, 2022.

95) Liu Xuanzun, "PLA Army's Top Choppers, Drones to Debut at Upcoming Helicopter Expo," *GT*, September 14, 2023; "6th China Helicopter Exposition Opens in Tianjin," *China Daily*, September 14, 2023.

96) 平浩東 [Ping Haodong], "珠海航展震懾美軍中美無人戰力大逆轉" [Zhuhai Airshow shocks the U.S. military: A major reversal in unmanned capabilities between China and the U.S.], 亞洲週刊 [Yazhou Zhoukan], no. 47 (November 2024): 20–23.

97) Minnie Chan and Zhang Tong, "Advanced Aircraft, Menacing Missiles – China's Top Air Show Sends a Warning to the US," *SCMP*, November 8, 2022.

February 2024. In particular, they anticipated that the Russian military's cyberattacks and precision-guided strikes would inflict damage on the Ukrainian military's command structures and air defense systems, rendering them dysfunctional.⁹⁸ Prior to the outbreak of hostilities, a commentary in the *PLA Daily's* Military Forum expressed the view that the emergence of cruise missiles, stealth aircraft, UAVs, hypersonic weapons, and precision-guided munitions would make it difficult to ensure an effective air defense system.⁹⁹

These Chinese predictions proved to be wrong. The Russian military's precision-guided strikes and cyberattacks could not completely paralyze or destroy Ukraine's command structures and air defense systems. Consequently, the Russian military's special forces and airborne troops were unsuccessful in their decapitation operation targeting the Ukrainian government leadership. This operation was initiated with the objective of achieving a swift victory.¹⁰⁰

The PLA emphasizes information-firepower strikes that combine cyberattacks and precision-guided strikes.¹⁰¹ In particular, some researchers have highlighted the importance of a preliminary attack involving various ballistic missiles and electronic warfare to win a short, decisive campaign in a large-scale amphibious landing operation for the invasion of Taiwan.¹⁰² Considering the Russo-Ukrainian War, a Taiwanese scholar argues that a PLA invasion of Taiwan would require first securing information dominance, air superiority, and sea dominance and conducting joint firepower strikes for 120 hours, launching as many as 1,000 precision-guided munitions per day, in order to completely paralyze and destroy key Taiwanese targets.¹⁰³ However, it remains uncertain whether the PLA currently possesses the operational capability to execute such an operation.

98) “圆桌：‘閃击’乌克兰首日，俄军展示‘混合战争’新战力” [Roundtable: On the first day of the “blitz attack” on Ukraine, the Russian military showcased new “hybrid war” capabilities], 澎湃新闻 [Pengpai Xinwen], February 25, 2022.

99) 解放军报 [PLA Daily], January 13, 2022.

100) Koizumi, *Ukuraiina senso*, 100–121; 楊太源 [Yang Tai-Yuan], “俄烏戰爭聯合火力打擊對共軍的啟示與調整” [The enlightenment and adjustments for the Chinese People's Liberation Army on integrated firepower strikes in the Russo-Ukrainian War], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 96.

101) 董连山 [Dong Lianshan], 基于信息系统的体系作战研究 [Research on System warfighting based on information systems] (National Defense University Press, 2012), 128–134.

102) 曹正荣 [Cao Zhengrong], 孙龙海 [Sun Longhai], and 杨颖 [Yang Ying], eds., 情报化陆军作战 [Informatized army operations] (National Defense University Press, 2014), 115–118.

103) 楊, “俄烏戰爭聯合火力打擊對共軍的啟示與調整,” 96–97.

(2) Renewed Recognition of the Difficulty of Decapitation Strikes and the Importance of Close-quarters Combat

The PLA prioritizes special operations under the IJO concept. It defines special operations as irregular operations carried out by special forces or specially trained units against the enemy's strategic and campaign targets or other key targets, for specific military, political, economic, or psychological purposes. The main missions of special operations identified include special reconnaissance, destruction and assault of key targets, seizure and control of key targets, precision strike guidance, psychological disintegration warfare, and cyberattacks.¹⁰⁴

It has been reported that the PLA is planning a special forces' decapitation strike to execute or capture strategic leaders of Taiwan. This operation is part of a broader military strategy aimed at achieving the invasion of Taiwan by the PLA.¹⁰⁵ The failure of the Russian military's decapitation strike in the Russo-Ukrainian War has reinforced the notion that such operations would be challenging in a Taiwan contingency.¹⁰⁶ Following the outbreak of the Ukraine conflict, the *PLA Daily's* Military Forum published several commentaries analyzing prospective operational methodologies for special operations.¹⁰⁷

Intense urban combat has unfolded in Ukraine, as seen in the Battle of Mariupol.¹⁰⁸ Some scholars note that the PLA has a renewed recognition of the importance of urban combat.¹⁰⁹ At the NPC in March 2023, Ma Yiming, former deputy chief of the Joint Staff Department and member of NPC, stated that the PLA should promptly conduct research on urban combat.¹¹⁰

104) 董, 基于信息系统的体系作战研究, 147–153; 谭, ed., 联合作战教程, 151–156.

105) Momma Rira, “Does ‘Taiwan Can Help’ Apply to Taiwan Itself? Taiwan’s Assessment of the People’s Liberation Army’s Joint Operations against Taiwan and the Development of Taiwan’s National Defense System,” *Security & Strategy*, no. 3 (January 2023): 46–49.

106) Wuthnow, “Rightsizing Chinese Military Lessons from Ukraine,” 6.

107) 解放军报 [PLA Daily], June 20, August 22, and September 7, 2023.

108) Koizumi, *Ukraine senso*, 146.

109) 荆元宙 [Jin Yuan-Chou], “俄烏戰爭城市作戰對共軍的啟示與調整” [The enlightenment and adjustments for the Chinese People’s Liberation Army on urban operations in the Russo-Ukrainian War], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 102–103.

110) Amber Wang, “China ‘Two sessions’: Taiwan Reference Seen as PLA Brass Calls for Focus on ‘Urban Operations,’” *SCMP*, March 6, 2023.

The *PLA Daily's* Military Forum also published several commentaries analyzing urban combat.¹¹¹

In the wake of the Ukraine crisis, the PLA has initiated a strategic initiative to augment its research endeavors in the domain of urban warfare. Prior to this, the emphasis on close-quarters combat had been minimal in the PLA, with the exception of special operations. In this regard, the observed change merits attention. The PLA's textbooks on "joint operation capabilities based on network information System of systems" have merged the close-quarters combat concept of "assault and counter-resistance capability," which is part of the previous "System warfighting capability based on information systems," with the long-range precision strike concept of "firepower strike capability." They have been consolidated into "precision strike capability," which combines long-, medium-, and short-range operations on land, at sea, in the air, and in space.¹¹² The course of the Russo-Ukrainian War appears to have compelled the PLA to reconsider its de-emphasis on close-quarters combat.

Meanwhile, the PLA has not ruled out urban combat in a Taiwan invasion. A PLA textbook that considers landing operations against Taiwan mentions the following urban combat approaches: (a) blockade of cities using ground and air forces and annihilation of the enemy in city periphery areas, (b) destruction of key enemy targets and military facilities and securing infrastructure facilities, and (c) thorough mop-up operations and combining mop-up and pacification efforts. According to the textbook, these approaches are intended to achieve control of cities, win over the local population, and break enemy morale.¹¹³ Based on such studies, it seems that the PLA is currently engaged in research endeavors pertaining to urban combat operations. These research activities appear to be informed by the lessons learned from the Russo-Ukrainian War, incorporating more concrete and up-to-date insights.

The execution of large-scale amphibious operations is an essential prerequisite for conducting such close-quarters urban combat. The PLA's textbook delineates large-scale amphibious operations as joint operations conducted in multiple dimensions, including land, sea, air, space, and

111) 解放军报 [PLA Daily], June 13 and December 12, 2023.

112) 谭, ed., 联合作战教程, 67–69; 张, 基于网络情报体系的联合作战, 67–68.

113) 曹, 孙, and 杨, eds., 情报化陆军作战, 184–186.

electromagnetic waves. These operations involve the participation of the army, navy, air force, conventional missile forces, People's Armed Police forces, and militia.¹¹⁴ The PLA has already been researching large-scale landing operations.¹¹⁵ Its capabilities are reportedly being enhanced through the reorganization and strengthening of the Army's amphibious units, the expansion of the Navy Marine Corps, the increased mobilization of civilian vessels and maritime militia, and the building of large landing ships, such as dock landing ships and amphibious assault ships. However, it has been observed by analysts that executing a large-scale landing operation against Taiwan would be a complex undertaking. The reasons include a shortage of personnel, insufficient training at the brigade level or above, limited coordination among services and with civilian vessels and maritime militia, and a shortage of vessels.¹¹⁶

Ever since the Russo-Ukrainian War began, the PLA transferred three brigades from the Army to the Navy Marine Corps, expanding its size to 11 brigades and 55,000 marines.¹¹⁷ This is thought to further enhance China's capability to conduct large-scale landing operations, which would be essential in a Taiwan contingency.

(3) Implementation of Maritime and Aerial Blockade Operations

While the United States and NATO countries are not participating in the Russo-Ukrainian War directly, they have nevertheless provided substantial weapons supplies and intelligence support to Ukraine. Since similar support may be extended in the event of a Taiwan contingency, it has been suggested

114) 张, 联合战役指挥教程, 190–191; Ibid., 114.

115) Christopher Yung and Zoe Haver, "The Six Pillars of PLA Amphibious Doctrine," in *Chinese Amphibious Warfare: Prospects for a Cross-Strait Invasion*, ed. Andrew S. Erickson, Conor M. Kennedy, and Ryan D. Martinson (Newport: Naval War College Press, 2024), 45–62.

116) Dennis J. Blasko, "The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training," *ibid.*, 65–84; Conor M. Kennedy, "The New Chinese Marine Corps: A 'Strategic Dagger' in a Cross-Strait Invasion," *ibid.*, 85–114; Lonnie D. Henley, "Civilian Shipping and Maritime Militia: The Logistics Backbone of a Taiwan Invasion," *ibid.*, 115–132; Jennifer Rice, "The PLA Navy's Amphibious Fleet: Modernizing for Missions Near and Far," *ibid.*, 133–149.

117) Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2024*, 57; 吳昱廷 [Wu Yu-Ting], "中共積極發展登陸作戰能量對我防衛作戰之影響" [The impact of the CCP active development of amphibious assault capabilities on our defense operations], 海軍學術雙月刊 [Navy Professional Journal] 58, no. 6 (December 2024): 97.

that the PLA will be compelled to carry out blockade operations in the sea and air.¹¹⁸ Moreover, it has been noted that a blockade operation can decrease U.S. engagement at a lower cost than a direct invasion of Taiwan, making it difficult for Taiwan and the United States to counter such operations.¹¹⁹

Under the IJO concept, the PLA is considering the implementation of sea and air blockade operations. A PLA textbook defines a large island blockade campaign as a campaign conducted through a maritime blockade, aerial blockade, conventional missile strikes, among other methods. It is to be carried out under the commander and command structures of joint campaigns, led primarily by the Navy, Air Force, Army, and Rocket Force, with the People's Armed Police and militia also mobilized. The primary mission of such a campaign is to sever the economic and military links between the enemy-occupied island and the outside world, thereby weakening the enemy's operational capabilities and its ability to execute the war.¹²⁰

In the large-scale military exercises held around Taiwan in August 2022 and April 2023, the PLA is described as conducting military activities with blockade operations in mind. The April 2023 exercise also saw the participation of vessels from the Fujian Maritime Safety Administration, which carried out patrol activities.¹²¹

During Joint Sword 2024A in May 2024, the PLA conducted drills simulating blockade operations in anticipation of a Taiwan contingency. At that time, the Eastern Theater Command disclosed the drill locations, which had been expanded compared to the drills in August 2022 (Figure 1.2).¹²²

In a commentary about the drills, an NDU researcher explained that the drills conducted around the northern part of Taiwan's main island were intended to pose a threat to key political and military targets in Taipei and strike a blow to the Democratic Progressive Party authorities, while the drills around the southern part were intended to pose a political blow to

118) Ying-Yu Lin, "What the PLA Is Learning from Russia's Ukraine Invasion," *Diplomat*, April 20, 2022.

119) Seong Hyeon Choi, "Lower Risks, Harder to Respond: Why Beijing May Prefer a Blockade to Armed Conflict on Taiwan," *SCMP*, May 23, 2024.

120) 张, 联合战役指挥教程, 199–202.

121) 楊, “戰備警巡和聯合利劍演習” 研析,” 41.

122) Ministry of National Defense of China, “东部战区发布 ‘联合利剑—2024A’ 演习区域示意图” [The Eastern Theater Command releases schematic map of the “Joint Sword 2024A” exercise area], May 23, 2024.

“Taiwan independence” forces and an economic and trade blow through the blockade of Kaohsiung Port. The drills around the eastern part were intended to cut off Taiwan’s energy imports, prevent the escape of “Taiwan independence” forces, and block support from the United States and its allies.¹²³ Another NDU researcher indicated that the drills demonstrated that “Taiwan independence” forces would be unable to escape, and that external forces seeking to support “Taiwan independence” would be unable to provide support.¹²⁴ Furthermore, a researcher at AMS explained that the drills targeted not only Taiwan’s main island, but also Kinmen, Matsu, Wuqiu, and Dongyin islands, and that by conducting readiness patrols encompassing both the main and surrounding islands, effective pressure could be exerted in Taiwan’s defensive space.¹²⁵

During Joint Sword 2024B in October 2024, the PLA again conducted drills simulating blockade operations. This exercise was carried out at six locations, one more than in Joint Sword 2024A, and several of the exercise locations were closer to Taiwan’s main island than in previous exercises (Figure 1.2).¹²⁶

An AMS researcher has explained that this exercise conducted a denser blockade against Taiwan. He emphasized the exercise’s significance in encircling from all four directions: the north, which is Taiwan’s political and economic center; the south, which is the “spiritual headquarters” of “Taiwan independence forces”; the east, which has traditionally been a refuge and safety zone; and the west, which constitutes the core of Taiwan’s defense system.¹²⁷ A researcher at NDU echoed that the exercise areas in northern Taiwan represented a direct blow to the Lai Chingte government, the southern areas a blow to the stronghold of “Taiwan independence”

123) “国防大学张弛：解放军掌控整个台海战场主动权,” 环球网 [Huanqiu Net], May 24, 2024.

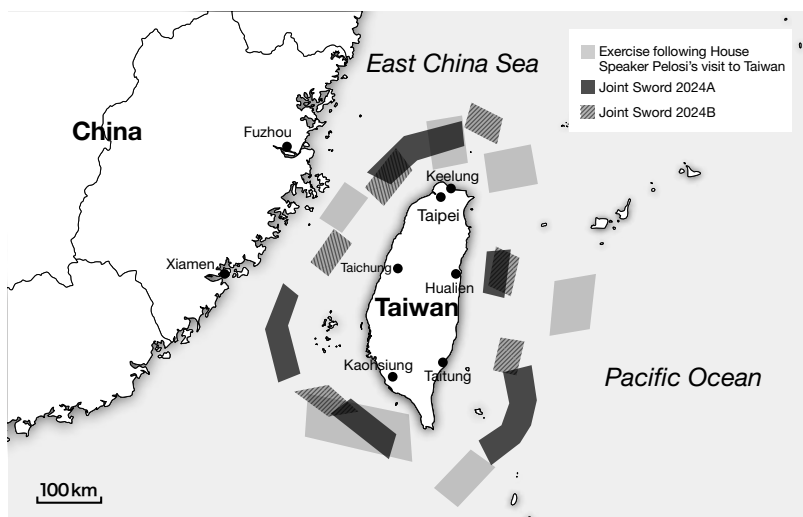
124) “‘联合利剑—2024A’ 演习距台岛很近有何深意? 专家解析,” 环球网 [Huanqiu Net], May 25, 2024.

125) “‘毁、困、阻’ 一体设计! 解放军在台岛周边开展联合演训 专家: 已具备对全岛全方位无死角打击能力,” 环球网 [Huanqiu Net], May 23, 2024.

126) Jun Mai, Amber Wang, Enoch Wong, and Lawrence Chung, “PLA Wraps Up Day of Joint Force Blockade Drills around Taiwan,” *SCMP*, October 14, 2024; “解放军3次台海行动示意图, 做一个叠加” [Schematic maps of the PLA’s three operations in the Taiwan Strait overlaid], 环球网 [Huanqiu Net], October 14, 2024.

127) “玉渊谭天: 东部战区演习刺穿台湾豪猪防御” [Yuyuan Tiantian: The Eastern Theater Command pierces through Taiwan’s porcupine strategy defense during military drill], 环球网 [Huanqiu Net], October 14, 2024.

Figure 1.2. Comparison of PLA military exercise locations around Taiwan



Source: Prepared by the author based on Jun Mai, Amber Wang, Enoch Wong, and Lawrence Chung, "PLA Wraps Up Day of Joint Force Blockade Drills around Taiwan," *SCMP*, October 14, 2024.

forces, and the eastern areas the severing of Taiwan's energy import "lifeline," "support lines" provided by external forces, and "escape routes" of "Taiwan independence" forces.¹²⁸ The same researcher also argued that the deployment of a fleet centered on the aircraft carrier *Liaoning* to key locations in eastern Taiwan, in coordination with bombers that crossed the first island chain, created an external blockade and internal pressure, thereby serving as a deterrent to "Taiwan independence" forces."¹²⁹

The exercise emphasized the implementation of blockade and control of significant ports and regions, as well as the securing of joint dominance.¹³⁰ In order to achieve the objectives of this exercise, the PLA conducted a

128) "军事专家: 解放军围岛6个区块各有用意" [Military expert: The six PLA zones encircling Taiwan have respective purposes], 环球网 [Huanqiu Net], October 14, 2024.

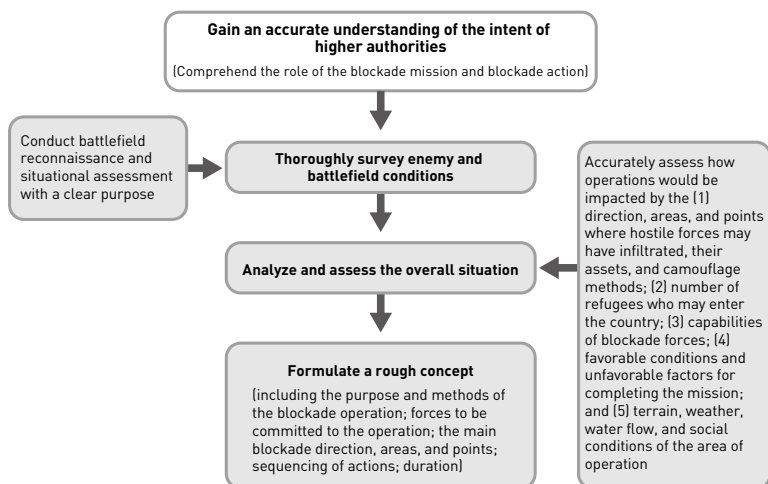
129) Liu Xin and Guo Yuandan, "Liaoning Aircraft Carrier Participates in PLA's Joint Drills Surrounding Taiwan," *GT*, October 14, 2024.

130) "东部战区海军数艘驱护舰多点同步演练 重点演练要港要域封控夺取总合制权等" [Several naval destroyers and vessels of the Eastern Theater Command conduct simultaneous drills at multiple locations, focusing on blockading key ports and areas and seizing comprehensive control], 环球网 [Huanqiu Net], October 14, 2024.

simulated integrated attack in which H-6K bombers equipped with live ammunition attacked important targets in enemy ports under the support of early warning aircraft, electronic warfare aircraft, and carrier-based aircraft.¹³¹

As the above has shown, the PLA has sought to strengthen its sea and air blockade operation capabilities with a Taiwan contingency in mind. At the same time, the PLA places importance on complying with international law when dealing with foreign vessels and aircraft during such blockade operations, as well as promoting the legality of its actions.¹³² However, it has been posited that ensuring compliance with international law during peacetime lockdown operations is a challenging undertaking.¹³³

Figure 1.3. The decision-making process for joint blockade operations



Source: Prepared by the author based on 谭亚东 [Tan Yadong], ed., 联合作战教程 [Lectures on joint operations], 167.

131) “多批多架轰：6K 战机挂载实弹飞赴预定空域！演习最新画面公布” [Numerous H-6K bombers fly toward the designated airspace carrying live ammunition! Latest footage from the exercise released], 环球网 [Huanqiu Net], October 14, 2024.

132) 吴志忠 [Wu Zhizong], ed., 战时政治工作教程 [Lectures on wartime political work] (Academy of Military Science Press, 2013), 185–187.

133) 楊宗新 [Yang Chung-Hsin], “共軍對臺軍演展現之封鎖意圖研析” [A study and analysis of the Chinese People’s Liberation Army’s intentions for a blockade based on military drills against Taiwan], 空軍學術雙月刊 [Air Force Bimonthly Journal], no. 692 (February 2023): 65–67.

A PLA textbook mentions that careless blockade operations could lead to international disputes and even impact global stability, noting that decisions to conduct such operations and their execution must consider domestic and international factors. The textbook states that blockade operations should be executed based on a careful decision-making process—accurately understanding the intent of higher authorities, collecting information on the enemy and battlefield conditions, and formulating operational plans predicated on a comprehensive analysis (Figure 1.3). The PLA textbook classifies blockade operations as “military operations other than war,” indicating that the PLA does not necessarily regard the execution of blockade operations as use of force.¹³⁴

(4) The Need to Counter the Starlink System

The Russo-Ukrainian War is the first conflict in which both sides made full-scale use of space for military operations. Additionally, it has been observed that it is the “first commercial space war,” wherein space services furnished by private enterprises are utilized. In particular, the Starlink satellite communication system provided by SpaceX enabled Ukraine to maintain a communications network and carry out external propaganda and military operations, attracting significant international attention.¹³⁵

The PLA is closely monitoring the military use of Starlink services. Notably, when SpaceX announced Starshield, a program provided for security organizations and the military in the United States, the *PLA Daily* and *National Defense News* expressed concern, arguing that it represented the “militarization” of Starlink.¹³⁶

It is a common view that the PLA would have to counter Starlink in a Taiwan contingency. However, scholars have noted that this would not be easy, citing the Russian military's failed attempts to jam or hack Starlink. Furthermore, Starlink is the commercial satellite system owned by a private

134) 谭, ed., 联合作战教程, 163–172.

135) Fukushima Yasuhito, “Uchu ryoiki kara mita Roshia Ukuraina senso” [The Russo-Ukrainian War in the space domain], in *Ukuraina senso wa naze owaranai no ka*, ed. Takahashi, 108–110, 117–118; 林穎佑 [Lin Ying-Yu], “俄烏戰爭中‘星鏈系統’運用對共軍啟示與調整” [The enlightenment and adjustments for the Chinese People's Liberation Army on the use of the Starlink System in the Russo-Ukrainian War], 中共研究 [Studies on Chinese Communism] 57, no. 3 (September 2023): 127–130.

136) 国防报 [National Defense News], December 14, 2022; 解放军报 [PLA Daily], December 22, 2022.

company, and due to its sheer number, it would be difficult to physically destroy it. It has even been suggested that China may be attempting to restrict Taiwan's use of Starlink by offering Elon Musk, the founder of SpaceX, access to the Chinese market for economic profit.¹³⁷

Against this backdrop, PLA research institutions and universities in China funded by the government and the military have conducted research on tackling Starlink and released their findings. In June 2024, researchers at the PLA Naval Submarine Academy published research findings indicating that laser attacks launched from submarines could strike Starlink satellites.¹³⁸ In December 2024, researchers at Nanjing University of Aeronautics and Astronautics released findings from a computer simulation, which showed that a network of 99 satellites equipped with lasers, microwaves, and other capabilities could effectively approach approximately 1,400 Starlink satellites within 12 hours.¹³⁹ Such research outcomes were likely disclosed to demonstrate to the United States and Taiwan that China can acquire capabilities to counter Starlink.

(5) The Need to Review the Command and Control System in Wartime

Problems with the command and control system are one of the reasons cited for the Russian military's struggles in the Russo-Ukrainian War. Specifically, they include President Vladimir Vladimirovich Putin's intervention not only at the operational level but also at the tactical level; the rigid, top-down command and control structure that has survived since the former Soviet military; lack of coordination between services due to the absence of a single joint command; and the ineffectiveness in large-scale conflict of the Battalion Tactical Group (BTG)—a rapid-response tactical group introduced during military reforms from the 2000s to the 2010s. In contrast, the Ukrainian military reformed its command and control system based on NATO standards, and it has been highlighted that the Ukrainian military

137) Fukushima, "Uchu ryoiki kara mita Roshia Ukuraina senso," in *Ukuraina senso wa naze owaranai no ka*, ed. Takahashi, 127; 林, "俄烏戰爭中'星鏈系統'運用對共軍啟示與調整," 132.

138) Stephen Chen, "China Could Attack Starlink-like Satellites with Submarine Laser Weapon: Naval Study," *SCMP*, July 20, 2024.

139) Stephen Chen, "Chinese Scientists Simulate 'Hunting' Starlink Satellites in Orbit," *SCMP*, January 12, 2025.

has gained superiority through the effective implementation of mission command.^{140, 141}

The exposure of the Russian military's poor command and control system is thought to have implications for the PLA. Through the PLA reforms, the PLA reorganized its ground forces into a group army-brigade-battalion structure and established combined arms battalions modeled on the BTG. Therefore, some have suggested that the ineffectiveness of BTGs in the Russo-Ukrainian War has brought to the fore similar challenges the PLA may face in a Taiwan invasion operation.¹⁴²

In addition, the PLA recognizes the importance of mission command.¹⁴³ However, scholars note the difficulty of implementing mission command for the PLA, which adheres to the Leninist system comprised of military party committees and political commissars and is characterized by a centralized command and control system headed by the CMC.¹⁴⁴

Conclusion

The Russo-Ukrainian War has brought attention to the active use of UAVs, the importance of cyberspace and electromagnetic space, and warfare in the cognitive domain. These developments proved that the PLA was right about the military doctrines it had adopted since around 2014, namely,

140) The U.S. forces define mission command as “the conduct of military operations through decentralized execution based upon mission-type orders.” Commanders issue orders focused on the purpose of the operation, while decisions on how to carry it out and judgement on its execution are delegated to subordinates. *Joint Publication 1, Doctrine for the Armed Forces of the United States*, V15.

141) Koizumi, *Ukraine senso*, 154–158; Yurii Poita, “Some Lessons from Command and Control (C2) in the Russian-Ukrainian War,” 國防情勢特刊: 俄烏戰爭給臺灣的借鑑 [National Defense Situation Special Issue: Lessons from the Russo-Ukrainian War for Taiwan], no. 32 (October 2023): 24–37.

142) Iida Masafumi and Kiriya Hirofumi, “Chapter 2: China: Xi Jinping Confronts Problems as He Seeks to Consolidate His Power,” in *East Asian Strategic Review 2018*, English edition (Tokyo: NIDS, 2018), 63; Wuthnow, “Rightsizing Chinese Military Lessons from Ukraine,” 8.

143) 解放军报 [PLA Daily], May 25, August 24, and September 12, 2023.

144) Joel Wuthnow and Phillip C. Saunders, “A More Cohesive Force: Enabling Joint Operations in the PLA,” in *Securing the China Dream: The PLA's Role in a Time of Reform and Change*, ed. Roy Kamphausen, David Lai, and Tiffany Ma (Washington, DC: The National Bureau of Asian Research, 2020), 49–50.

the “informationized local war” doctrine and the “intelligentized warfare” doctrine that is expected to be pursued in future warfare. Additionally, the PLA confirmed that it was right about the concepts of “System of systems operation” and IJO, both of which are considered fundamental operational models in the context of “informationized local war.” The PLA has determined that its force management policy—integrating combat in the physical domains (land, sea, air, space), information domains (cyberspace and the information dimension), and the cognitive domain—is appropriate, and is implementing the policy through military activities around Taiwan. In this sense, the PLA is not expected to make a dramatic doctrinal shift similar to the one seen after the Gulf War.

Yet, the Russo-Ukrainian War has presented the PLA with numerous challenges at both the strategic and policy levels and the operational level. At the strategic and policy levels, China is being called upon to: (1) revise its nuclear doctrine, (2) overcome its inferiority in the cognitive domain, (3) strengthen operational capabilities in the space and information domains through PLA organizational reform, and (4) further enhance the development of UAVs and anti-UAV air defense System of systems. At the operational level, the PLA is required to make adjustments, including: (1) further strengthening cyberattacks and precision-guided strikes, (2) reassessing decapitation strikes and enhancing close-quarters combat capabilities, (3) ensuring the smooth implementation of sea and air blockade operations against Taiwan, (4) developing responses to Starlink, and (5) reviewing the command and control system during wartime.

As the challenges identified above are not easily surmountable, the PLA is unlikely to launch a Taiwan invasion in the short term, such as by 2027. In the medium to long term, however, should the PLA succeed in conquering these challenges, the probability of an invasion will increase. In particular, the risk of a Taiwan contingency will rise even further in the case that the United States, its allies, and Taiwan fail to sufficiently strengthen their defense capabilities, and if the PLA perceives that it has achieved nuclear parity with the United States by increasing the nuclear warhead count in the 2030s, and if the PLA succeeds in reinforcing not only the traditional security capabilities of the Army, Navy, Air Force, and Rocket Force but also “new quality combat capabilities,” such as UAVs, AI, and quantum computer technology.

Nevertheless, it is not China's fundamental wish to resort to the use of force, which is anticipated to carry high risks and costs. The CCP leadership and the PLA aim to comprehensively employ capabilities in multiple domains, including political, diplomatic, economic, military, and social. Based on such "integrated operations," they seek to make use of nuclear weapons, traditional security domain forces, and "new quality combat capabilities" to achieve dominance over Taiwan, the United States, and its allies in the cognitive domain. Moreover, China is expected to strive for "forced peaceful unification" with Taiwan by "winning without fighting."¹⁴⁵ In this regard, close attention must also be paid to China's influence operations toward Taiwan.¹⁴⁶

145) On China's plans for "forced peaceful unification" with Taiwan, see Matsuda Yasuhiro's commentary articles published in *Nihon Keizai Shimbun*, January 24, 2024 and *Asagumo*, November 28, 2024.

146) On China's influence work toward Taiwan, see, for example, Kawakami Momoko and Wu Jieh-min, eds., *China fakuta no seiji shakaigaku: Taiwan e no eikyoryoku no shinto* [The political sociology of the "China factor": The penetration of Chinese influence in Taiwan society] (Hakusuisha, 2021); Yamaguchi and Momma, "China's Increasing Influence Operations," 46–51.