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China Maritime Report No. 14: Chinese Views of the Military Balance in the Western Pacific

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Summary

This report examines Chinese views about the military balance of power between China and the United States in the Western Pacific. It argues that while there is no single “Chinese” view on this topic, Chinese analysts tend to agree that 1) the gap between the two militaries has narrowed significantly in recent years, 2) the Chinese military still lags in important ways, and 3) Chinese military inferiority vis-à-vis the U.S. increases the further away it operates from the Mainland. In terms of specific areas of relative strength, the Chinese military has shown the greatest improvements in military hardware, but has farther to go in the area of jointness, training, and other military “software.” Nevertheless, despite continued criticism from senior civilian leaders, training quality has likely improved due to a greater focus on realism, and recent military reforms have, to a degree, improved the prospects for jointness.

Introduction

There is no single Chinese view of the military balance. As in the United States, there are many perspectives, informed by personal biases and access to different source material. Conclusions also differ depending on the specific circumstances of each scenario—the adversary, geography, warning time, casus belli, and early crisis decision making. To the extent that it is possible to generalize, the range of Chinese assessments do not, in aggregate, appear to dramatically differ from professional or informed analyses by Western experts. The Chinese leadership recognizes both the remarkable strides that have been made in modernizing the Chinese military, as well as important continuing weaknesses. Chinese analysts agree with American counterparts that Chinese capabilities are far more formidable immediately offshore than they are in more distant locations.

To an extent, the reason for broad consensus across the Pacific lies in the exchange of ideas between Western and Chinese analysts. Chinese views may be a function of ready access to translated Western analyses, which in turn rely heavily on anecdotes and analyses found in published Chinese sources.

To say that there is general agreement on the balance of power does not imply a complete agreement or identity between Chinese and U.S. views. Systematic biases may affect the assessments of each state, as well as different groups within them. High levels of U.S. operational proficiency, a product of sophisticated training structures and regimes developed after the Vietnam War, may alert some U.S. analysts to factors that may not be considered by Chinese counterparts. Only recently, for example, has “jointness” become a guiding criterion in Chinese military decision making. Similarly, as PLA modernization contributes to an improved understanding of modern war, the analysis of military balance issues has expanded to include greater consideration of dynamic factors in combat. Improved assessment may, in turn, contribute to a more circumspect (i.e., pessimistic) assessment of the balance even as it increases Chinese prospects for overcoming challenges.

This report comprises five main parts. The first section outlines the types of source materials that reflect Chinese views, and the second touches on analytic methods behind Chinese assessments. The third section assesses how Chinese leaders and analysts view the overall balance of power today and its evolution over the last two decades. The fourth section discusses particular areas of perceived strength and weakness in PLA capabilities relative to those of the United States. The fifth section examines how Chinese analysts view the potential future impact of intensified competition with the United States and the latter’s increasingly sharp focus on competition with China. The report concludes with a summary of findings.

Source Materials

What types of Chinese source materials discuss perceptions of the balance of power in the Western Pacific, and what methodologies lie behind the assessments?

White Papers and Institutional Reports

A variety of institutionally-produced white papers and reports provide the most accessible—if very general—overview assessments of China’s relative military position. Among the more important public documents that touch on the balance of power, broadly conceived, are the *Science of Military Strategy* (both the 2013 Academy of Military Science version and the 2015 National Defense University version) and defense white papers, the most recent of which, published in July 2019, is *China’s National Defense in the New Era*, published by the State Council Information Office and written primarily by military academics.

Senior Leader Statements

During major political or government events (e.g., major Communist Party Congress or National People’s Congress meetings) Chinese political leaders periodically summarize the current state and future goals of the Chinese military, with at least implicit comparisons to other major powers—especially the United States. Military leaders may make similar statements during important military gatherings, though these are likely to echo statements by Party leaders. Leadership statements may sometimes be as much hortatory as they are analytic, but they nevertheless represent the official view that others are expected to adopt.

Journal Articles and Books by Civilian and Military Academics

Civilian and military academics, working at universities and think tanks, may produce some of the broadest assessments of the balance of power, as well as a variety of other work that bears on the balance of power. Some of the small number of civilian academics working on strategic issues have ties with the military and conduct research solicited by the government, as well as unsolicited work that is forwarded through government channels.¹ Most also have deep relationships with foreign scholars and are well-versed in the Western international relations and security studies literature. Military academics, some of whom have a hand in producing white papers and other institutional products, also publish single-author works in military and civilian journals or books. Both military and civilian academics, particularly the latter, are somewhat freer to express views about the balance of power in particular scenarios in single author works than they might be when producing institutionally edited reports.

Media Reporting

Media reporting provides the most voluminous record. This material is characterized by extreme variance in terms of quality, degree of authority, and perspective. The media’s reporting on military and security issues often focuses on individual events or developments, such as the deployment of new weapons or conduct of recent exercises, rather than on broad-based trends. The worst military news, such as the repeated failure of the Chinese aircraft engine industry to deliver a production model of the WS-15 engine for the J-20 aircraft, is seldom mentioned. Nevertheless, a host of topics are covered, some with considerable nuance. Moreover, the Chinese media disseminates contrarian

¹ The National Social Science Foundation (国家社会科学基金), for example, offers awards for research. In 2018 alone, the foundation made almost 5,000 research awards, dozens of which were on military or security themes. 国家社科基金 : 项目数据库 (National Social Science Foundation: Program Data Base) <http://fz.people.com.cn/skygb/sk/>, accessed April 28, 2019. Academics may also write *neican* (short, formal internal memoranda), solicited and circulated by the CCP Central Committee, General Office, and *yaogao* (less structured “important reports” that may be forwarded by work units).

views by reporting on news stories and other sources published in the West, and many media websites host forums or blogs focusing on military issues.

Creating a Mosaic in Grayscale

Every one of the sources listed above could be parsed more finely, with various sub-categories identifiable under each. Each is limited in different ways as a window into Chinese perceptions, even as it contributes something unique. In assessing Chinese policy or Beijing's official position, authoritative sources are vastly more important than other sources, but in understanding larger patterns of perception—the subject of this report—less official sources can be equally (and in some cases more) important.

Leadership statements are often designed for instrumental domestic purposes. For example, Xi Jinping's critiques of the PLA, while accurately identifying problems, may offer a one-sided view largely designed to browbeat the military into accepting structural reforms. There is no guarantee that they reflect the full range of his personal thoughts on the balance of power. Moreover, most official sources (including leadership statements, institutionally-published reports, and, to a lesser extent, articles in military journals) tend to forswear direct comparisons to U.S. capabilities. Although they may assess Chinese developments against more abstract standards (such as the capabilities of "leading states"), they rarely reference particular scenarios or provide context.

Academic work, especially by civilian authors, can be more explicit, as can media reporting. Needless to say, the categories are not entirely distinct, and some of the more revealing pieces involve media interviews with military or other expert commentators. Probably the best a foreign analyst can hope for is to create a crude mosaic from a variety of sources, while noting that different actors within China will see the picture somewhat differently, depending on the vantage point from which it is viewed, the preconceptions and training of the observer, and the filters placed on access to different pieces of it.

Chinese Analytic Methods

In addition to considering the authors of and outlets for balance assessments, we might also consider the methods employed. Much of the commentary on the balance of power—and the overwhelming majority of media reports—appears based on qualitative judgments. There are, however, a few categories of analysis that merit special note. Western scholars may not have access to some of this material, but even in those cases it is useful to consider the methodologies available in China—and how they have evolved—as they may shed light on the accuracy of Chinese assessments and the confidence Chinese leaders might place in them.

Military Net Assessment

The People's Liberation Army (PLA) does not appear to have a unique or historically well-developed approach to assessing the "correlation of military forces," a concept that the Soviets employed at the theater and operational levels. In recent years, however, Western net assessments, especially those by the U.S. Office of Net Assessment and think tanks like the RAND Corporation, have drawn significant attention in China. These are often translated and studied and referenced by Chinese military and civilian academics, and they have prompted Chinese efforts to develop similar studies—though not a uniform or regular set of algorithms such as those employed by the Soviets.²

² When it was published in 2000, *Dire Strait? Military Aspects of the China-Taiwan Confrontation and Options of U.S. Policy* by David A. Shlapak et al. (RAND) prompted considerable Chinese interest and a suggestion that the Academy of Military Sciences and RAND should conduct a joint follow-on study. A 500+ page unauthorized translation of RAND's

Comprehensive National Power Assessments

The concept of comprehensive national power (CNP) and the metrics to measure it were initially developed at the behest of Deng Xiaoping and remain common in the Chinese literature. CNP goes beyond military variables to include, at a minimum, measures of economic power. Unlike many Western academic efforts to compare national power, most Chinese formulas include qualitative variables, such as diplomatic power, while a handful (e.g., those by the Chinese Academy of Social Sciences) also include values designed to represent government capacity and social welfare.³

Operations Research Analysis

Centered largely on the Chinese Academy of Military Science, Operations Research (OR) analysis received a boost during the Great Leap Forward and, unlike other academic disciplines, survived the Cultural Revolution relatively intact. In 1979, an “Operational OR Analysis Office” (作战运筹分析研究室) was established within the Chinese Academy of Military Science, and in 1986 it was expanded and renamed the “Military OR Analysis Research Institute.”⁴

A wide range of military OR work is conducted in China today, and much of it is published openly in technical journals. Most OR assessments provide algorithms for optimizing tactical operations, though some OR research provides data relevant to larger operational capabilities.⁵ Ian Easton has summarized some of the Chinese work on airbase attacks, suggesting that Chinese analysts have reached several broad conclusions. While ballistic missiles offer the most reliable and effective means of striking airbases, limits on their numbers would constrain the scope of a missile campaign.⁶ Although the analysis and the sources used are several years old and in need of updating, Easton demonstrated the value of mining the Chinese OR literature.

Wargaming

Wargames are not new to China, but the PLA was slow to embrace structured, rule-based gaming that derives historically from the Prussian games of the 19th century.⁷ Following disparate and largely unsuccessful efforts to introduce computerized wargaming into various parts of the PLA during the 1980s and 1990s, the effort was centralized under the Chinese National Defense University (NDU) in 1997, and an expanded “NDU Wargaming Development Team” (国防大学兵棋研发团队) was

U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power (2015) was published by the Knowfar Institute for Strategic and Defense Studies (知远战略与防务研究所).

³ See Wuttikorn Chuwattananurak, “China’s Comprehensive National Power and Its Implications for the Rise of China: Reassessment and Challenges,” ISA Conference Paper, June 23, 2016.

⁴ 胡晓东, 袁亚湘, 章祥荪 [Hu Xiaodong, Yuan Yaxiang, Zhang Xiangsun], 运筹学发展的回顾与发展 [“Review and Prospects for the Development of Operations Research”], 中国科学院院刊 [*China Academy of Sciences Bulletin*], vol. 27, no. 2 (2012), pp. 145-160.

⁵ For a few of the topics covered and the journals in which they are published, see, for example, 韩辉, 张顺健 [Han Hui and Zhang Shunjian], 预警机协同潜艇封锁作战建模与仿真 [“Airborne Warning Aircraft Collaborative Submarine Blockade Combat Modeling and Simulation”], 计算机仿真 [*Computer Simulation*], vol. 29, no. 1 (January 2012); 沈培志, 聂奇刚, 张邦钰 [Shen Peizhi, Nie Qigang, and Zhang Bangyu], 海上封锁作战效能评估研究 (‘‘Effectiveness Evaluation of Sea Blockade Operations’’), 舰船电子工程 (*Ship Electronic Engineering*), vol. 35, no. 9 (September 2015); 陶贵明, 陈彬, 曾兴志, 王伟 [Tao Guiming, Chen Bin, Zeng Xingzhi, and Wang Wei], 地地导弹打击机场排序模型 [“Ordering Model of Ground-to-Ground Guided Missile Attacks on Airdromes”], 电脑与信息技术 [*Computer and Information Technology*], (February 2013).

⁶ Ian Easton, *Able Archers: Taiwan Defense Strategy in an Age of Precision Strike*, Project 2049, September 2014, pp. 11-14.

⁷ As one Chinese observer notes, “wargame simulations register only thinly in our consciousness.” 刘源 [Dui Yuan], 兵棋与兵棋推演 (*Wargames and Wargame Simulations*), (Beijing: National Defense University Press, 2013), p. 1.

established in 2007.⁸ An integrated game was launched in 2010, with an 11-day game played by 500 participants at the NDU, followed the next year by a game played in the Jinan Military Region, the first outing with an operational element.

A number of games are now in use within the PLA. According to Hu Xiaofeng, such games have several purposes, including training commanders and staff, fostering the capability of headquarters to make sound decisions quickly, and improving operational planning.⁹ Although Chinese sources do not indicate wargames are used to assess the military balance, their widespread employment almost certainly provides a more systematic baseline understanding of relative capabilities in particular scenarios. The extent to which that understanding is correct or skewed will, of course, depend on the evaluation of unit quality and the algorithms embedded in the software.

Different Strokes for Different Folks

Different groups within China have access to different types of source and methods and may, therefore, have different views of the balance. The general population is likely to rely primarily on media reporting and may therefore have the least nuanced, most inflated view of Chinese capabilities. Some academics will have exposure to the Chinese military system, as well as Western analyses, and may therefore have a relatively balanced view. Military analysts and military leaders will have exposure to different sorts of material. First-hand experience with exercises in particular will provide a good sense of Chinese operational capabilities—though not necessarily how they compare to those of the United States or other countries. Finally, political leaders have the authority to see or sponsor the widest range of assessments, but their actual exposure will depend on their inclination to use such authority.

China's Overall Assessment of the Military Balance

Despite differences in perspective within China, the center of gravity in assessments seems to cluster around three major points. First, China has made striking relative gains vis-à-vis the United States and regional states, both in terms of comprehensive national power and, to a somewhat lesser extent, in military power. Second, the United States maintains a very significant lead in overall capabilities, and there is some uncertainty about future prospects. And third, geography matters. China may enjoy a degree of military advantage out to the first island chain and its ability to project power beyond that is increasing, though the United States may have a trump card in its ability to fall back and counterattack.

Relative Gains

While noting a variety of new challenges in the international environment, Chinese analyses see overall relative gains for comprehensive national power, primarily due to economic success. China's 2019 defense white paper, for example, states, "China continues to enjoy political stability, ethnic unity, and social stability. Its comprehensive national power, international influence, and ability to withstand risk have all notably increased." More broadly, with China leading the way "the configuration of strategic power is becoming more balanced," an idea that accords with other statements heralding the trend towards multipolarity and "democracy" in international affairs.¹⁰

⁸ 国防大学兵棋团队科研攻关：编写上千万行代码 ["NDU Wargaming Team Research Program: Compiling Ten Million Lines of Code"], 解放军报 [PLA Daily], June 30, 2014.

⁹ 胡晓峰 [Hu Xiaofeng], 兵棋演习系统总师胡晓峰：作战规划需“快变”，科学运筹第一位 ["Wargame Training System Master Hu Xiaofeng: Operational Planning Requires Quick Changes, Putting Scientific Planning First"], 中国指挥与控制学会 [China Institute of Command and Control], (January 5, 2018), reprinted by Sohu, https://www.sohu.com/a/214892405_819742.

¹⁰ State Council Information Office, "China's National Defense in the New Era," July 24, 2019.

These trends, and China's view of them, are not new. The 2013 *Science of Military Strategy* observes, "In keeping with the continuous increase in our nation's comprehensive national power, the possibility of large scale invasion, particularly ground invasion, has lessened."¹¹

Chinese sources evince general satisfaction with the overall development of the country's military and naval power. The 2019 defense white paper asserts, "Great progress has been made in the Revolution in Military Affairs with Chinese characteristics." "In line with the strategic requirements of near seas defense and far seas protection," it says, "the PLA Navy is speeding up the transition of its tasks from defense on the near seas to protection missions on the far seas, and improving its capabilities for strategic deterrence and counterattack, maritime maneuver operations, maritime joint operations, comprehensive defense, and integrated support, so as to build a strong and modernized naval force."¹²

This general impression of progress is broadly held and conveyed in the media. In a 2016 CCTV interview, a serving ship captain who had been sent overseas to study warship design during the 1990s said that, at that time, "our ships could not sail far, see far, or strike far." "Frankly speaking," he said, "we were a little embarrassed." Today, however, he asserted that he felt "proud and confident," and noted that average days at sea have doubled in recent years.¹³ Many media accounts, some of which cite foreign sources, report that China has "eroded" (侵蚀) the U.S. military advantage.¹⁴

Significant Gap in Overall Capabilities

Despite relative gains, Chinese leaders and analysts emphasize that the U.S. retains a significant lead not just in deployed military capabilities, but also in relevant technological areas. Moreover, there is some uncertainty as to whether U.S. technological prowess might be mobilized to slow Chinese gains in the future.

In his report to the 19th CPC National Congress in October 2017, Xi Jinping outlined three targets for PLA development. By 2020, mechanization will be basically achieved, IT application will have come a long way, and strategic capabilities will see a major improvement. By 2035, PLA modernization will be basically complete. And by the mid-21st century, the PLA will have been transformed into a world-class force.¹⁵ According to one senior army commander, world-class militaries have four characteristics, i.e., the ability to 1) quickly move to any part of the world and decisively influence events, 2) win a major war and protect national interests, 3) quickly deal with non-traditional threats and mitigate risks and threats, and 4) improve and innovate.¹⁶

¹¹ 寿晓松 [Shou Xiaosong], ed., 战略学 [*Science of Military Strategy*], 3rd ed., (Beijing: Military Science Press, 2013), p. 106.

¹² "China's National Defense in the New Era."

¹³ "Transformation of Chinese Navy: Captains See Rise Towards World-Class Force," CCTV, October 7, 2016, https://www.youtube.com/watch?v=-J_YlJKbZ8&lc=z13tgt5zcx2psrt5304chpoi3wjusSoghi4.1476473627466080.

¹⁴ See, for example, 外媒：美军优势被中国侵蚀，卷入战争可能性增大 ["Foreign Media: U.S. Military Advantage Being Eroded by China, Probability of Being Drawn Into War Increasing"], 环球时报 [*Global Times*], July 2, 2015; 美国空军杂志：美国如何在本世纪 20 年代保持空中优势 ["U.S. Air Force Magazine: How will the United States will Maintain Air Superiority in the 2020s"], 中国航空新闻网 [*China Aerospace News Network*], September 10, 2019.

¹⁵ Ibid.

¹⁶ 曹益民 [Cao Yimin], 建设世界一流军队是划时代的战略要求 ["Building a World-Class Armed Force Is an Epoch-Making Strategic Requirement"], 中国军事科学 [*China Military Science*], no. 4 (2016), p. 12. At the time of publication, Cao was a major general and army chief of staff for the Western Theater Command.

Regardless of how a world-class military is defined, Chinese accounts all agree that the U.S. is the reigning example. The fact that Xi Jinping's target for this status is set sometime around 2050 indicates clearly that he considers PLA capabilities as significantly inferior to those of the U.S. military. His roadmap for how the PLA can achieve "world class" status indicates specific areas of weakness. While acknowledging satisfaction with structural reforms taken to date, he also indicated that much remains to be done in "continuing to deepen national defense and military reform." Much work is required, he said, to improve the career officer system, promote technological innovation, and reform military training. More broadly, Xi called for practical measures to improve "combat capability" and suggested that the ability to conduct joint operations "based on the network information system" and the "ability to fight under multi-dimensional conditions" is critical.¹⁷

Although the U.S. military is a yardstick against which China's military measures progress, it does not appear that the quest to create a "world-class" military force necessarily equates with overtaking the United States in aggregate capabilities. As PLAN Senior Colonel Zhang Junshe cautions, "'World-class' is a relative term, and it is not synonymous with 'world's best.'" The scale and nature of the navy would, according to Zhang, be appropriate to near seas defense and far seas protection—a point echoed by others.¹⁸ It is more accurate to say that China wishes to have a military that is in the same class with that of the United States and that its aspirations have more to do with the quality of the force than they do with scale or aggregate capability, though given expected growth in the Chinese economy, there is no reason to believe such scale would be beyond its potential.

Moreover, although there is consensus on the relative direction of change in the balance of power over the last two decades, there is some uncertainty about the future. Emerging technologies and a sharper U.S. focus on competition with China have introduced new elements of uncertainty. Given the potential for new technologies to upset the balance of power by enabling rising powers to leapfrog ahead of existing ones, it is perhaps surprising that some Chinese analyses suggest that emerging technologies may, on the whole, work in America's favor. The 2019 white paper notes that "China's military security is confronted by risks from technology surprise and a growing technological generation gap," a significant problem for a military force that "still lags far behind the world's leading militaries."¹⁹

Wang Mingliang, a researcher at the PLA Air Force (PLAAF) Command College, writes, "In the next 30 years, the world military field will simultaneously and alternately launch a new-quality information revolution and a new-quality mechanized revolution.... The United States will continue to maintain its leading position. It will be the first to introduce next-generation aerospace weapons marked by battlefield intelligence networks, system clusters, hypersonic weapons, and new-concept weapons. Its overall strength will remain first in the world."²⁰ As noted in the penultimate section of this report, assessments of the technological balance vary, with some holding more optimistic views, and most Chinese analysts believe that the PLA will continue to narrow the gap with the United States, although the speed with which this occurs might slow.

¹⁷ Xi Jinping, "Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era," speech Delivered at the 19th National People's Congress of the Communist Party of China" [Full Text], chinamil.com.cn, October 18, 2017.

¹⁸ 建设世界一流中国海军的五重担当 ["The Five Major Tasks of Building a World-Class Chinese Navy"], 中国新闻网 [China News Net], April 18, 2019. Zhang Junshe (张军社) is a researcher at the Naval Research Institute (海军军事学术研究所).

¹⁹ China's National Defense in the New Era."

²⁰ 王明亮 [Wang Mingliang], 加快建设世界一流战略空军 ["Accelerate the Building of a World-Class Strategic Air Force"], 空军报 [Air Force Times], February 5, 2018, p. 4.

Geography and Military Dynamics

The fact that Chinese analysts regard the United States as having a significant lead in overall capabilities does not imply that they see no current options for the PLA. Militaries do not battle in a vacuum; operational factors such as missions, geography, available time, and political circumstances weigh heavily on outcomes. Chinese analysts note that relative gains have translated into advantages in areas immediately surrounding China, even if the prospects are far dimmer in more distant ones.

In an article advocating for more U.S.-China confidence building measures, Nanjing University's Zhu Feng argues that overall "the United States is still the dominant sea and air power in the Asia-Pacific region," but that in coastal waters, the PLA has "significant 'anti-access/area denial' combat capabilities" and might be able to present a more potent challenge to the United States.²¹ Hu Bo, of Beijing University, similarly notes that although "the U.S. military will continue to enjoy hegemony in maritime domains outside of the first island chain" over the next ten to twenty years, China will "gain the advantage within the first island chain and in nearby waters."²²

Others, more optimistic about Chinese capabilities, see the timeline differently. Du Wenlong of the Chinese Academy of Military Science and frequent television commentator claims that with the rapid development of the Chinese Air Force, Navy, and Rocket Forces, the first island chain can no longer limit Chinese military activities. Instead, the island chain will now limit the activities of the United States and other powers by "blocking them outside."²³ In a similar vein, a *PLA Daily* article on naval training states that the first and second island chains should not be a "chain" that binds the PLAN's development, but rather should be a "beacon" (航标) for its navigation to the oceans.²⁴ A civilian pundit, however, cautions that just because the United States has withdrawn a portion of its forces behind the first island chain and "China can regularly transit the first island chain during peacetime, does not imply during wartime it could prevent [the United States] from crossing the first island chain."²⁵

Perhaps the most interesting recent development in the discussion of how the Chinese military might fare, and one that is closely connected to the spatial element, is that analyses have become more dynamic. Having gained greater confidence in the ability of Chinese forces to transit the first island chain, some analysts now consider the responses of the U.S. and its allies and the dynamics that might ensue—rather than looking at the problem in binary or static terms. U.S. forces operating from deeper in the Pacific or Philippine Sea now factor significantly in Chinese assessments.

A researcher with the PLA Naval Military Studies Research Institute said that the United States "is looking to use its base in northern Australia as a "bridgehead" to provide support for its military operations in the South China Sea. In doing so, it is trying to "strengthen its forces on the second

²¹ 朱锋 [Zhu Feng], 2018 年南海大国博弈新动向 ["2018, New Trends in the Major Power Game in the South China Sea"], 世界知识 [World Affairs], (December 16, 2018), p. 49.

²² 胡波 [Hu Bo], 中美在西太平洋的军事竞争与战略平衡 ["Military competition and strategic balance between the China and the United States in the Western Pacific"], 世界经济与政治 [World Economics and Politics], (May 2014), p. 64.

²³ "Chinese Military 'Island Encirclement' Training Around Taiwan," 今日关注 [Focus Today], CCTV-4, April 28, 2018.

²⁴ 远海大洋, 见证大国海军拔节成长 ["Distant Seas and Oceans, Witnessing the Blossoming of a Major Power Navy"], 解放军报 [PLA Daily], June 22, 2017.

²⁵ 科罗廖夫 [Keluoliaofu], 已从突破岛链转为控制岛链 ["From Breaching the Island Chain to Controlling the Island China"], <http://mil.news.sina.com.cn/jssd/2017-05-02/doc-ifyetwtf9576062.shtml>, May 2, 2017. Keluoliaofu (Korolev, a Soviet rocket engineer) is the pen name of 高岩 [Gao Yan], a Chinese defense author and blogger.

island chain” to counter China’s moves past the first island chain.²⁶ Another takes note of new U.S. operational concepts, including the use of temporary austere bases and air mobility, and cautions that the United States is not withdrawing from the first island chain; it is, rather, “withdrawing a portion of its forces to the second island chain and is in fact withdrawing to attack.”²⁷ For some, commentary on dynamics beyond the first island chain is cautionary—penetrating the first island chain is only the first part of the problem. Others suggest that China has answers to at least some of these problems.

An assessment of offshore defenses in the Chinese periodical *Aerospace Knowledge* (航空知识) envisions Chinese bombers flying from the mainland being met and escorted by fighters flying from bases deep in the South China Sea and Chinese carriers being used to provide a mobile element capable of plugging gaps that might emerge in China’s island-based defenses there.²⁸ In a 2016 interview, Rear Admiral (retired) Yin Zhuo argued, “if Japan and Australia allow US fighters to take off from their territory for attacks on China, China will automatically view them as combatant countries and launch retaliation against them.”²⁹ Especially in the case of Rear Admiral Zhuo’s remarks, it may be difficult to distinguish belief, analysis, and deterrent messaging. Whether comments are sincere or instrumental, long-range missiles and submarines (touched on below in the discussion of weapons) factor prominently in the solutions touted.

Specific Areas of Relative Strength and Weakness

Beyond the general assessment of relative gains, how do Chinese analysts assess particular areas of strength and weakness? Most agree that the military is making rapid progress across the board, but that it has progressed farthest in the area of equipment modernization and has farther to go in the areas of training and organizational adjustment (especially jointness).

Equipment

Given the emerging Chinese appreciation for a “system of systems” approach to warfare, analysts understand that each system does not have to prevail in a head-to-head match-up with American counterparts in order to succeed at the operational level.³⁰ Chinese analysts see major progress in modernizing equipment, and media reports often hail the capabilities of individual systems, but leadership assessments appear less sanguine. In 2016, Rear Admiral Du Benyin, deputy commissar of the PLAN’s South Sea Fleet, wrote, “Despite the fact that the Navy’s strength, weapons and equipment continue to improve, we have weaknesses at the technological level. Our researchers have made breakthroughs in many fields, and what we need now is the government’s determination and investment, otherwise [sic] the Navy will lag behind others.”³¹

Ballistic and, to a lesser extent, cruise missiles are seen as a particular area of Chinese strength, one that at least partly compensates for continuing shortfalls in air force capability. Chinese OR assessments of missile operations suggest that missiles could severely challenge adversary advantages in other domains, particularly air warfare, even if the missile inventory is not sufficient to win a campaign alone. Reporting on recent developments, particularly on newer missiles, highlights

²⁶ Comments by 曹卫东 [Cao Weidong], 今日关注 [Focus Today], CCTV-4, December 28, 2018.

²⁷ Keluoliaofu, “From Breaching the Island Chain to Controlling the Island China.”

²⁸ Wang Hongliang [王宏亮], 中国南海岛礁建设的现实考虑 [“Considerations with Regard to Construction on South China Sea Islands”], 航空知识 [Aerospace Knowledge], (February 1, 2018).

²⁹ Comments by 尹卓 [Yin Zhuo], 今日关注 [Focus Today], CCTV-4, December 28, 2016.

³⁰ Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People’s Liberation Army Seeks to Wage Modern Warfare*, RAND Corporation, 2018.

³¹ “PLA Officer: Navy Needs More Punch, *China Daily* (English edition), March 21, 2016.

technological breakthroughs that maintain or advance Chinese relative capability despite countermeasures by the United States. The DF-26's ability to launch from unprepared positions, for example, would complicate the task of targeting these missiles prior to launch, and the ability of warheads to maneuver during flight provides them with penetration capability despite improvements to the missile defenses of the U.S. and its regional allies.³²

Chinese analysts also evince great satisfaction with the strides made in capabilities related to air-to-air combat (e.g., fighter aircraft, air-to-air missiles, and UAVs), but it appears most serious analysts do not think PLAAF and PLANAF equipment have caught up to U.S. standards.³³ While military commentators on CCTV hail the J-20, for example, as superior to both the F-22 and F-35, specialist journals are more forthcoming about weaknesses.³⁴ U.S. military and expert opinion, which is distinctly less kind to the J-20, is also reported in detail in the Chinese print media, and Chinese blog posts echo U.S. opinion by observing various weaknesses in the J-20.³⁵ More to the point, some emphasize that head-to-head comparisons do not capture the dynamics of warfare, and that the J-20 brings important capabilities to China's overall toolkit, even if it cannot match the F-22.³⁶

Chinese reporting on surface warship design is more upbeat. Discussions of the Luyang III class destroyer (Type 052D) and Renhai class cruiser (Type 055) depict these vessels as fully modern warships. The Type 055 is significantly larger than U.S. Arleigh Burke destroyers and is equipped with powerful domestically-produced gas turbine engines, more (and larger) VLS cells than the Arleigh Burke, and active electronically scanned array (AESA) radar. The Type 346B radar, which combines X-band and S/C-band, is a particular point of pride, as Chinese analysts observe that China effectively beat the United States to the deployment of AESA radar on ships and will have more ships equipped with such radar until the U.S. completes its retrofit of the Flight IIA ships—though it remains to be seen how the radar's effectiveness compares to that of the new U.S. SPY-6.³⁷

Chinese assessments of submarine and ASW capabilities are more mixed. In June 2018, Xi Jinping inspected a Type 093B (improved Shang-class) submarine and pronounced that nuclear submarines are a “nation's ultimate instrument” and China's nuclear submarines “should be greatly improved.”³⁸ Chinese media reported U.S. assessments of the Shang-class SSNs as having acoustic properties roughly in line with Los Angeles-class attack submarines built during the 1970s to 1990s, but inferior to those of the newer Virginia-class.³⁹ Reporting on the most recent diesel designs (especially the

³² 我们为什么要发展东风-26 弹道导弹 [“Why We Needed to Develop the DF-26 Ballistic Missile”], 中国青年报 [China Youth Daily], November 11, 2015, http://zqb.cyol.com/html/2015-11/23/nw.D110000zgqnb_20151123_1-09.htm.

³³ Comments by 尹卓 [Yin Zhuo], 今日关注 [Focus Today], CCTV-4, December 28, 2016.

³⁴ 歼-20 与 F-22 F-35 的五代机空战怎打? [“How Would the J-20 and the F-22 and F-35 Fight an Air Battle?”], 兵工科技 [Ordinance Industry Science Technology Magazine], (August 1, 2018), <https://i.ifeng.com/c/7z7qQOuNR21>.

³⁵ See, for example, “美空军参谋长称 F-35 相较 J-20 具有系统集成优势,” “歼 20 优缺点各有哪些” [“Strengths and Weaknesses of the J-20”], 知乎 (zhihu) blog, August 5, 2018, <https://zhuanlan.zhihu.com/p/41329890>.

³⁶ “How Would the J-20 and the F-22 and F-35 Fight an Air Battle?”

³⁷ 专家：中国 055 型驱逐舰与美伯克 III 不在一个量级上 [“Expert: China's Type 055 Destroyer and the Arleigh Burke Flight III are not of the Same Class”], 科技日报 [Science and Technology Daily], July 4, 2017; and 中国海军现役盾舰雷达相控阵化，宙斯盾被迫大换血 [“Chinese Navy's Phased Array Radar Forces U.S. Transition in Arleigh Burke Radar”], Sina Military, October 3, 2018.

³⁸ 中国核潜艇 ‘国之重器，要大发展’ [“Chinese Nuclear Submarines are ‘Country's Major Weapons, Should be Greatly Developed’], 观察者 [Observer], June 17, 2018.

³⁹ 外媒称中国 093B 可比肩美主力核潜艇 [“Foreign Media Reports China's Type 093B is Comparable to U.S. Main Force Nuclear Submarines”], 参考消息网 [Reference News], July 1, 2016. The same comparison has been widely made since the report, without reference back to U.S. sources.

Type 039) is more positive, but as the potential battlespace has expanded, some analysts have noted the urgency of developing more advanced nuclear-powered attack submarines.⁴⁰

Training

U.S. operations during the Kosovo War and the Gulf War came as a shock to PLA leaders not only because of the awesome potential of precision strike, but also because it exposed a large gap in training between the PLA and U.S. forces.⁴¹ The Chinese appreciation of quality U.S. military training has carried over into analyses of more recent conflicts. In an assessment of foreign training methods, Major General Hua Zhongliang writes, “in recent limited wars, the U.S. military has paid a relatively low price in casualties while fighting and winning successive battles. Apart from its advantage in weaponry, an extremely important factor has been the high standards of its peacetime training. The U.S. training motto is ‘train as we fight, and fight as we train.’”⁴²

These lessons (and much of the phrasing) have carried over directly into the PLA’s effort to train under “actual combat conditions” (实战条件)—i.e., conditions that most closely approximate a conflict with the world’s most advanced militaries. Although Chinese military leaders and analysts see major progress in the area of training, they insist that Chinese training still lags. Employing the euphemistic “world-class” to compare Chinese practice to that of other advanced states (particularly the U.S. military), Yang Xiyu, senior fellow at the China Institute of International Studies, expressed a common view when he said that although “we are not at world-class in terms of hardware yet, the gap in the software [human resources and development] is even bigger.”⁴³

Borrowing a page from Deng Xiaoping and Hu Jintao, Xi Jinping has leveled harsh criticisms of the military, presumably in large part to bring the PLA into line and compel it to accept military reforms, a task that has also been greatly facilitated by Xi’s anti-corruption drive and the arrest of many top generals. In 2014, Xi derided the PLA’s “two insufficiencies” (两个能力不够), suggesting that its modernization was insufficient to fight a modern war and that the cadre at each level had insufficient capability to command a major war.⁴⁴ This was later expanded into the “five incapables” (五个不会), which notes that some officers cannot judge situations, understand higher authorities’ intentions, make operational decisions, deploy troops, or deal with unexpected situations. A central cause of these problems is, it is said, a lack of commitment to realistic training under actual combat conditions.⁴⁵

⁴⁰ 胡冬英, 黄锐, 蔡广友 [Hu Dongying, Huang Rui, Cai Guangyou], 推进潜艇兵力走向远洋的几点思考 (“Some Thoughts on Pushing Submarine Forces into Distant Oceans”), 舰船电子工程 [Ship Electronic Engineering], vol. 37, no. 1, (January 2017).

⁴¹ Andrew Scobell, David Lai, and Roy Kamphausen, eds., *Chinese Lessons from Other Peoples’ Wars*, (Carlisle, PA: U.S. Army War College Strategic Studies Institute, November 2011).

⁴² 钟华 [Zhong Hua], 贴近实战的外军军事训练 [“Approximation to Real Combat in Foreign Militaries’ Military Training”], 国防科技 [Defense Technology Review], no. 4, July 2014, p. 104.

⁴³ Beijing, China Global Television Network (CGTN), January 1, 2017 (discussion conducted in English).

⁴⁴ 李春立:着力破解“两个能力不够”问题 [“Li Chunli: Make Efforts to Resolve the ‘Two Insufficient Capabilities’ Problem”], 解放军报 [PLA Daily], December 30, 2014. The “two insufficiencies” borrowed much from Hu Jintao’s “two incompatibles” (两个不相适应) and “two gaps” (两个差距). Michael S. Chase, et al., *China’s Incomplete Military Transformation: Assessing the Weaknesses of the People’s Liberation Army (PLA)*, (Santa Monica, CA: RAND Corporation, 2015), pp. 71-72.

⁴⁵ 破解“五个不会”难题要从源头入手 [“Break the Difficult Problem of the ‘Five Incapables’ Requires Going to the Source of the Problem”], 解放军报 [PLA Daily], October 13, 2015.

There is some disconnect between these leadership criticisms and descriptions of training activities. In the latter, we see that the operational tempo, scale, and frequency of PLA and PLAN training activities have increased dramatically. A 2017 *PLA Daily* article noted that PLAN was exercising more, in more distant seas, and with greater realism than ever before. Whereas destroyers that retired in 2016 spent an annual average of 30 days at sea, traveling an average of 6,000 nm over that period, China's newest destroyers average more than 200 days at sea, logging 30,000 nm. Anti-submarine warfare exercises are conducted over vast areas and bring together various elements of the navy.⁴⁶ Bloggers and the popular media have celebrated these achievements, noting that time at sea for the newest PLAN warships exceed that of the U.S. Navy.⁴⁷

The quality of training has also evolved. During unscripted exercises, which have been introduced to the PLA over the last two decades, “the combat objectives of the two belligerent parties, their respective operational plans, their use of the electromagnetic frequency resources, and other specific details of the drill are not determined,” but instead left up to the commanders.⁴⁸ A February 2018 report on a large naval exercise conducted by the Southern Theater Command tells us that “unexpected” developments were more the norm than the exception and that the “red” (Chinese) force lost its ISR aircraft early in the battle when it approached too close to “blue” ships.⁴⁹

At the same time, some of these sources also note the difficulty of adjusting practice, especially when doing so impinges on established patterns of authority between superior and junior officers. PLAAF sources record the experience of commanders on the ground overriding the decisions of flight commanders and reassuming “control” of the battle at the moment of contact—and of inexperienced flight leads ceding control at equally critical moments.⁵⁰ Even ostensible instances of PLA triumph can be revealing. A June 2018 article in the *People's Navy* describes a fleet exercise in which submarine commanders were given a relatively free hand in their activities. The article noted that it had been common in past exercises for higher commands to send a staff “escort” aboard submarines during past exercises. This practice was abandoned despite trepidation about who would assume responsibility in case of failure. Noting the unrealistic nature of past practice, the article asked, “If war were to break out, where were all those higher level commanders and staffers going to come from to 'escort' every sub?”⁵¹

Jointness

Under Xi, perhaps no other military issue has received greater attention than jointness. The seven military regions have been replaced with five theater commands, each of which is a joint command capable of coordinating the activities of ground, naval, air, and rocket forces. According to PLA

⁴⁶ “Distant Seas and Oceans, Witnessing the Blossoming of a Major Power Navy.”

⁴⁷ See, for example, 中国已拥有世界最顶尖海军：军舰年出海 200 天，与美国海军持平！ [“China Already Has the World's Top Navy: Roughly Equal to the U.S. Navy!”], 科罗廖夫的军事博客 [Keluoliaofu Military Blog], April 20, 2019, https://mp.weixin.qq.com/s/6YUPVqcRb6pHOJ7I6PN_tQ.

⁴⁸ 徐同宣 [Xu Tongxuan], 抵近实战，云天大漠又论剑——在空军某训练基地近观“红蓝”体系对抗演练手记 [“Another Drill in the Sky Above the Immense Desert, Closely Matching Actual Combat Conditions—An Eye-Witness Account of a ‘Red vs. Blue’ System-of-Systems Confrontational Drill at an Air Force Training Base”], 空军报 [Air Force News], October 14, 2013, p. 3.

⁴⁹ 瞄着海战走大洋 [“Eying Naval Warfare, Moving Towards the Oceans”], 人民海军 [People's Navy], February 28, 2018, p. 1

⁵⁰ See Lyle J. Morris and Eric Heginbotham, *From Theory to Practice: People's Liberation Army Air Force Aviation Training at the Operational Unit*, RAND Corporation, 2016, p. 24.

⁵¹ 谋打赢，他们全力以赴 [“Planning for Victory, They Do Their Utmost”], 人民海军 [People's Navy], June 19, 2018, p. 3.

Army researcher Zhang Xicheng, “There can be no battle without jointness, and without jointness there can be no victory.” PLA commentators have looked to historical and foreign examples to highlight both the importance and means of improving jointness. Zhang Xicheng, for example, highlights poor jointness for the failure of Argentine forces to defeat the British in the Falklands War, despite “extreme geographical advantage.”⁵² The U.S. military is the most frequent point of comparison and is, at least in the post-Goldwater-Nichols era, viewed as the gold standard.⁵³ Shortcomings in Chinese jointness are a central theme in Xi’s critique of the PLA.

Chinese commentators acknowledge that “by comparison with foreign militaries, joint operations in our military started later, and the joint operations command system is still being introduced and adapted.”⁵⁴ Moreover, these analysts recognize that jointness requires a culture shift, and that is resisted in some quarters of the PLA.⁵⁵ The PLA has introduced a “triad” of military educational reforms (at academies, operational units, and military professional education) to foster jointness. It has created on-the-job training for joint personnel and a certification program for them at the theater commands, and preparations are being made for a virtual joint command college with online courses. But in a September 2018 speech, Xi Jinping noted that military professional education reform remained in the initial exploratory stage and that traditional mindsets persist.⁵⁶ Chinese military journals and newspapers are filled with uplifting stories of progress in jointness, but it is not clear how a fundamental culture shift can occur without the sort of structural incentives introduced under Goldwater-Nichols.

In the event of a crisis or impending war, questions about training, competence, and human resources would compound uncertainties posed by the U.S. presence on China’s sea lines of communication and the possibility of technological surprise. These considerations temper China’s sense of satisfaction with the modernization of the PLA over the last several decades. How does China view potential changes to the balance of power under conditions of intensified competition with the U.S.?

The Impact of Intensified Military Competition with the United States

Chinese analysts have written extensively on various U.S. policies, concepts, or ideas designed, in part or in whole, to slow or reverse eroding U.S. superiority in the Pacific. These include the “pivot” to Asia, the Indo-Pacific strategy, efforts to spur military transformation, Air-Sea Battle and other new operational concepts, the Third Offset Strategy and other cost imposing strategies, the notion of great power competition, and increased U.S. military spending under the Trump Administration.

⁵² 张西成 [Zhang Xicheng], 联字为上, 该谁出手谁出手—在解决问题中聚力推进备战打仗 [“Jointness above all, Whoever Should Act Does So: Combining Efforts to Resolve Problems in Advancing Combat Readiness and Warfighting Preparation”], 解放军报 [PLA Daily], March 11, 2019.

⁵³ Fu Zhengnan, a researcher at the Academy for Military Sciences, for example, penned an article in the *PLA Daily* outlining the history of U.S. military jointness. 付征南 [Fu Zhengnan], 美国联合作战三次转变首提 ‘全球一体化作战’ [“The Three Transformations in U.S. Joint Operations and Globally Integrated Operations”], 解放军报 [PLA Daily], January 22, 2016.

⁵⁴ 张西成 [Zhang Xicheng], 超越自己的军种身份 [“Overcoming Service Identities”], 解放军报 [PLA Daily], February 25, 2019.

⁵⁵ 张西成 [Zhang Xicheng], 联字为上, 该谁出手谁出手—在解决问题中聚力推进备战打仗 [“‘Jointness’ above all, Whoever Should Act Does So: Combining Efforts to Resolve Problems in Advancing Combat Readiness and Warfighting Preparation”], 解放军报 [PLA Daily], March 11, 2019.

⁵⁶ On educational reforms, see Kevin McCauley, “‘Triad’ Military Education and Training Reforms: The PLA’s Cultivation of Talent for Integrated Joint Operations,” *China Brief*, Jamestown Foundation, vol. 19, no. 5 (March 5, 2019).

Most Chinese sources acknowledge that increased competition and a sharper U.S. military focus on China will complicate the PLA's efforts to narrow the gap. "Without a doubt," a senior analyst at a government think tank writes, the Third Offset Strategy and other U.S. cost imposing strategies "will place pressure on China ... and challenge China's peaceful rise and regeneration."⁵⁷ An academic at the Chinese Academy of Military Science similarly writes that the Third Offset Strategy may "help the United States sustain, and in some areas expand, its technological superiority. It may well deter potential adversaries from challenging the United States."⁵⁸

At the same time, most analysts see the probable impact as marginal—assuming China does not overreact to the challenge. Implementing efforts to transform the U.S. military will be hindered by bureaucratic and budgetary factors, and China, which spends only 1.5 or 2 percent of GDP on the military, is unlikely to fall prey to economically damaging competition in the same way the former Soviet Union did.⁵⁹ Overall, most Chinese analysts appear to believe the United States continues to hold a technological lead, though some disagree.⁶⁰

Chinese analysts make similar points about increased budgets, deployments to Asia, and military diplomacy. Again, these are viewed as new challenges to China, but not ones that are likely to be insurmountable. One report notes that the U.S. Navy's increased operational tempo has resulted in lower readiness rates and more accidents, despite budget increases.⁶¹ And China's diplomacy has mitigated the impact of U.S. efforts to tighten alliances and develop new military partnerships in Southeast Asia and elsewhere.⁶² The overall tenor of reporting on the future, especially technology-related issues, is one of greater uncertainty but still tempered optimism.

One area of particular concern involves developments that impinge on China's nuclear security. For decades, Chinese strategists have debated whether U.S. missile defenses jeopardized its retaliatory capability and, if so, how to respond.⁶³ Despite the growth and qualitative improvement of China's nuclear forces, calculations of sufficiency have been complicated by the evolution of cyber, precision strike, and ISR capabilities—the Second Offset—as well as the deployment of additional missile

⁵⁷ 李岩 [Li Yan], 美国新一轮军事转型评析 ["Evaluation of America's New Military Transformation"], CICIR website, October 17, 2019, <http://www.cicir.ac.cn/NEW/opinion.html?id=d2b6bb3f-3ae7-4866-aa97-f689bf5c274c>.

⁵⁸ Fan Gaoyue, "A Chinese Perspective on the US Third Offset Strategy and Possible Chinese Responses," A Study of Innovation and Technology in China (SITC) Research Brief, University of California, January 3, 2017. For a contrasting view, see 院建平 [Yuan Jianping], 成本强化对华竞争的方式探析 ["Analyzing the Forms of Cost Imposing Strategies Against China"], 东北亚论坛 [Northeast Asia Forum], no. 3 (2017), p. 15-28.

⁵⁹ In addition to articles by Li and Fan, cited above, see 院建平 [Yuan Jianping], 成本强化对华竞争的方式探析 ["Analyzing the Forms of Cost Imposing Strategies Against China"], 东北亚论坛 [Northeast Asia Forum], no. 3 (2017).

⁶⁰ Li, "Evaluation of America's New Military Transformation." Fan Gaoyue is among those who express pessimism about China's technological position vis-à-vis the United States.

⁶¹ 谋求"绝对优势"难掩现实窘境 ["In Seeking Absolute Dominance, (The U.S. Navy) Cannot Avoid Predicaments"], 解放军报 [PLA Daily], November 21, 2019.

⁶² 胡欣 [Hu Xin], 美国东南亚战略调整与联合军演功能分析 ["Assessment of U.S. Strategic Adjustment in Southeast Asia and the Function of Combined Training"], 南洋问题研究 [Southeast Asia Affairs], vol. 180, no. 4 (2019); 朱翠萍 [Zhu Cuiping], 特朗普政府'印太'战略及其对中国安全的影响 ["The Trump Administration's 'Indo-Pacific' Strategy and its Impact on Chinese Security"], 南亚研究 [South Asia Studies], no. 4 (2018). Hu Xin is an associate professor at the Chinese Academy of Military Science; Zhu Cuiping is a professor at the Indian Ocean Research Center at Yunan Caijing University.

⁶³ Brad Roberts, *China and Ballistic Missile Defense: 1955 to 2002 and Beyond*, Institute for Defense Analyses, IDA Paper P-3826, September 2003, <https://www.osti.gov/etdeweb/servlets/purl/20759615>.

defenses.⁶⁴ Most recently, U.S. adjustments to strategic thought and nuclear and space policy under the National Security Strategy and Nuclear Posture Review (2018) have prompted another round of discussion about the nuclear balance and whether adjustments will be necessary on the Chinese side. Here, too, initial conclusion appears to be that overreaction—and the type of arms racing that would consume a larger proportion of national wealth—would be counterproductive to Chinese security.⁶⁵

Nevertheless, whereas China may be able to tolerate a degree of uncertainty about the possibility of temporary reversals in the conventional balance at some distance off its coast, it is likely to be more conservative in maintaining a “lean and effective” retaliatory capability.⁶⁶ At the same time, however, both the strategic and theater and nuclear and conventional are becoming interconnected in ways that may challenge China’s ability to *not* respond to specific conventional challenges that might affect perceived nuclear security.⁶⁷

Conclusion

It is perhaps an inevitable feature of our increasingly connected world that there should be less mystery surrounding Chinese assessment of the balance of power than there was to be found in the alternate world of Soviet “correlation of forces.” To be sure, our picture of Chinese perceptions is far from perfect, and we would want a much better understanding of Chinese wargaming, as well as PLA reporting more generally, before drawing conclusions with great confidence. Nevertheless, the cross-fertilization of Chinese and U.S. sources provides a degree of overlap in understanding that has sometimes been missing in historical rivalries.

Overall, there is consensus in China that the PLA has narrowed the gap in overall military capabilities with the United States over the last two decades. There is also general agreement, at least within the expert community if not always the popular media, that Chinese capabilities continue to lag those of the United States by an extent that may surprise some U.S. strategists. Chinese analysts believe that Chinese capabilities may nevertheless enjoy a degree of superiority—or at least be able

⁶⁴ Eric Heginbotham, Michael S. Chase, Jacob L. Heim, Bonny Lin, Mark R. Cozad, Lyle J. Morris, Christopher P. Twomey, Forrest E. Morgan, Michael Nixon, Cristina L. Garafola, Samuels K. Berkowitz, *China’s Evolving Nuclear Deterrent: Major Drivers and Issues for the United States*, (Santa Monica, CA: RAND Corporation, 2017), pp. 57-68; Michael Glosny, Christopher Twomey, Ryan Jacobs, *The U.S.-China Strategic Dialogue, Phase IX Report*, Project on Advanced Systems and Concepts for Countering Weapons of Mass Destruction (PASCC), December 2014.

⁶⁵ Some of this discussion played out in the media. See “Making Sense of Chinese Reactions to the U.S. 2018 Nuclear Posture Review,” *The Diplomat*, February 27, 2018. Articles in the *Global Times*, one of which quoted an “anonymous military expert,” argued that China should consider the development of low yield weapons. Subsequent articles, published in the state media by more authoritative voices, decried the proposal as “making nuclear weapons more usable.” On the space component, see 何奇松 [He Qisong], 太空武器化及中国太空安全构建 [“Space Weaponization and Building Chinese Space Security”], *国际安全研究* [*International Security Studies*], no. 1 (2020).

⁶⁶ “Lean and effective” is China’s principle for nuclear force building. In principle, it limits forces to the minimum required to allow for a survivable retaliatory capability measured by a handful of deliverable systems (after incurring a strike). The consistent message conveyed by Chinese interlocutors at the Track 1.5 U.S.-China Strategic Dialogues is that “lean and effective” is elastic and that, if the threats posed by a potential U.S. first strike increased, China would deploy as many systems as necessary to, for example, survive and overwhelm U.S. defenses. See Glosny et al., *The U.S.-China Strategic Dialogue, Phase IX Report*, p. 8.

⁶⁷ U.S. strategists have long been concerned with the escalatory potential of China’s deployment of similar conventionally armed and nuclear armed ballistic missiles (and the more recent deployment of the dual use DF-26) and the likely overlap of conventional and nuclear command and control for those systems. China has its own concerns with U.S. long-range precision strike. With a large proportion of China’s “strategic” nuclear forces now deployed on Jin-class SSBNs, U.S. ASW and the potential for intentional or unintentional attacks on Chinese SSBNs is also a major Chinese concern. See Tong Zhao, *Tides of Change: China’s Nuclear Ballistic Missile Submarines and Strategic Stability*, (Washington, D.C., Carnegie Endowment for International Peace, 2018), p. 38.

to contest U.S. supremacy—in scenarios close to home, particularly within or just beyond the first island chain. There is somewhat less agreement on the extent to which China continues to lag in militarily relevant technology and the degree to which the U.S. might slow or reverse change in the balance of power through its efforts to compete more directly and vigorously with China. And although some voices call for responses in kind, most authoritative sources urge China to stay the course and avoid engaging in an open and resource-consuming arms race.

Overall, there is probably some bias towards an exaggeration of China's capability within its assessment system, though there appears to be great variation in terms of bias between types of analysis (and some types of sources are probably biased in the opposite direction), and the degree of overall exaggeration is likely relatively modest. Chinese political leaders have followed a relentlessly forthright approach to acknowledging problems and seeking solutions since at least the era of reform and opening, and it is unlikely that modest biases in military assessment would lead to major miscalculation at the political level. This hopeful conclusion, however, comes with major caveats, the most important of which is that severe international crises may elevate the perceived risks of compromise or inaction. Hence, even if leaders calculate that the probability of success in bold or dramatic action may be low or modest, the appeal of such a course will rise if the alternatives are perceived as being even worse.

About the Author

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