

MONOGRAPH SERIES

MORE THAN A NUMBERS GAME: Comparing US and Chinese Landpower in the Pacific Requires Context

Brennan Devereaux and Joshua Arostegui



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Cover Image Credits

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Image description: US Army soldiers assigned to 3rd Platoon, Alpha Battery, 1st Long Range Fires Battalion, 1st Multi-Domain Task Force fire an M142 High Mobility Rocket System during Exercise Balikatan 24 at Rizal, Philippines, May 2, 2024.

Photo by: US Marine Corps Corporal Kyle Chan

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Foreword

As China continues to expand its military capabilities and assert its influence in the Indo-Pacific region, the US Army must understand this rising competitor to make informed decisions about organizing, training, and equipping the force. Although aspects of the People’s Liberation Army will likely remain shrouded in mystery, the US Army’s transformation efforts are inherently tied to this potential adversary’s strategies, strengths, and weaknesses.

In this monograph, Brennan Deveraux and Joshua Arostegui provide a detailed comparative analysis of the US Army and the People’s Liberation Army Army. Deveraux and Arostegui’s comprehensive approach examines five features of land warfare: the two nations’ definitions of landpower, uses of land forces to build relationships, underlying warfare concepts, associated modernization efforts, and varying approaches to simulating land warfare in the region. Combined, the takeaways from each section create a contextual baseline for understanding the unique qualities of the People’s Liberation Army.

Unexpectedly, this monograph finds many similarities between the forces, challenging potential assumptions regarding relative US advantages like jointness, realistic training with opposing forces, and an understanding of landpower’s role on a future battlefield. The authors’ assessment adds a new lens to the China problem the Department of Defense is tackling. The authors reinforce the need for context and the need to avoid mirror imaging when analyzing the People’s Liberation Army, and they conclude by identifying necessary further research.

If the United States can gain a realistic appreciation of the People’s Liberation Army—its capabilities, intentions, and war-fighting intangibles—then the US Army may well develop or exploit relative advantages and help deter or shape a future clash between the great land forces of the United States and China.

C. Anthony Pfaff
Director, Strategic Studies Institute
and US Army War College Press

Executive Summary

The US Army faces difficult decisions as it prepares for uncertainty in the Pacific theater. The People's Liberation Army (PLA), the US military's pacing threat, serves as a tangible marker to guide service-specific organizational, training, and equipping choices. Moving forward, the United States must understand the PLA Army in relation to US land forces by accounting for more than defense spending or similar items, such as the number of specific weapons systems. This monograph thus leverages primary sources—such as Department of Defense publications, reports by the Congressional Research Service and the RAND Corporation, and ample documents translated directly from Chinese sources—to conduct a broad, in-depth comparison of critical landpower components. The monograph aims to establish a more honest and realistic assessment of where PLA and US military forces are and where those forces are headed, providing a contextual framework for future research. Our assessment compares the nations' definitions of landpower, uses of land forces to build relationships, underlying warfare concepts, associated modernization efforts, and varying approaches to simulating land warfare in the region. The monograph concludes by examining warfare intangibles designed to challenge conventional thinking surrounding the People's Liberation Army and to assist US military and policy practitioners in assessing relative strengths and advantages the US military can grow or exploit.

The first section of this monograph compares the United States' and China's respective definitions of landpower. Unsurprisingly, similarities arise concerning fundamental aspects of warfare like deterring adversaries and prevailing over a foe should conflict arise. More unexpectedly, both nations' definitions emphasize the role of land forces in a broader joint system, a feature the United States boasts as a relative strength. Although the PLA Army mirrors the US Army's prioritization of jointness in Chinese strategic literature, the application in practice remains untested. The significant difference identified in the monograph's first section is the US military's external focus on shaping the environment, compared to the PLA Army's hyperfocus on the future battlefield. In turn, the Chinese and American definitions of landpower underpin each nation's strategic use of landpower, with the US Army's definition focused on power projection and the PLA Army's definition focused on protecting the homeland and the immediate periphery.

The second section assesses how each nation leverages land forces to build relationships with potential allies and partners. The United States has built its defensive strategy around developing relations abroad, with access, basing, and overflight being critical components of US military operations. Consequently, the US Army prioritizes relationships and focuses on developing

partnerships that extend beyond simply developing interoperability through war-fighting exercises. The US Army's focus has included a balance of rotational forces and continuous forward presence. In contrast, the People's Liberation Army does not need to gain access to its envisioned future battlefield. Instead, though the PLA Army conducts training exercises with other nations, these exercises reveal a distinct lack of integration between forces. Still, the value of relationships with partners and allies is inherently difficult to measure. The contributions of external countries to a potential future conflict may be both tangible and intangible, but the extent to which the actions impact a conflict or are reliable remains unclear.

The third section examines the developing warfare concepts that underpin each military's vision of future warfare. With a shift from counterinsurgency operations to large-scale combat operations, the US military refocused its concept to account for the other great powers. As a force built around power projection, the US military's shift focuses on gaining entry to a contested environment and overcoming the proliferation of emerging technologies designed to neutralize US military capabilities. Whereas the US military's concept expands upon and evolves the United States' long-standing global efforts, the PLA Army's concept represents a substantial growth from an internal, defensive focus to one of regional assertion and strategic mobility. Notably, though various underlying factors drive the American and Chinese militaries to develop their respective concepts, both nations reached remarkably similar conclusions about the characteristics of future warfare and the importance of incorporating and synchronizing the emerging domains.

The fourth section analyzes each land force's ongoing and planned modernization efforts related to each nation's associated warfare concepts. The United States publishes clear modernization plans and priorities, simplifying any assessment of progress. Consequently, the monograph's fourth section highlights the challenges the United States has faced, including canceling aviation programs and delaying planned fielding dates for missile programs. Although the People's Liberation Army does not openly publish its priorities in the same way the United States does, the Chinese military is following a long-term modernization plan. But, instead of a service-wide process, the People's Liberation Army appears to be following a piecemeal approach that supports individual units. Although modernization actions may be the most tangible points of comparison, the time elapsed from decision to equipment fielding is measured in years, leading to alterations of choices and adjustments to plans. These changes add a layer of difficulty to understanding what a force will become versus what the nation intends the force to be.

The fifth section explores how each force simulates warfare. This exploration includes detailing the US military's newest combat-training center, the Joint Pacific

Multinational Readiness Center, which focuses on training alongside Indo-Pacific nations in various environments. Realistic opposing forces at this facility and other combat-training centers have long been a staple of simulated-warfare training for the US military and its allies. But this strength is not unique to the West. The PLA Army has made great strides in developing and modernizing training centers in numerous regions. A significant component of China's improvements is the incorporation of opposing forces as a dedicated capacity or, when needed, as unit augmentees. Still, without public discourse surrounding the training, the extent to which the PLA Army's emphasis on realistic training is leading to situations that challenge the training audience, as opposed to simply reinforcing successes, remains unclear.

The final section synthesizes the monograph's findings across the five comparative themes. With the contextual baseline established, the conclusion promotes further research on more nuanced variables and the intangibles of war fighting that must be addressed when examining landpower in the Indo-Pacific theater. The overall conclusions highlight more similarities between the forces than differences. This revelation challenges a paradigm of US military superiority and reframes the PLA problem that should be driving the US Army's organizing, training, and equipping decisions.

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In naming the People's Republic of China (PRC) the United States' pacing threat, US strategic documents provided a driving force for military decisions, as each service must prepare for the near-peer competitor. Although maritime forces are the crux of any Indo-Pacific strategy, the role of landpower in a potential conflict cannot be an afterthought. In turn, as the US Army organizes, trains, and equips for an unforeseen future, service decisions should aim to create or amplify relative operational advantages over the Army's rising foe. But a prerequisite for such efforts is discerning critical differences between the two nations' land forces.

The most straightforward approach to assessing a military force's relative strengths and advantages is directly comparing like items, such as tallying ships and aircraft. In the land domain, this type of comparison does not bode well for the US military. China has one of the largest standing armies in the world and soon, is likely to surpass the United States in many measurable capabilities, from battle tanks to modern artillery systems. This size advantage is not likely to change; the US military is bound to remain numerically inferior to its adversary. But a numerical method of analysis often lacks context, creating false narratives that skew crucial national security considerations. This analytical limitation is particularly evident when assessing land forces, which place less premium on exquisite platforms and magazine depth compared to the air and maritime services.

Therefore, one should not assume rudimentary, quantifiable metrics comparing the US military to the Chinese People's Liberation Army (PLA) paint an accurate or helpful picture for decisionmakers evaluating US strategy in the Indo-Pacific theater. These numbers provide limited value because analysis that relies on mirror imaging and projecting Western standards onto adversarial military capabilities is inherently flawed; not all militaries are designed the same or for the same function. Complicating matters, the People's Liberation Army, which serves as the armed wing of the Chinese Communist Party instead of as a national army, is not transparent. This opacity makes ascertaining its specific composition and end strength difficult. In a July 2024 article, Shanshan Mei and Dennis J. Blasko attempted to steer analysts away from mirror imaging by examining, to the extent possible,

the makeup of the People’s Liberation Army. The authors conclude, “The Chinese military system has been adapted to suit its own unique and changing national circumstances,” requiring detailed analysis to appreciate how this system differs from the US military.¹ For example, in a separate August 2024 article, Mei and Blasko note the PLA Army’s border- and coastal-defense forces—an organization with no equivalent in the US Army—could include more than 100,000 personnel dispersed across the country to patrol and monitor China’s borders and coastlines for military activity.² Consequently, comparing American and Chinese land forces requires context, not just numbers.

Importantly, this monograph specifically focuses on comparing PLA Army and US Army elements of landpower in the Indo-Pacific. This deliberate scoping means the following analysis does not include aspects of Chinese landpower found outside the Army, including the PLA Air Force Airborne Corps, the PLA Navy Marine Corps, the People’s Armed Police, the Chinese militia, or other civilian law enforcement organizations. Notably, the PLA Army reserve forces, though not explicitly referenced here, are part of the army inherent in the comparisons made within the monograph.³

This project also aims to establish a contextual baseline that serves as the framework for future comparisons of the two forces. Divided into six sections, the monograph examines foundational components of land warfare at the macro level to draw out the requisite characteristics of each army. The first section compares US and Chinese definitions of landpower, highlighting the importance of jointness and the differing role of land forces in shaping the environment. The second section assesses each nation’s approach to using land forces to build relationships, illuminating the inherent ambiguity regarding the impact of allies and partners. The third section details the underlying warfare concepts that underpin each military’s vision of future warfare, showing a surprisingly similar domain-centric approach. The fourth section builds on the warfare concept by analyzing associated modernization efforts, with an emphasis on capabilities that can influence a conflict in the geographically challenging Pacific theater. The fifth section explores how each force is experimenting with new systems; this section examines each country’s varying approaches to simulating land warfare in the region. The final section synthesizes the findings and recommends seven questions for further research on the nuanced variables and intangibles of war fighting that must be addressed when examining landpower in the Indo-Pacific theater.

Overall, the research presented highlights more similarities than differences. This similarity is likely in stark contrast to many readers’ assumptions. In emphasizing this similarity, the monograph establishes a detailed understanding of comparative factors between the forces, in addition to challenging unsubstantiated assumptions

about the prestige of the US military that could detract from the critical decision making required to overcome the People’s Liberation Army’s numerical advantages.

Defining Landpower

The most fundamental component of comparing the US and Chinese armies is understanding each military’s respective definitions of landpower. For the United States, *Operations*, US Army Doctrine Publication 3-0, defines landpower as “the ability—by threat, force, or occupation—to gain, sustain, and exploit control over land, resources, and people.”⁴ Although the publication proceeds to include standard warfare tasks in this definition—like the ability of the Army to impose its will on an enemy, control terrain, and defend national interests—the US definition of landpower is not limited to combat-oriented missions.

Instead, the landpower definition in *Operations* includes development capabilities—before, during, and after conflict. For example, the definition identifies the importance of setting conditions for “political and economic development” and responding to catastrophic events “to restore infrastructure and reestablish civil services.”⁵ An essential aspect of this broad definition is the capacity to “engage to influence, shape, prevent, and deter in an operational environment.”⁶ This shaping component is foundational to understanding the US Army’s role beyond conflict, particularly for forward-deployed forces—which is something the PLA Army does not emphasize.

Notably, the US definition of landpower is underpinned by the notion land forces are a singular component of the military rather than existing in isolation. *Operations* proclaims, “The Army accomplishes its mission by supporting the joint force,” land forces serve “as part of the joint team,” and “Army forces both depend upon and enable the joint force.”⁷ This jointness has been portrayed as a relative advantage over more isolated powers like China and Russia. A recent RAND Corporation report notes, “The United States has placed a significant amount of emphasis on DoD’s jointness efforts and, as a result, these efforts have come to be viewed as a core element of the U.S. military success over the past three decades.”⁸ The authors argue, “The development of jointness in the U.S. military has enhanced its overall effectiveness in . . . command and control and a host of critical missions areas that will be crucial in any major power conflict in the future.”⁹ And the authors add jointness provides the military a “distinct advantage in various crises in the Indo-Pacific region.”¹⁰ But this emphasis on landpower as a component of broader military efforts is not as unique as it once was.

In addition to the landpower definition, *Operations* highlights four strategic roles for the Army that highlight the enduring need for land forces: shape operational

environments, prevent conflict, prevail in large-scale ground conflict, and consolidate gains. Shaping operational environments nests with the peacetime components of the nation's landpower definition. This role includes "all the activities intended to promote regional stability and to set conditions for a favorable outcome in the event of a military confrontation," as well as to "dissuade adversary activities designed to achieve regional goals short of military conflict."¹¹ This strategic role underpins the continuous use of a forward-landpower presence and the concerted effort to develop partner capabilities. Forward landpower increases the viability of multinational defense efforts and provides the military "peacetime and contingency access to a host nation."¹² This emphasis on forward landpower and shaping the global environment indicates how landpower fits into the broader US power-projection strategy, ensuring the military can rapidly respond to global crises.

At the same time, forward presence is built on a long-held assumption that a clash of arms will inevitably be on foreign soil, with the US homeland being a sanctuary.¹³ But the United States is a global power, meaning this forward stationing of land forces and the responsibility of shaping the potential battlefield of the future are not isolated to the Pacific region. In fact, the US Army has forces and critical capabilities scattered around the globe; the service is dispersed and committed to numerous missions. Therefore, when tallying sheer landpower capabilities, measuring the entirety of the US Army would be misleading.

The other strategic roles identified in *Operations* are more commonplace and involve deterring adversaries and prevailing in a conflict if deterrence fails. These roles do not warrant further analysis for this project other than identifying the Army prioritizes its war-fighting mission. Instead, the main difference between US and PRC landpower definitions lies in the armies' peacetime functions.

Historically, the People's Liberation Army, an army-dominated military for the first 75 years of its existence, focused on continental (land) defense of the mainland and disputed territories out to the first island chain. But the People's Liberation Army does not have a standard landpower definition or a document comparable to the US Army's *Operations* publication. Rather, the Chinese military focuses on domain superiority and service-specific strategies.

According to the 2007 *Military Encyclopedia on Army Strategy*, the People's Liberation Army defines land superiority (制陆权), which can also be translated as control of landpower, as obtaining and controlling the land battlefield in combat, during an unspecified period of time, to gain freedom of action on land and to deprive the enemy of that freedom. The People's Republic of China further separates these efforts into "strategic control" and "campaign control." Strategic control is control over the entire land battlefield or a theater, either during

a war's entirety or within a specific phase. Campaign control is on a smaller scale and is defined as the partial control of a battlefield area during a specified strategic phase or in a strategic direction.¹⁴

In recent years, official PRC media has published articles on the People's Liberation Army's increased need for landpower in modern, informationized joint operations. A 2020 *China Military Online* article notes comprehensive protection and control of the land battlefield is necessary to ensure the survival of friendly forces, freedom of action, effective deployment of forces in specific land areas, and timely regulation of action; landpower can also help transform informational advantage and decision-making advantage into advantage in action. More importantly, the ability to use landpower to obtain land dominance will enable the People's Liberation Army to expand that dominance to other domains that rely on land-support conditions for their operations, including the maritime, air, space, and information domains.¹⁵

In this context, the People's Liberation Army, like the US military, acknowledges the interconnectedness of the services, going as far as to highlight a dependency on landpower as a foundational component of broader operations. This statement aligns with a gradual and ongoing shift in the People's Liberation Army toward emphasizing jointness. A RAND Corporation report details the PLA efforts, noting the People's Liberation Army has recognized, in US military operations globally since the Persian Gulf War, an "immediate need to develop an effective joint force."¹⁶ The report's authors add, "The PLA has demonstrated its commitment to building jointness through a variety of military science research efforts, technology development, training, and doctrinal development programs that evolved over the past three decades."¹⁷ Similarly, David Finkelstein, the director of the China and Indo-Pacific Security Affairs Division at the Center for Naval Analyses, notes: "The PLA's conception of how it should fight as a joint force has evolved, based on lessons learned from its own exercises and experimentation, its analysis of the operations of foreign militaries (the US and Russia in particular), and its changing assessments of the nature of modern warfare."¹⁸ He concedes these efforts are "intended to take PLA war fighting to the next level" and are "another demonstration that the PLA continues to be a learning organization."¹⁹ In turn, the perceived US advantage of emphasizing jointness is likely becoming commonplace among professional militaries. The discerning distinction, then, is whether this emphasis is theoretical or will translate to operational decisions in a crisis.

A 2022 *China Military Online* article expanded on the need for landpower in a future, intelligentized battlefield. Although the article reemphasized the need for landpower in supporting the physical domains, the authors also noted landpower

would be required to enable tactical clouds to link manned and unmanned platforms; establish land-based precision kinetic and nonkinetic fires to disrupt the adversary's observation, orientation, decision, and action (OODA) loop; build networks and data links to share command-and-control, intelligence, and reconnaissance information rapidly; and implement cognitive-domain dominance to control public opinion.²⁰ Overall, landpower serves a critical function on the People's Liberation Army's envisioned future battlefield.

In addition to the emphasis on domains, the People's Liberation Army has a broader army-service strategy that augments the People's Liberation Army's combat-focused description of land superiority. This strategy is like the United States' distinction between the US landpower definition and the Army's strategic roles. The People's Liberation Army's 2014 *Army Strategic Theory* defines the army's strategic application (陆军战略运用) as the methods by which the PLA Army can achieve strategic objectives through appropriate ways and means using deterrence, war, and military operations other than war (MOOTW) (非战争军事行动).²¹ Although deterrence and war align with the US military's strategy to prevent and prevail in ground conflicts, analysts should not conflate MOOTW with Western shaping operations.

The term MOOTW covers a broad range of operations including the following types: confrontation (antiterrorism, anti-piracy, and so forth), law enforcement (international peacekeeping, domestic martial law, and so forth), assistance (disaster relief, overseas protection, and evacuation), and cooperation (international military joint exercises, and so forth). Although the two nations clearly overlap in the execution of these types of missions, an important distinction is the underlying motivation behind the actions. Instead of building relationships or establishing a presence, these PLA operations fit an internal narrative that strengthens the People's Liberation Army. First, although MOOTW often support peace and stability, such operations also add a level of prestige to the military force executing MOOTW, elevating the nation to great-power status. Second, MOOTW allow the People's Liberation Army to interdict a growing problem with minimal military force, quelling a potential issue before it requires a significant military response. Third, MOOTW provide the military forces executing the missions with operational and war-fighting experiences that resemble combat operations, such as mobilization, logistics planning, and rapid insertion.²² According to the People's Liberation Army's 2020 *Science of Military Strategy*:

Carrying out non-war military operations is not only a requirement for accomplishing missions, but also a test and exercise for the troops, which is conducive to improving

the combat capabilities of the troops. In the process of conducting non-war military operations, the troops can be tempered and improved in planning, decision-making, organization, implementation, command, and support, thus laying a solid foundation for winning the war.²³

In the context of the PLA strategy, John S. Van Oudenaren, a China analyst, argues MOOTW tasks are a means for China to overcome its “peace disease,” allowing the People’s Liberation Army to “compensate for its lack of battlefield experience” by executing similar tasks.²⁴

Although nuanced, this distinction in motivation is critical and highlights the nations’ differing roles in the region. The United States is competing for a presence, shaping the future battlefield to establish a forward foothold that enables the away game. In contrast, if the future battlefield is in the Pacific, China may well be focusing on preparations to leverage its home field advantage. Consequently, one can assume the varying definitions of landpower are directly tied to the contrasting objectives—projecting forward versus defending a sphere of influence.

The difference in how the United States and China define landpower impacts the priorities of each nation’s army in the region. The US Army applies landpower through engagement strategies and the forward employment of forces in the Indo-Pacific to compete against China by influencing and shaping the operational environment. But the US application of landpower is not isolated to one region, leading to a dispersion of capabilities and the potential to overcommit limited resources.

In contrast, the PLA Army’s efforts revolve almost exclusively around conflict, including rehearsing warfare tasks through unconventional operations, dismissing the peacetime component of expanding international ground-force cooperation, and developing campaign-focused strategic partnerships like the US Army. Stated simply, the PLA Army does not have to shape the battlefield to gain entry to it. Another significant source of China’s varying approach to landpower is the Chinese Communist Party’s longtime strategic principle of advocating for partnerships rather than alliances and refusing to join any military bloc.

Landpower and Relationships

China has historically shied away from alliances.²⁵ But the People’s Republic of China recognizes the value of training and building trust with partner nations’ land components. Chinese texts on military strategy promote the use of combined exercises and operations to protect national interests and shape the nation’s global

image as a strategic partner. Strategic texts echo a belief that “China’s good international image and growing status as a world power” will enable the nation “to seek a favorable international strategic environment.”²⁶ Consequently, the PLA Army routinely hosts and sends representatives to exercises, military-skills competitions, and small-unit competitions across the globe. In fact, China’s participation in exercises with members of the Association of Southeast Asian Nations hit a new high in 2023.²⁷ Still, most engagements were small-scale.

Most concerning for Western analysts should be the exercises conducted with Russian forces. Chinese ground-force participation in Russian strategic exercises in the Indo-Pacific, notably *Vostok-2018* and *Vostok-2022* in Russia’s Far East, remains sizable.²⁸ China also hosted a large contingent of Russian troops at its *Western Joint-2021* exercise in *Qingtongxia*.²⁹ But since the 2022 invasion of Ukraine, most bilateral events between Russia and China have been focused on air and maritime training. The PLA Army learns from Russia during these exercises, but these lessons do not compare to the close integration the US military cultivates with allies and partners, and the Sino-Russian exercises will likely not lead to the same level of operational cooperation in the region. This disparity exists because, although China’s strategic documents promote exercises with other regional powers, this underpinning does not appear to emphasize the underlying value of relationships in improving the PLA Army’s ability to conduct modern war against peer adversaries. Consequently, the PLA Army has no persistent deployment of forces to other Indo-Pacific nations—at least not comparable to the US Army’s approach in the region.

The US Army sends thousands of troops around the Indo-Pacific region year-round to support exercises like *Cobra Gold* in Thailand, *Balikatan* and *Salaknib* in the Philippines, *Ulchi Freedom Shield* in South Korea, *Super Garuda Shield* in Indonesia, and *Yama Sakura* in Japan.³⁰ These exercises are designed to build partnerships and cover tasks like amphibious joint logistics, over-the-shore operations, ground-force maneuvers, and combined artillery and air-defense training. General Charles A. Flynn, former US Army Pacific commanding general, recently commented, because armies “play a central role in territorial defense and protecting their national sovereignty,” he believes landpower is “the security architecture that binds this region together.”³¹ Importantly, this emphasis on partners’ defense capabilities goes beyond training.

The United States leverages relationships and training opportunities to highlight systems partners and allies can purchase to modernize their respective forces through the Foreign Military Sales program. Since 2019, purchases like the Stryker infantry-carrier vehicles for Thailand, attack-helicopter platforms for the Philippines, and an Integrated Air Defense Weapons System for India have strengthened

partner armies in the region, enhanced interoperability for a potential coalition, and created future opportunities for US military access.³² In addition to facilitating partners' conventional land-based war-fighting capabilities, these modernization efforts also include advanced systems that nest within the US Army's domain-centric warfare concept, with partner nations procuring air-defense systems, emerging coastal-defense platforms, drones capable of disrupting naval operations, and both cyberwarfare and electronic-warfare capabilities.³³ Although the People's Liberation Army may appreciate some tactical benefits from partnered training, the US Army is building relationships for strategic and operational value.

The creation and employment of the US Army Security Force Assistance Brigades epitomizes the distinction between US and Chinese partnership. These advisory units provide the capability for a persistent, scalable landpower presence and engagement with foreign militaries. The US Army advisory unit aligned with the Pacific theater (only a few years old) has transformed its efforts from episodic engagements built around exercises to a persistent presence designed to develop partner capacity and build long-term relationships. This organization currently has servicemembers providing persistent presence in five Indo-Pacific countries.³⁴ These efforts lay the groundwork for future engagements with allies and partners, demonstrating a focus on fighting as a collective.

Notably, not all US Army engagements in the region simulate a conflict. Instead, efforts have focused on improving host-country capabilities to overcome internal obstacles and future threats specific to the host's environment, including helping Mongolia stand up a noncommissioned officer-education system, teaching Thai troops how to maneuver Stryker armored personnel carriers, and training Maldivian forces on how to operate drones for search-and-rescue missions.³⁵ These advise-and-assist missions amplify the broader peacetime aspects of the US Army's landpower definition, helping the United States set favorable conditions in the region rather than emphasizing simply setting the theater for a potential conflict.

The PLA Army lacks an engagement capability comparable to that of the US Army's Security Force Assistance Brigades. In fact, the People's Republic of China has not had an active PLA advisory and training mission in another Indo-Pacific country since the Cold War. The most prominent of the PLA Army's Indo-Pacific relationships occurred prior to the rapid cooling of Sino-Vietnamese ties in the mid-1970s, when the People's Liberation Army contributed advisers and combat forces to the People's Army of North Vietnam.³⁶

Instead, China relies heavily on nontraditional forms of landpower, such as PRC police and internal-security forces, to fill advisory and training roles.³⁷ For example,

though Tajikistan is not part of the Indo-Pacific region, China has a People's Armed Police element that shares a facility in Tajikistan for counterterrorism purposes.³⁸ Importantly, though this approach builds relationships between partnering nations, reliance on nontraditional landpower differs from developing military interoperability—which involves technical, procedural, and human aspects.

The varying role of landpower in building relationships adds a variable to any comparison of the PLA and US armies. In fact, the term “force multiplier” is often used when describing the value of allies and partners for the United States, with strategic documents declaring allies and partners to be “a center of gravity” and the Department of Defense’s “greatest global strategic advantage.”³⁹ This assertion feeds into the away-game mindset, with the underlying historical appreciation that a conflict fought abroad requires access, basing, and overflight. Additionally, depending on varying levels of commitment, allies and partners can help offset the inherent numerical mismatch the United States must overcome in a potential conflict with China. Consequently, the potential for coalition warfare inherently undermines metrics that focus on rudimentary quantifiable data. The US military may not match the People’s Liberation Army in numbers, but the United States is not preparing to fight alone. In this context, the benefits of having allies and partners are often touted as the ultimate difference maker: an overarching explanation for how the United States can overcome its adversaries. But the extent to which other nations would participate in an envisioned future conflict is inherently difficult to measure and to rely on such participation is dangerous.

In contrast to the United States anchoring its defense strategy in allies and partners, China has limited relationships that are more likely to promote economic prosperity than national security. A recent Department of Defense report to Congress highlights China wants “mutual respect, cooperation, and mutual benefit” to be the foundation of its strategic partnerships, which the document notes are “distinct from alliance relationships.”⁴⁰ Whereas the traditional alliance framework is built around codified obligations that improve national security, these strategic partnerships emphasize a “higher level of bilateral cooperation.”⁴¹ Consequently, though these relationships may be valuable in peacetime, how China’s partnerships will impact a conflict, if at all, remains unclear. Stated another way, though China may be building relationships, whether another nation would come to China’s aid in wartime is unknown.

Still, despite PRC opposition to alliances, the People’s Republic of China promotes several close relationships with key neighbors. Although the nation leverages its leadership position in regional security organizations—such as the Shanghai Cooperation Organization—to counter Western influence

in Central and South Asia, China also maintains close bilateral relationships with a select few specific nations.⁴² For example, Beijing has maintained a mutual-defense treaty with Pyongyang since 1961, which was most recently renewed in 2021.⁴³ This agreement remains in effect despite the cooling relations between China and North Korea following Pyongyang's development of nuclear weapons and ballistic missiles, as well as North Korea's more recent provision of weapon and manpower support to Russia in the Russia-Ukraine War. China's sole formal security commitment is Beijing's obligation to protect North Korea if the United States and South Korea attack, but China has implied its obligations would not apply if Pyongyang initiated the conflict. Despite the treaty, the People's Liberation Army and the North Korean military do not train together, and their relationship is primarily built around Beijing's economic support for Pyongyang and attempts to maintain stability in the region.⁴⁴

Outside its single defense pact, Beijing maintains close strategic relationships with Russia and Pakistan. Just days before Russia invaded Ukraine in 2022, Xi Jinping and Vladimir Putin affirmed their partnership had "no limits," vowing to deepen cooperation on various fronts.⁴⁵ In the military sphere, Russia and China train together and have boosted collaboration in space and missile-warning systems.⁴⁶ China's "All-Weather Strategic Cooperative Partnership" with Pakistan primarily focuses on economic cooperation and emphasizes strategic defense and security cooperation.⁴⁷ Although several recent terror attacks against Chinese nationals in Pakistan have stressed the relationship, both countries participated in a joint antiterrorism exercise in Pakistan in November 2024, demonstrating their ongoing partnership.⁴⁸ Despite these close partnerships, China can count on neither Pakistan nor North Korea for military support in future Indo-Pacific campaigns. Still, the contrast between PRC and US landpower investments in building relationships is critical to understanding how China and the United States envision the application of force in a potential future conflict.

Warfare Concepts

When comparing militaries, one of the foundational aspects to understand is how each force envisions future war and its role in that war. Nations differ drastically in how they organize, train, and equip their forces based on each organization's intended purpose. Therefore, simply tallying the tanks or long-range artillery an army has in the Indo-Pacific has little meaning without a baseline appreciation for how the military intends to employ those assets. These warfare concepts provide the spark and continuing azimuth for military modernization as well as the script for training and experimentation. This point is particularly salient for the United States, as the US Army quickly adapted and refocused after transitioning away from Iraq and Afghanistan.

With the shift away from counterinsurgency operations to the acceptance of a potential great-power conflict, the US Army holistically refocused its vision of future war. Following a few years of detailed assessments concerning the characteristics of the future battlefield, the Army embraced the multidomain battle concept, which the service quickly rebranded as multidomain operations (MDO). The central tension addressed in these assessments was the US military's challenge of projecting power alongside the proliferation of anti-access/area denial (A2/AD) standoff weapons designed to destroy strategic naval and air assets. While the military began focusing on how to gain varying levels of entry into a contested environment, US adversaries were developing systems explicitly designed to counter that entry—or make the US military pay a high cost for contested-entry operations. Importantly, this A2/AD versus power-projection tension can apply to the US military's shaping efforts in peacetime and in conflict, with exquisite weapons systems augmented by informational and diplomatic operations. In turn, the Army built its future-warfare concept to address five fundamental questions which, notably, echo the service's landpower definition by focusing on the Army as a component of the broader Joint Force. Specifically, how does the Joint Force achieve the following objectives?

1. Compete to enable the defeat of an adversary's regionally destabilizing operations; to deter the escalation of violence; and, should violence escalate, to enable a rapid transition to armed conflict.
2. Penetrate enemy A2/AD systems throughout the depth of the support areas to enable strategic and operational maneuver.
3. Disintegrate enemy A2/AD systems in the deep areas to enable operational and tactical maneuver.

4. Exploit the resulting freedom of maneuver to achieve operational and strategic objectives by defeating the enemy in the close and deep-maneuver areas.
5. Recompete to consolidate gains and produce sustainable outcomes, set conditions for long-term deterrence, and adapt to the new security environment.⁴⁹

The US Army structured its MDO warfare concept around three mutually supporting tenets: calibrated force posture, multidomain formations, and convergence.⁵⁰ The first tenet, calibrated force posture, is an encompassing term that drives US force structure and posturing. The concept authors define the term as “the combination of capacity, capability, position, and the ability to maneuver across strategic distances.”⁵¹ This combination includes balancing forward-deployed forces—permanent and rotational—with expeditionary capabilities from the United States, as well as augmenting each with national-level capabilities and the requisite authority to act when required. The tenet of “multi-domain forces” provides the foundation for current Army modernization efforts, including creating formations that are capable of maneuvering independently, leveraging an array of fires assets at any given time, and designing to maximize human potential.⁵² The final tenet of convergence focuses on bringing numerous assets and capabilities to bear against the enemy. The aim of this tenet is twofold. First, instead of the goal being redundant assets or overkill, the goal is “the combination of complementary effects complicates an enemy’s ability to act, producing an overall effect greater than the sum of the individual parts.”⁵³ Second, by focusing on combining different capabilities for different problem sets from a range of options, the idea is friendly forces can attack in creative ways while simultaneously stressing enemy command-and-control nodes.

In 2022, the Army published an updated *Operations* field manual formally codifying MDO as the service’s operational concept. The publication contends, conceptually, MDO is a natural evolution of Army doctrine that builds on historical concepts and is refined for the changing characteristics of the modern battlefield. But the authors provide a caveat this natural progression by asserting, “These conceptual changes will have revolutionary impacts on how the Army conducts operations in the coming decades.”⁵⁴ Notably, the transition from broad concept to doctrine included more refined operational tenets: agility, endurance, convergence, and depth. The publication authors frame the new tenets as “desirable attributes that should be built into all plans and operations,” contending commanders at all echelons should “use the tenets of operations to inform and assess courses of action throughout the operations process.”⁵⁵ Combined, the four tenets succinctly highlight how the Army envisions employing its forces on a future battlefield.

The first operational tenet is agility. Although all battlefields are fluid, this tenet highlights the need for organizations to be able to reorganize and repurpose capabilities rapidly to exploit both planned and unforeseen opportunities.⁵⁶ This flexible approach to finding and exploiting success at every opportunity is perfect for a force that wishes to avoid a direct clash of strengths and defeat the enemy in detail. Such an approach is viable for a small or casualty-averse military. The second tenet, convergence, is a carryover from the original US Army Training and Doctrine Command pamphlet. The doctrine's authors define convergence as "an outcome created by the concerted employment of capabilities from multiple domains and echelons against combinations of decisive points in any domain to create effects against a system, formation, decision maker, or in a specific geographic area."⁵⁷ Stated simply, convergence is bringing all capabilities to bear in a synchronized effort to achieve a specific desired outcome—a means of creating opportunities. The third operational tenet is endurance, which focuses on "preserving combat power while continuing operations" by dispersing and creating mutually supportive relationships that allow organizations to mass combat power without concentrating forces.⁵⁸ Endurance also amplifies the Army's peacetime task of setting conditions for a potential conflict by shaping the envisioned future battlefield. As the authors note, "Army forces improve endurance by setting the theater across all war-fighting functions and improving interoperability with allies and other unified action partners."⁵⁹ In contrast to the friendly focus of endurance, the fourth tenet, depth, focuses on the enemy. In a callback to the famous AirLand Battle concept, depth recognizes the importance of targeting and influencing enemy forces across varying echelons. Importantly, this tenet builds on the idea of convergence, promoting the planning of effects both simultaneously and sequentially to create or expand potential advantages.⁶⁰

The Army's MDO concept and subsequent doctrine represent a distinct vision of the challenges of future warfare. Still, the Army is continuing to examine and experiment to understand the changing characteristics of warfare better.⁶¹ But the further the understanding of future warfare shifts from conventional, long-held ideas of maneuver warfare and glorified tank-on-tank battles, the more likely the understanding is to be met with resistance. This potential cultural clash was recently on display during the US Marine Corps Force Design 2030 implementation, as the shift went against more conventional thinking. Robert O. Work, the former undersecretary of defense, highlights opponents of the Marine Corps initiative "lobbied on Capitol Hill and fired off a spate of opinion pieces with machine-gun rapidity in various periodicals," and these opponents challenged the changes were "destructive and possibly illegal."⁶² Although this very public opposition did not stop the service's transformation, the opposition does highlight the potential challenges involved in drastic shifts away from what is comfortable. Notably, the United States

is not alone in identifying new domains for conflict and important characteristics of the future battlefield. In fact, in conceptually understanding future warfare, the United States and China mirror each other.

The PLA Army, much like its US counterpart, took the lead in the People's Liberation Army's design of an all-domain operations (ADO) concept. Only two years after former PRC paramount leader Hu Jintao gave modernization priority to the PLA Air Force, PLA Navy, and Second Artillery Corps (now Rocket Force), the PLA white paper "China's National Defense in 2006" ordered the PLA Army gradually to promote the transformation "from regional defense to trans-regional mobility (全域机动)."⁶³ Closely following Xi Jinping's assumption of power in 2012, the People's Liberation Army made a slight adjustment in its definition of transregional mobility. Xi's first national defense white paper, "The Diversified Employment of China's Armed Forces" (2013), stated the army had already reoriented from theater defense to transtheater mobility.⁶⁴ Also in 2013, the newest edition of the *Science of Military Strategy* expanded on the definition of transtheater mobility to include various types of terrain and operational conditions:

To adapt to the characteristics of the broad scope of operational activities in local wars under informationized conditions . . .

Army strategy gradually broke with the limitations of area-by-area garrisoning and area (zone) defense, and laid even more stress on maneuver operations. In particular, this relies on a combination of railway, highway, sea, and helicopter transportation, in addition to [Army] units' own motorized [transportation]; requires adapting to complex conditions, including various types of meteorological, geographic, and electromagnetic conditions; and cuts across theaters to organize and implement large-scale rapid projection.⁶⁵

A few years later, the concept evolved further to account for changing battlefield characteristics.

In June 2017, the transition from transregional mobility to emphasizing multidomain requirements began. Two professors at the Nanjing Army Command College published an article in *National Defense Science and Technology* on the management and control of PLA Army unit operations. The authors acknowledged future PLA Army missions would no longer take place on one-dimensional battlefields; rather, the PLA Army's battlefield would expand to include land, maritime, air, space, electromagnetic, and network domains, while also moving beyond just the military field to incorporate political, economic, diplomatic, and

cultural fields as well.⁶⁶ Ultimately, Xi Jinping's report to the 19th National Congress of the Communist Party of China pushed the entire People's Liberation Army toward adopting the new ADO concept. According to the official English translation of Xi's October 18, 2017, speech, China's entire military would "develop new combat forces and support forces, conduct military training under combat conditions, strengthen the application of military strength, speed up development of intelligent military, and improve combat capabilities for joint operations based on the network information system and the ability to fight under multi-dimensional conditions."⁶⁷ This emphasis on modernization was the spark needed to drive change.

While most of the People's Liberation Army digested what moving to an ADO concept entailed, the PLA Army immediately looked inward to determine where it was lacking capability and where it could improve existing systems. Part of this move included developing new weapons and sensors that allowed the PLA Army to move away from the long-held requirement to conduct large-scale combat (大规模作战) and toward medium-range and long-range noncontact and nonlinear modes (中远程、非接触、非线性的精确方式) of operation. In a December 2018 article in the *Journal of System Simulation*, researchers from the Shanghai Electro-Mechanical Engineering Institute, Nanjing University of Aeronautics and Astronautics, and the China Aerospace Science and Technology Corporation contended the PLA Army should develop a joint system of systems with an integrated, common command-and-control network for employing both precision-strike firepower and air and space threat-protection platforms. The ADO framework the authors established was built on five critical capabilities.

1. Multisource campaign and tactical intelligence acquisition capability (多源战役战术情报获取能力): the ability to use information from tactical reconnaissance satellites, early-warning aircraft, reconnaissance drones, and cruise-missile systems to support command decisions and weapons guidance.
2. System-of-systems interconnectivity, information sharing, and integrated control capability (体系互联、信息共享和一体化指控能力): the ability to use new command, control, and communications equipment such as joint command cabins, military base stations for 4G communications, and communications-relay drones.
3. Air and space target-intercept capability in complex electromagnetic environments: the ability to use new air-defense equipment to intercept air and space targets in complex electromagnetic environments.

4. Long-range precision targeting and fire-interdiction capability: the ability to use long-range precision-strike equipment to attack key points in depth, such as enemy airfields, launch sites, and command structures; interrupt the enemy's follow-on echelons; and attack the enemy's campaign support, mobility, and service capabilities.
5. Highly effective time-sensitive target-strike capability: the ability to use weapons and equipment with a surveillance–decision–strike–assessment cycle to attack time-sensitive targets effectively.⁶⁸

By 2019, the PLA Army appeared to come to grips with the knowledge that future ADO would require heavy investment in new technologies linked through information networks, but China's military also recognized PLA Army forces lacked updated operational guidance (行动指导) that would allow them to use new capabilities when executing three-dimensional maneuver, systems warfare, and multidomain control.⁶⁹ The lack of new guidance only compounded the problems the PLA Army expected to face as it attempted to determine how ground forces best fit into a new all-domain command structure. This new structure would rely on big data and cloud computing to enable cross-service coordination and would still require the PLA Army to dominate the ever-changing land domain—the army's primary mission in ADO.

A *China Military Online* article from July 2019 espoused the pro-PLA Army concept that the land domain remained the foundation of the all-domain battlefield. Using the US military's experiences in Kosovo and Iraq, the authors proclaimed combat forces whose systems were operating in the maritime, air, space, and electromagnetic domains were also capable of destroying or paralyzing targets on the land battlefield; but though these combat forces were important, they lacked the ability to occupy the land battlefield to secure strategic objectives. Additionally, control of the land was required to support many of the air, maritime, and space capabilities. Yet, even as the PLA Army believed its role in future combat operations would be pivotal, the service also realized it could no longer defeat modern adversaries in the land domain without all-domain capabilities. Traditional targets like command-and-control centers, firepower platforms, comprehensive-support locations, and even enemy military formations were becoming miniaturized, dynamic, and decentralized—forcing ground forces to depend on cross-domain solutions to shorten the reaction time during the “detect-control-strike-evaluate” process while providing other options to defeat those systems.⁷⁰

The People's Liberation Army did not research its ADO concept in isolation. Instead, Chinese defense researchers paid close attention to the US Army's development of MDO and, more recently, the US military's adoption of Joint All-Domain Operations (JADO) and the subsequent emphasis on leveraging an information advantage to create a decision-making advantage in conflict. The Chinese researchers believed the American plan to integrate sensor and communications systems to share target data between platforms and weapons in different domains using artificial intelligence, machine learning, and other technologies was superior to the PLA concept.⁷¹ In 2022, military researchers at the PLA Academy of Military Science assessed the Chinese military's ADO concept, concluding PRC implementation was lacking in three key areas when compared to US implementation of JADO.

- The People's Liberation Army was still in the stage of building high-level, networked information systems while the US military was already building a command information system with a machine-enabled global common operating picture.
- The People's Liberation Army's new joint-operations command system had not existed for long and drastically needed to improve joint command and control to implement ADO better. In contrast, China recognized the US joint-operations system was already mature, so the US military could focus more attention on all-domain command and cross-domain collaboration instead of joint command.
- The People's Liberation Army was behind in developing both its information advantages and its decision-making advantages to gain superiority in future conflicts.⁷²

In addition to learning from American concepts, the People's Liberation Army gathered lessons from Russia's use of hybrid warfare. Several Chinese studies have analyzed the application and effectiveness of hybrid warfare, dating from Russian General Valery Gerasimov's reports following Moscow's successful use of hybrid warfare in the 2014 annexation of Crimea and 2015 intervention in the Syrian Civil War. Although the People's Republic of China does not view Russia's use of hybrid warfare as equivalent to ADO, China believes Russia's use of political, economic, informational, and other nonmilitary measures to accomplish key objectives in modern war can be easily translated to China's new warfare concept.⁷³ The hybrid-warfare concept also aligns well with China's use of the three warfares, a concept that includes legal warfare, public-opinion warfare, and psychological warfare to mobilize public opinion and shape the adversary's mindset.

The three warfares are considered some of the most important missions for the PLA political commissars who share command of Chinese military units with operational commanders. The three warfares are also considered important for the commissars' own political work—department staffs, making them relevant to modern combat operations.⁷⁴

Although China's ADO was developed by the PLA Army and its own researchers, ADO has become a force-wide construct designed to include both military and civilian capabilities. Despite PLA concerns China trails the US military in development of the ADO concept, the People's Republic of China believes it has the advantage over both the United States and Russia because of China's comprehensive understanding of the domains and command and control. Chinese researchers view the American JADO as only emphasizing operations in the physical and information domains of land, sea, air, space, cyberspace, and the electromagnetic spectrum; according to these researchers, JADO does not cover the status and role of the cognitive and social domains. On the other hand, Chinese researchers also believe the Russian military does not take domains into account; and the researchers state that the Russian concept of hybrid warfare simply notes war occurs in one or multiple fields of politics, economics, military, information, and diplomacy. As a result, the People's Liberation Army views the Russian military's hybrid warfare as inconducive to unified command and control over modern war.⁷⁵

In their respective warfare concepts, both the United States and the People's Republic of China have embraced the expansion of domains, the integration of new technologies, and the importance of information. Although the US and PRC warfare concepts have distinctive differences, both land forces have similar visions of future war in general. This overlap is likely caused by two factors. First, the changing characteristics of the battlefield have been on display for any and all observers over the last few decades, as the United States and Russia have found themselves involved in varying conflicts around the world. Second, the United States—the premier military force in the world—is transparent and openly critical in its study of warfare. Between Western analysts and publicly released government documents, the fact the People's Liberation Army has borrowed and adapted MDO, JADO, and other Western assessments should come as no surprise.

As the foundational guide for each nation's land forces, warfare concepts such as MDO and ADO serve as the framework for modernization efforts. Although general capability requirements are certain to overlap given such a similar starting point, modernizing a force is a matter of prioritization, opportunity costs, and risk—all of which can lead to divergent paths and noticeably different choices.

Modernization Efforts

A significant factor in assessing a military is the examination of its emerging capabilities, which are the physical components that underwrite a warfare concept and establish a future means for employing forces. The way each military prioritizes modernization efforts will shape the force's future, creating potential advantages or shortfalls based on the actual realization of the technology in the years to come. Notably, because of the associated time and financial-resource investments, the modernization decisions of today may influence the structures of each land force a decade from now.

In 2017, the US Army articulated clear modernization objectives and identified the dangers of growing adversaries. Then Chief of Staff of the Army General Mark A. Milley and Acting Secretary of the Army Ryan D. McCarthy acknowledged: "Our recent focus on fighting wars of insurgency and terrorism allowed our adversaries to make improvements on their modernization efforts and erode our advantages enjoyed since World War II."⁷⁶ Consequently, Milley and McCarthy identified six priorities to help the Army regain its advantage to operate on the envisioned future battlefield: long-range precision fires, a next-generation combat vehicle, vertical-lift platforms, advanced network, air and missile defense capabilities, and soldier lethality. Two years later, after digesting the new MDO warfare concept, the Army published its 2019 *Army Modernization Strategy*. This document emphasized the importance of transforming into a multidomain-capable force, asserting the Army could regain lost advantages "and retain its position as the globally dominant land power" through the updated modernization plan.⁷⁷

Because the geographical challenges of the Pacific theater limit how much the US Army can operate, vertical-lift platforms and long-range fires stand out as the more pressing priorities of these innovative efforts as the two priorities relate to a potential conflict with China. Although ample land exists in the region, land forces would have a limited impact on any engagement outside the island where they resided. In turn, internal lift capabilities and long-range strike systems allow the US Army to influence the fight from a distance. In addressing these challenges, the Army has had mixed success in developing new capabilities.

The Army primarily based its efforts to modernize future vertical lift on two systems the service intended to field in the 2030s. The first was the Future Attack Reconnaissance Aircraft, which the service envisioned as an armed reconnaissance helicopter with better performance, agility, and range than the older rotary-wing aircraft currently in the Army's arsenal. But in February 2024, the Army announced it was terminating the program.⁷⁸ This decision is the fourth time the Army has canceled helicopter-modernization efforts in the last 20 years, following the

cancellation of “the Comanche attack helicopter in 2004, the Armed Reconnaissance Helicopter in 2008, and the Armed Aerial Scout in 2014.”⁷⁹ These cancellations were triggered for many reasons, including the proliferation and democratization of air-defense systems, the rise of unmanned platforms, and the changing characteristics of the modern battlefield.⁸⁰ Despite these challenges, the Army is continuing to invest in its second effort for future vertical lift: the Future Long-Range Assault Aircraft. The Army intends to use this new platform as a replacement for the Black Hawk helicopter, with fielding beginning in 2030.⁸¹

Notably, the Army has found more success in developing its long-range fires capabilities. The service has made a concerted effort to develop numerous types of missile systems that can be categorized by range, with new short-, mid-, and long-range systems. But these categories may be misleading, as each system’s range is much greater than the Army’s currently fielded strike capabilities. Although a significant aspect of this increase is countering China, the Army was only recently able to pursue such drastic range increases. These types of systems had previously been restricted under a treaty agreement, to which China was not a signatory. But in 2019, the United States withdrew from the Intermediate-Range Nuclear Forces (INF) Treaty, which had eliminated a specific delivery system: surface-to-surface missiles with ranges between 500 and 5,500 kilometers.⁸²

The first of these new systems is the Precision Strike Missile, which can be fired from current systems, increasing the organic strike range to 600 kilometers. Just as important, the Army recently proved the system can strike a moving ship at the Valiant Shield 2024 exercise.⁸³ The second system goes by many names: the Mid-Range Capability system, the Strategic Mid-Range Fires system, and the Typhon. This system can fire existing Raytheon Company-produced systems such as the Tomahawk cruise missile.⁸⁴ The Army recently put Strategic Mid-Range Fires on display in the Pacific, deploying the system to the Philippines in April 2024 in support of the bilateral Salaknib exercise.⁸⁵ The final system is the Army’s strategic missile: the Long-Range Hypersonic Weapon (Dark Eagle). The missile is designed with a range of over 2,700 kilometers, and its flight characteristics make identifying and engaging the missile inherently difficult for interceptors. After some technical setbacks in 2023, the Army conducted two successful test flights of the new system in 2024 and is poised to begin fielding the weapon soon.⁸⁶ Although these additions to the Army’s arsenal clearly strengthen the service’s capabilities in the Pacific, their development also highlighted some bureaucratic challenges associated with modernization.⁸⁷

Because the Intermediate-Range Nuclear Forces Treaty created a buffer zone between Army tactical missiles and US Air Force strategic missiles, the Army’s innovative efforts stirred up a long-standing argument from interservice competition

over roles and missions related to missile capabilities.⁸⁸ In July 2020, retired Air Force Lieutenant General David A. Deptula called the Army's decision to invest in these missiles "ridiculous," contending the Army's new missile capabilities were "encroachment on roles and missions" of the Air Force.⁸⁹ A year later, General Timothy M. Ray, commander, Air Force Global Strike Command challenged the Army's missile-development plan, saying, "I just think it's a stupid idea to go and invest that kind of money that recreates something that the service has mastered and that we're doing already right now. Why in the world would you try that? I try to make sure that my language isn't a little more colorful than it is, but give me a break."⁹⁰ Although controversial, the Army has continued moving forward with all three missile systems and has worked to create the organizational change to support the systems.

But importantly, modernization goes beyond materiel solutions. The US Army has taken a broad, holistic approach that covers the service's how, what, and why of future combat. The first (how) is adjustments to doctrine and training, the second (what) is the original six priorities, and the third (why) is an emphasis on education and talent management. The goal was to synchronize these efforts to "ensure the Army has well-trained Soldiers, organized into effective war-fighting formations with modern weapon systems and sufficient capacity to win in any conflict, on any battlefield, anywhere in the world."⁹¹ In February 2024, the Army further refined these efforts in a short white paper titled "Army Force Structure Transformation."⁹² In this white paper, the authors highlight the need to increase survivability on the envisioned future battlefield. Consequently, the Army is developing new battalions capable of protecting against indirect fires, new batteries for countering small unmanned aerial systems, and additional battalions dedicated to short-range air defense. These new formations will collectively require 7,500 new billets, many of which are technical in nature. To address the emerging requirements, the white paper highlighted one of the biggest hurdles to change: "The Army must solve its recruiting challenges to successfully transform for the future."⁹³ This priority to modernize the Army's recruiting efforts highlights the importance of the individual in the US Army's way of war.

Unlike the US military, the People's Liberation Army does not publish official service-specific strategies or modernization efforts; or if it does, Western military analysts have been unable to acquire them. Even within the Chinese Communist Party's national defense white papers, references to specific modernization priorities rarely exist. But to keep up with US military efforts, the PLA Army determined China needed to implement several modernization efforts to ensure its military could operate in an ADO environment. In late 2018, Chinese military researchers specifically called out the need to develop five improvements to critical capabilities that would ensure the People's Liberation Army could compete against its adversaries.

- Acquiring strategic and tactical intelligence from multiple sources;
- system interconnection and information sharing;
- intercepting air and space targets in complex electromagnetic environments;
- long-range precision targeting and fires interdiction; and
- a highly effective capability to strike time-sensitive targets.⁹⁴

Reinforcing this narrative, China's 2019 national defense white paper established that the Chinese Communist Party believed its military lagged far behind the world's leading militaries and required greater investments in modernization. Specifically, the People's Liberation Army needed to complete mechanization and improve so-called informationization to overcome risks presented from "technology surprise and the growing technological generation gap."⁹⁵ To accomplish such an objective, Xi Jinping created a clear timeline for the force to modernize by 2035 on the way to becoming a world-class military by 2049.⁹⁶ Still, without official service-specific modernization priorities, what these efforts will entail remains unclear. To understand the People's Liberation Army's plans for modernizing the Army, analysts must rely on media publications and textbooks like the *Science of Military Strategy* series published by the PLA National Defense University.

The authors of the 2020 *Science of Military Strategy* recognized the value of downsizing and structural changes as part of the PLA Army's transition from a regional defense force to one designed for ADO. The authors acknowledged the strength of US Army transformations over the past two decades and contended the PLA Army should mirror US Army efforts to lighten and modularize to improve mobility and rapid deployability. Additionally, the authors contended the PLA Army must keep up with the US and Russian armies' advances in fielding unmanned systems on the battlefield. To do so, the authors recommended the PLA Army prioritize modernizing multiple capabilities, including sustained ground assault, medium- and long-range precision strike, three-dimensional mobility and assault, field air defense, and special operations. Those modernization priorities were also emphasized in the 2015 edition of the *Science of Military Strategy*, indicating the People's Liberation Army understands upgrading its entire ground force requires a multiyear approach.⁹⁷

The PLA Army has had to play a careful balancing act over the past decade as China fielded modern weapons platforms to achieve ADO capabilities while concurrently developing advanced all-domain technologies to integrate with new systems. For example, most of the PLA Army's artillery brigades along

China's coast now field the PCH191 modular long-range rocket launcher—which is capable of firing multiple munition types including precision rockets with ranges of up to 500 kilometers—and anti-ship missiles that can cover the entire Taiwan Strait. The extreme range of these corps-level assets demanded the PLA Army also incorporate long-range unmanned aerial systems for targeting and battle-damage assessment, leading to the fielding of the CH-4 unmanned aerial system (styled on the United States' MQ-1 Predator) in theater-army intelligence and reconnaissance brigades.⁹⁸ The combination of these two platforms successfully met the PLA Army's requirement for medium- and long-range precision-strike capability, as well as the five ADO requirements previously mentioned.

In line with US Army modernization efforts, the Chinese emphasis on improving tactical air defense demonstrates another push to develop ADO capabilities recommended in the *Science of Military Strategy*. The air-defense battalion within a PLA Army combined-arms brigade, equipped to provide air and missile defense to maneuver brigades operating in environments where air superiority is not guaranteed, provides one example of how quickly the Chinese are fielding new technological capabilities to support their envisioned future battlefield. The PLA Army's heavy brigades have long fielded the HQ-17 (SA-15 Gauntlet) tracked short-range surface-to-air missile (SAM) system, as well as the PGZ04A 25mm and PGZ-09 (Type 07) 35mm tracked air-defense artillery platforms; but the heavy brigades' light and medium counterparts had to rely on less capable HQ-7A wheeled short-range SAM systems and towed antiaircraft artillery. As of 2021, light and medium brigades started fielding the new HQ-17A (FM-2000) wheeled SAM system.⁹⁹ Additionally, as of early 2023, the same brigades have fielded a new 8x8 wheeled integrated SAM and six-barrel 25mm air-defense artillery system to provide high-mobility, short-range air-defense capability to maneuvering units.¹⁰⁰ Air-defense modernization is not limited to mobility; it includes improving multidomain capability. For example, group-army air-defense brigades each now have an organic electronic-warfare battalion that supports airspace awareness and contributes to PLA missions intended to counter precision-guided munitions.¹⁰¹

The sheer number of new weapons systems that appear in PLA Army units every year shows China's commitment to its modernization goals. Although the new system production appears to move the PLA Army closer to Xi's 2035 modernization goal and 2049 goal of becoming a world-class military, Xi's push to accelerate the integrated development of mechanization, informationization, and intelligentization of China's armed forces by 2027 was likely meant to emphasize a sense of urgency in continuing the Chinese military's methodical pace of advancement.¹⁰² Despite the advanced capability of many of the PLA Army's new weapons platforms and sensors, a complete modernization of the 83 combined-arms brigades, four combined-

arms divisions, and all its functional support brigades at varying echelons is far from complete, leaving many of the PLA Army's forces equipped with obsolete weapons systems. But certain units appear to have received modernization priority based on their location and proximity to hot spots, like the combined-arms divisions and their subordinate regiments in the Xinjiang Military District, Western Theater Command. Since 2020, many of those regiments have rotated to reinforced field positions along the Line of Actual Control, often within range of the Indian army's direct and indirect firepower, providing the PLA Army a real-world opportunity to test many of its most modern combat platforms, as well as its new operational concepts, in austere conditions for months at a time.¹⁰³

Both nations have begun modernizing their land forces for a domain-centric fight, emphasizing fires and protection. These efforts fit into the United States' and China's similar war-fighting concepts, both of which also prioritize the land component's role in a broader joint fight in the Pacific theater. Although the US Army's modernization plans are transparent, the process of change has been slow and conceptual as the force transitions away from the conventional European tank-on-tank model. The American model is holistic and accounts for the secondary implications associated with incorporating new systems. At the same time, the service has had mixed success moving systems from concepts to tangible results.

In contrast, the PLA Army has been rapidly fielding equipment that amplifies existing structures and capabilities. Although China's modernization efforts perpetuate a narrative of territorial defense and securing maritime rights, these efforts feed into a broader A2/AD strategy that emphasizes regional control by threatening external air and sea assets that traverse China's sphere of influence. Notably, the People's Liberation Army does not use the term A2/AD, except when referring to Western literature. Instead, A2/AD is a Western idea used to describe adversarial strategies that rely on antiair and anti-ship missile emplacements to build a protective bubble around adversaries' spheres of influence. These A2/AD systems—and the underlying strategy—are easy to depict as defensive and nonthreatening. Still, though this protective bubble may be necessary for territorial defense, A2/AD is also a prerequisite for increasing regional aggression. In this context, the lens through which an analyst assesses these types of weapons systems—protecting territory and interests versus threatening strategic mobility—is bound to shape the narrative. Although China's model will have fewer secondary effects, as noted, ensuring the entire force is upgraded will be time and resource intensive, leaving many organizations behind the prioritized units. As capabilities are developed and fielded, the modernized forces for both nations will have to put their war-fighting concepts to the test, preferably in a noncombat setting.

Simulating Land Warfare in the Pacific

Simply having a significant number of forces and equipment does not make an army capable of waging war. Although numbers undoubtedly are a factor in any battle, peacetime preparations can offset numerical advantages; this principle has been foundational to US military strategy since the early Cold War. These preparations can include modernizing to counter an adversary's perceived advantages, developing competent leadership, and adapting outdated doctrine. But these preparations are inherently limited until tested in battle, or at least the next-closest thing to battle. The PLA Army and the US Army have both invested heavily in regional combat-training centers where soldiers can train in the environments they are most likely to operate in, allowing each nation's land forces to test both their war-fighting concept and associated modernization efforts.

The People's Liberation Army has invested in training sites to hone war-fighting skills in all the complex environments within its borders. The People's Liberation Army's Eastern Theater Command Army has multiple coastal training locations in the Fujian and Zhejiang provinces to develop the People's Liberation Army's amphibious and littoral forces; the Southern Theater Command, which also has its own amphibious training sites, uses a mountainous-jungle training location in Yunnan province to prepare its light infantry and special operations forces for combat along China's southern periphery.¹⁰⁴ The PLA Army also makes ample use of China's open terrain for long-range and air-defense firepower exercises in multiple locations in the western half of the country, including in Korla, Shandan, Qingtongxia, and other locations.¹⁰⁵

Notably, the People's Liberation Army has also made significant investments in developing its opposing forces (OPFOR) at maneuver-training centers over the last decade, modernizing the training at some of these centers and challenging the training audience instead of simply reinforcing success. This focus includes dedicated OPFOR like "the Wolves of Zhurihe" at the PLA Army's largest and most advanced training center, as well as rotational forces where needed.¹⁰⁶ Although only some of the PLA Army's training locations have permanent OPFOR units, all serve critical roles in helping Chinese units learn how to carry out land-based operational missions. The emphasis on realistic training has also included joint OPFOR, with the PLA Army leveraging PLA Air Force pilots and subject matter experts to test emerging air-defense capabilities.¹⁰⁷ This type of training highlights the PLA Army is using its combat centers to experiment and validate its warfare concept. Units that are unable to attend such events are even incorporating the role of OPFOR locally. Peter Wood, an analyst with the Foreign Military Studies Office, recently contended, "The PLA has also embraced OPFOR training as a means to rapidly improve home station training at lower levels. . . . at least some brigades

in the Eastern Theater command were establishing dedicated OPFOR platoons in each battalion to enhance realism in training as well as the tempo with which they could conduct training.”¹⁰⁸ But the PLA Army does not provide opportunities for those troops to train alongside partner nations in campaign-level events.

Although the People’s Republic of China regularly hosts foreign troops for small-scale bilateral training events at many of its bases, the last time the People’s Liberation Army hosted a large-scale multinational event at one of the major PLA training centers was during the Peace Mission-2014 exercise, when members of the Shanghai Cooperation Organization, primarily made up of Central Asian states, traveled to the Zhurihe Combined Tactics Training Base.¹⁰⁹ Although Russia has deployed troops to PLA bases such as Qingtongxia for bilateral exercises, the PLA Army does not appear to emphasize relationship building using complex integrated exercises with other partner nations.

In contrast, the US Army emphasizes training with allies and partners at its combat-training centers. In addition to the long-standing National Training Center and Joint Readiness Training Center in the United States, the Department of Defense has established locations abroad and created deployable training packages that typically leverage OPFOR.

The Joint Multinational Readiness Center has long been a staple for training with allied land forces in Europe. Its mirror in the Pacific, the Joint Pacific Multinational Readiness Center, is designed to include allies and partners in a way that lets participants train in environments that reflect the participants’ home nations. The Joint Pacific Multinational Readiness Center’s three components include Joint Pacific Multinational Readiness Center-Hawaii for tropical and island training; Joint Pacific Multinational Readiness Center-Alaska for extreme cold weather and Arctic training; and Joint Pacific Multinational Readiness Center-X, an exportable program that allows US Army Pacific to bring specialized training to other locations.¹¹⁰

These simulated war-fighting exercises in complex environments found around the Indo-Pacific are designed to build integration with key partners in the region. For example, an October 2022 rotation at Joint Pacific Multinational Readiness Center-Hawaii featured a 25th Infantry Division brigade combat team and 350 soldiers from Thailand, Indonesia, and the Philippines operating in a tropical environment like the environments in their home countries.¹¹¹ Similarly, a February 2024 rotation at Joint Pacific Multinational Readiness Center-Alaska included an 11th Airborne Division brigade combat team; infantry units from Mongolia and Canada; and staff elements from Sweden, Finland,

and South Korea—all carrying out a complex exercise against two battalions of another 11th Airborne Division brigade serving as the OPFOR.¹¹²

But an inherent trade-off comes with emphasizing allies and partners in these training events. Although incorporating other nations builds broader capability and capacity for the American coalition strategy for war fighting, this approach also limits the US military's specific focus on emerging technologies and developing doctrine. This trade-off is a balancing act, requiring the US military to plan deliberately where to assume risk in the limited training opportunities units have at combat-training centers.

Another challenge with these training exercises is they are simulating battles, not war. Unlike its adversaries, the US Army does not have consolidated combat power near its envisioned potential battlefield. Although the service relies on forward presence as a critical component of its landpower definition, forward-deployed forces are designed as a foothold to enable the deployment of a more significant force. Even practicing joint forced entry is still tactical training, albeit with strategic implications. Getting credible combat forces into critical areas in the Pacific theater amid an active conflict will undoubtedly prove to be a daunting task—a challenge contested logistics will exacerbate. The existing training the Army relies on to certify its combat units is built on scenarios that focus on the clash of forces, which is a small window of a more significant conflict. Although critical, these scenarios are inherently limited in their ability to test and replicate the underlying challenges the Army would face if required to conduct a protracted war in the Pacific theater.

Both US and PRC land forces rely on complex training exercises in diverse environments, and both the US Army and PLA Army are testing their emerging doctrine and warfare concepts. Although the Joint Pacific Multinational Readiness Center iterations have added intangible strength for the US Army by building capacity among Indo-Pacific partners, the significance of these benefits must be measured against the more isolated training of the PLA Army.

A Way Forward: Assessing Warfare Intangibles

Overall, the great contrast expected in conducting this research was lacking. Although important distinctions between the two land forces undoubtedly exist, these distinctions are not so apparent at the macro level as to neutralize potential strengths of the PLA Army, nor to provide the US Army with exploitable opportunities to create or amplify perceived advantages. Moving forward, with this large-scale comparative baseline established, future analysis should dive deeper into these broad categories to account for warfare intangibles that better distinguish potential differences.

Landpower

One of the striking similarities between Chinese and American landpower definitions is an emphasis on jointness. Although jointness is foundational to US military operations and has been perceived to be a relative US advantage, the People's Liberation Army now appears, at least on paper, to have embraced the notion land forces fit into the broader joint force. A RAND Corporation report recently reached similar conclusions, contending, "The general goals and objectives that both the U.S. military and the PLA have for jointness are similar and overlap in many areas."¹¹³ But the authors go on to note, "The manner in which these objectives are implemented in both militaries differs based on the nature of their political systems, the roles they play within their respective political systems, and the core responsibilities that both militaries shoulder."¹¹⁴ These factors are worth examining further to highlight the extent to which each military's emphasis on jointness is theoretical rather than practical. One way to approach this research is to examine the relationship between the services.

1. How do interservice competition for limited resources and the pursuit of prestige within China's political system impact the Chinese military's ability to conduct joint military operations?

Another stark finding from assessing definitions as the underlying framework for operations was the inherent limitations of a US strategy that relies on forward presence globally. Stated another way, the Army can only be in so many places simultaneously. Consequently, the away-game mindset can lead to numerous and potentially conflicting commitments. In contrast, the PLA Army's more local approach, focused on defending PRC territory and building the potential for regional expeditionary operations, lends itself to fewer commitments. But the service may be called upon for internal challenges, particularly if these challenges were to threaten the regime. These varying priorities raise an important question about force commitments.

2. How do competing military requirements or potential unexpected engagements affect the types and quantities of land forces that can be committed to a crisis in the Pacific?

Relationships

The most expected distinction between Chinese and American forces was how each military leverages landpower to foster relationships. Although the United States cannot discount China's growing relationship with Russia, the current strategic partnership between Moscow and Beijing would likely have little influence on a fight for the seizure or defense of Taiwan. In contrast, the United States has built its defense strategy around allies and partners. But treaties and agreements made in peacetime may not be as reliable as one hopes in wartime. In turn, an inherent danger comes with relying on someone outside US governmental authority. Different nations in the Pacific have varying interests and levels of willingness to support a clash of arms between two great powers—a clash that could bleed onto these nations' territories. Military analysts should not conflate US partnerships in the Pacific with Europe's massive collective defensive alliance. In turn, though allies and partners are a combat multiplier in a potential conflict with the People's Republic of China, these partners are a variable. The extent to which relationships in the Pacific theater will alter a great-power war between China and the United States will remain unclear. Thus, the expected role of other nations in the region requires further research.

3. What planning assumptions about the expected tangible contributions of US regional allies and partners in various potential great-power engagements are driving both the US Army's and PLA Army's training efforts?¹¹⁵

Warfare Concepts

That the US military and the People's Liberation Army have adopted similar domain-centric warfare concepts should not be surprising. But though the People's Liberation Army's envisioned future war builds on existing ideas surrounding area denial and the importance of strike warfare, the US Army's emerging concepts challenge long-held warfare assumptions about the primacy of the open-terrain tank-on-tank battle. The US Army has a maneuver-centric culture that has shaped its organization, leadership characteristics, and historic modernization efforts. The rise of MDO and the changing characteristics of the future battlefield may put aspects of the US Army's culture into question.¹¹⁶ In turn, as the service continues to experiment with the MDO concept and develop it further, drastic changes and revolutionary ideas are likely to meet resistance. In exploring the US Marine

Corps Force Design 2030 transition, Susan E. Upward, a Marine Corps judge advocate, argues, “Regardless of what changes are necessary or what form the transformation takes, history has shown that like a war of attrition, change in the military is going to be painfully slow . . . because of the organization’s stubborn reluctance to change.”¹¹⁷ Upward challenges, “Change cannot be simply decreed or ordered—it must be cultivated and inculcated . . . as the norm, not the exception.”¹¹⁸ Carl Builder highlights Upward’s point in his influential book *The Masks of War: American Military Styles in Strategy and Analysis*, explaining the military services, though “composed of many, ever-changing individuals, have distinct and enduring personalities of their own that govern much of their behavior.”¹¹⁹ Consequently, a limit exists to how rapidly the US Army will adapt to changing doctrine and concepts of war, at least absent the catalyst of combat experience. Although not to the same extent, the People’s Liberation Army faces similar cultural challenges. But these factors are more likely rooted in China’s national culture than its military culture. Moving forward, understanding the obstacles to change is a prerequisite to overcoming resistance or exploiting rigidity.

4. How do cultural or institutional identities limit or enable the implementation of emerging and revolutionary doctrinal changes?

Modernization

All nations face similar challenges in developing emerging technologies. Resources are finite, and projects may not produce tangible results for years. With both the US and PLA armies experiencing successes and failures in developing new systems, the land forces of 2030 or 2035 will drastically differ from today’s organizations. More importantly, land forces will differ from what each service currently envisions those forces to be in the next decade. With unique governmental systems influencing the extent to which each force can adapt, understanding modernization efforts requires an appreciation for often unaccounted restrictions to a military’s innovation plans.

5. How do governmental or bureaucratic structures influence land-force decision autonomy to organize, train, and equip the force?

Simulating Warfare

The US military and the People’s Liberation Army have the infrastructure to test their warfare concepts and experiment with modernized equipment as each military simulates warfare at varying combat-training centers or digitally through command-post training exercises. The question then becomes: What value does each land force gain from these events? Although individual units are gaining proficiency and experience—something particularly critical for the PLA Army

given its lack of combat experience in the force—the institutional adjustments are more difficult to measure. A comparative analysis of each nation’s combat-training centers and the assessed value of their respective investments is necessary to add a broader understanding of the intangible aspect of war preparation. Tactically, such an assessment can focus on battle, highlighting training differences at the unit level.

6. How do the varying leadership philosophies of each army impact tactical decision making in uncertain conditions?

At the operational and strategic levels, such an assessment can examine and highlight the more enduring warfare challenges that must be addressed through institutional adaptation. The findings would provide a more realistic appreciation of how the respective forces would operate beyond the initial clash of arms.

7. How sustainable are the respective forces in a protracted conflict in terms of repair parts, consumables, and the reconstitution of capabilities and personnel?

Combined, these seven questions build on the comparative baseline established in this monograph and set the conditions for a better understanding of the nuanced differences between organizations that are more similar than the average military analyst might expect.

Conclusion

Without having to worry about the tyranny of distance, the People's Liberation Army holds the comparative land-domain advantage in terms of force numbers and advanced weapons systems within the first island chain. Moreover, any quantitative advantage will likely grow because of China's authoritarian policies and the vast population difference between China and the United States. But war is not a math equation, as Russian military planners have recently discovered. Still, US military analysts should not dismiss potential PLA advantages with surface-level analysis; with unfounded claims of Western superiority, for example, by stating the US Army is better trained or better equipped; or by simply espousing the combat multiplier of allies and partners as the difference maker. In fact, American and Chinese forces—and the path each is taking for a potential future conflict—are quite similar.

The differing landpower definitions developed by the United States and China resonate with each nation's respective strategies, which in turn have been designed to solve different problems. These problems, in turn, influence the level of importance of building partnerships in the region; the army preparing to fight the away game is naturally more reliant on other nations. Stated differently, the United States cannot fight a war in the Pacific theater without partner-nation support for access, basing, and overflight. In contrast, the PLA Army can influence a Pacific-theater battlefield from within China's sovereign territory. Notably, both the American and Chinese armies view characteristics of this potential future war similarly, and the domain-centric-warfare concepts are feeding into similar physical manifestations in modernization efforts. But although the long-term implications of decisions made today will not be apparent for years to come, each force, in its own way, is simulating conflict to validate plans and enable adaptation along the way. Consequently, the American and Chinese armies' paths will likely diverge over the next decade, and additional significant distinctions between the two armies are bound to become more pronounced. If these changes can be identified and assessed in a timely manner, the US Army may find more tangible opportunities to shape its organizing, training, and equipping priorities to create or amplify relative operational advantages over its rising foe. Although warfare is not a numbers game, a numerical mismatch is still a problem the US military must overcome, and the solutions require context.

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About the Authors

Major Brennan Deveraux is a US Army strategist serving as a national security researcher at the US Army War College Strategic Studies Institute. He has three defense-related master's degrees, and his research focuses on military innovation, emerging-technology management, and the characteristics of future warfare. Deveraux is the author of the war memoir *Exterminating ISIS: Behind the Curtain of a Technological War*.

Joshua Arostegui is the chair of China studies and the research director of the China Landpower Studies Center at the US Army War College Strategic Studies Institute. Arostegui's primary research topics include Chinese strategic landpower, People's Liberation Army joint operations, and Indo-Pacific security affairs. He is also a former senior intelligence analyst for China at the US Army National Ground Intelligence Center.

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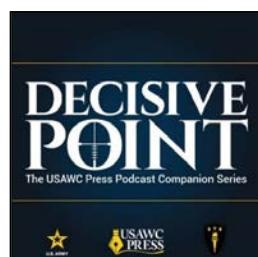
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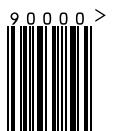
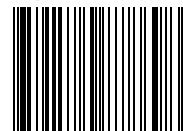
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