

Archipelagic Defense

The Japan-U.S. Alliance and Preserving Peace
and Stability in the Western Pacific

Andrew F. Krepinevich, Jr.



Japan-U.S. Program

 THE SASAKAWA PEACE FOUNDATION

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Acknowledgments

The author would like to thank Lt. Gen. (Ret.) Koichiro Bansho, Maj. Gen. John Ferrari, Lt. Gen. (Ret.) Masayuki Hironaka, Adm. (Ret.) John Harvey, Capt. (Ret.) Karl Hasslinger, Nobukatsu Kanehara, Eric Lindsey, Andrew Marshall, Barry Watts, Lt. Gen. (Ret.) Noboru Yamaguchi, and Vice Adm. (Ret.) Masanori Yoshida for their insights on the subject and for their commenting on draft versions of this study. Thanks are also due to long-standing colleagues Bryan Clark, Robert Martinage, Andrew May, John Stillion, Marin Strmecki, Jim Thomas, Michael Vickers, and Robert Work, to whom I owe an enormous intellectual debt.

I am also grateful for the funding support provided by the Sasakawa Peace Foundation, without which this study would not have been possible. I am particularly thankful for the encouragement offered by the Foundation's staff, particularly Ms. Junko Chano, Ms. Aya Murata and Ms. Madoka Kono, and for the fine editorial support provided by Ms. Kim Ashizawa.

That said, any shortcomings in this study are the author's alone.

Executive Summary

For more than two decades, the Western Pacific has experienced an unprecedented period of peace and prosperity thanks in large measure to the political stability underwritten by the United States. China has arguably been the principal beneficiary of this stability, as reflected in its remarkable economic growth and expanding influence. Far from opposing China's rise, Japan and the United States have encouraged China to become a responsible stakeholder in an international system that emphasizes the peaceful resolution of disputes among nations and recognizes the common interest all nations have in the effective functioning of a global economy.

Despite the efforts of Tokyo and Washington, however, the Western Pacific has become increasingly unstable over the past decade. While North Korea has posed a persistent threat to security in Northeast Asia, a far greater threat to regional peace and harmony exists in the form of a revisionist China, whose expanding territorial claims include Taiwan, much of the South China Sea, and the Senkaku Islands.

While China's leaders profess they are engaged in "peaceful development," their actions suggest otherwise. Evidence that Beijing's expansionist aims are not limited to the territory of states along the first island chain can be seen in China's military buildup, now entering its third decade.

Faced with Beijing's increasingly belligerent actions, many states in the Asia-Pacific region are increasingly looking to the two great Pacific democracies and long-standing allies, Japan and the United States, for leadership. China's actions present Tokyo and Washington with a strategic choice: either accommodate Chinese hegemonic aspirations or take steps to preserve the international order that has provided an extended period of peace and prosperity in the Western Pacific.

This study argues for the latter course, the core element of which centers on deterring Beijing from engaging in acts of aggression or coercion against its neighbors, principally those states along the first island chain. The military posture to accomplish this is presented under the rubric of "Archipelagic Defense."

Given its objective, Archipelagic Defense would best be implemented by a coalition of states (hereafter, referred to as the "Coalition"), at the core of which would be the Japan-U.S. Alliance (hereafter, the "Alliance"). As the competition with China is open-ended—that is, it is likely to be protracted—such a Coalition must strive not only to achieve a favorable regional military balance but to sustain it over an extended period of time, perhaps several decades or longer. This requires a strategy geared to the needs of a long-term competition, where an equilibrium must be struck between maintaining a favorable military balance in the near term and developing new sources of competitive advantage over the longer term. These efforts must be embedded within joint and combined concepts of operations whose principal (but not exclusive) focus is to defend the first island chain.

Based on this study's assessment of the situation, the objective stated above can best be supported by a military posture that emphasizes the following in planning efforts:

- Improving the Alliance's understanding of how the Chinese are approaching the competition—including their revisionist objectives and the Chinese Communist Party (CCP) strategy for achieving them
- Enhancing strategic planning through *persistent* analyses of the dynamic competitive environment (e.g., through net assessments of the military balance) that incorporate scenarios and war games among other analytic techniques designed to identify potential sources of Alliance and Coalition strengths and weaknesses; the findings should be refined further by evaluating them in joint and combined field and fleet exercises
- Assessing the mobilization balance—the extent to which mobilization activities confer a pronounced Chinese advantage (or weakness) at points along the mobilization process
- Undertaking an assessment of economic warfare operations (such as a blockade of China and a Chinese counter-blockade of selected Coalition states)
- Creating a strong strategic narrative to address the social dimension of strategy

With regard to the final point, Japan and the United States, along with other like-minded states in the Asia-Pacific region, have a better story to tell their people and the Chinese people as well. This strategic narrative should contrast the differences between the individual liberties, quality of life, and standard of living that the American and Japanese systems have created for their people with the system that the CCP has imposed on the Chinese people. Senior national security leaders in these countries, but especially in Tokyo and Washington, must communicate to their people the threat being posed by China, the need to counter it while there is still time, and the sacrifices that will be required to sustain the peace and prosperity that have benefitted all Asia-Pacific states.

While Japan and the United States should take the lead in implementing Archipelagic Defense, its success will depend to a significant degree upon the cooperation of like-minded states as part of an informal (at least initially) Coalition. In addition to Japan and the United States, both the Philippines and Taiwan must participate in the Coalition, constituting as they do the first island chain's southern sector.

While relatively small compared to the region's great power militaries, Australia's military is of high quality and has extensive experience deploying far from its homeland. The country's location astride the Indian and Pacific Oceans and beyond the range of most of China's military capabilities offers a positional advantage. For these reasons, its participation would be highly desirable.

South Korea and Vietnam occupy flanking positions along the first island chain. Their participation—particularly in Vietnam's case—would greatly enhance the Coalition's positional advantage relative to China. Should they choose to partner with the Alliance, Indonesia, Malaysia, and Singapore can provide significant military capability as well as positional advantage. Last, but hardly least, India may, by its mere presence as a major rival to China, stand as a *de facto* (albeit highly aloof) Coalition member.

Japan, comprising the first island chain's northern sector, possesses formidable capabilities of its own and can bolster its territorial defenses without much U.S. support. By contrast, U.S. forces would probably need to take on a larger role in the Philippines. The Alliance, perhaps in concert with Australia, would also likely have to provide the bulk of the Coalition's operational reserve and counteroffensive forces along the first island chain.

Depending upon their resources and level of technical competence, Alliance and Coalition militaries engaged in implementing Archipelagic Defense can enhance its effectiveness by

- augmenting U.S. defenses by positioning, over time, substantially larger forces in a forward-deployed posture (and perhaps eventually a forward-based posture);
- reducing reliance on vulnerable land and sea bases, as well as surface ships, through a combination of systems capable of conducting long-range scouting and strike operations in contested environments, and active and passive defenses to degrade the Chinese People's Liberation Army's (PLA) ability to strike effectively at extended ranges;
- forming a highly mobile operational reserve—primarily of air, cyber, long-range strike, and maritime forces—capable of deploying rapidly to threatened sectors along the first and second island chains;
- emphasizing capabilities directly related to air, sea, and information denial operations, which the PLA states are competitions it must dominate in order to undertake offensive campaigns;
- improving the U.S. battle network's robustness through the exploration (and, where appropriate, implementation) of alternative satellite- and terrestrial-based architectures and the establishment of a world-class competence in operating under mission-type orders and commander's intent;
- creating and/or augmenting ground forces capable of conducting cross-domain missions, to include air and missile defense, coastal defense, and extended-range precision strikes;
- creating and/or augmenting advanced irregular warfare ground forces—especially in the Philippines and Taiwan—armed with state-of-the-art communications and precision-guided rockets, artillery, mortars, and missiles, and supported in wartime by U.S. advisors with access to remote extended-range fires;
- denying China the ability to exploit its strategic depth by holding key strategic military and economic assets in its interior at risk; and
- fostering greater Alliance and Coalition partner cooperation and interoperability, to include frequent, rigorous, and realistic training.

Looking beyond the near- and mid-term future, it appears the character of the military competition is likely to experience significant (and perhaps disruptive) shifts over the next decade or so. Rapid advances are occurring across a range of military-related technologies, including artificial intelligence, the biosciences, big data, directed energy, nanotechnology, novel forms of propulsion and energy storage, and robotics. The Alliance must accord high priority to identifying how these technologies can be leveraged to improve its competitive position. History suggests that those militaries that identify and exploit such opportunities will enjoy a major

advantage over their rivals. Thus, there is great incentive to be the first, or among the first, to identify and exploit the “next big thing” (or things) in warfare.

Implementing Archipelagic Defense will require a significant increase in the resources devoted to defense by Japan and the United States, and perhaps by like-minded states in the region as well. Tokyo and Washington might need to increase investments in their defenses by 15–20 percent—to between 4 and 4.5 percent of gross domestic product (GDP) for the Americans and between 1.15 to 1.20 percent of GDP for the Japanese.

The burden can be mitigated in several ways. First, since Archipelagic Defense cannot be implemented overnight, the cost of doing so will, by necessity, be spread over time. Thus, the increases in defense funding can be ramped up relatively slowly.

Second, both Japan and the United States can reduce or eliminate lower priority deployments and capabilities to better align their overall military postures to meet the challenge posed by China.

Third, orienting Alliance military capabilities to support Archipelagic Defense can improve American and Japanese forces’ effectiveness, as resources would be shifted to those capabilities that are most useful and away from those that could be reduced at relatively little risk.

Fourth, the Alliance’s decision to take forceful action to deal with China’s belligerent behavior can do much to convince other like-minded states in the Indo-Pacific region to join in counterbalancing China. Support from other states, such as Australia, India, Indonesia, the Philippines, Singapore, South Korea, Taiwan, and Vietnam can significantly reduce the stress on American and Japanese forces and budgets.

Archipelagic Defense is not a panacea for all forms of Chinese aggression, any more than NATO’s conventional deterrent solved the problems once posed by Moscow’s wars of national liberation and nuclear buildup. But establishing such a posture would represent an essential—and long-overdue—first step in counterbalancing China’s revisionist ambitions.

Finally, the list of initiatives outlined in this study is not exhaustive. There will be aspects of Archipelagic Defense that will only become apparent after further research and analysis. In a sense, what is described in this study might be termed “Archipelagic Defense, Version 1.0.” The dynamic character of the military competition in the Western Pacific in particular, and the Indo-Pacific in general, guarantee that Archipelagic Defense will need to be modified over time; hence the need for persistent planning. One thing is certain: given this study’s assessment of the situation, planning needs to begin now, and it should begin with Japan and the United States.

Introduction

Introduction

Why Archipelagic Defense?

For more than two decades, the Western Pacific has experienced an unprecedented period of peace and prosperity thanks to the political stability underwritten by the United States. China has arguably been the principal beneficiary of this stability, as reflected in its remarkable economic growth and expanding influence. Far from opposing China's rise, both Japan and the United States have sought to engage China in the hope that it would become a responsible stakeholder in an international system that emphasizes the peaceful resolution of disputes among nations and recognizes the common interest all nations have in the effective functioning of a global economy.

Despite the efforts of Tokyo and Washington, however, the Western Pacific theater of operations (WPTO)¹ has become increasingly unstable over the past decade. While North Korea has posed a persistent threat to security in Northeast Asia, a far greater threat to regional peace and harmony exists in the form of a revisionist China, whose expanding territorial claims include Taiwan, much of the South China Sea, and the Senkaku Islands.

Beijing's behavior is consistent both with rising revisionist powers² and Chinese strategic culture. With respect to the latter, Beijing's pursuit of its expansionist aims is reflected in the writings of the great Chinese strategist, Sun Tzu, who argued that the mark of a great general is not to win a hundred battles, but to convince his rival to give up without a fight. Hence, we find Beijing biding its time, gradually shifting the balance of power in the region through its military buildup and acts of low-level, ambiguous "gray zone" aggression. Chinese actions, particularly in the South China Sea, but in South Asia and East Africa as well, are also consistent with the ancient Chinese game of Wei-Ch'i (known in Japan and in Western cultures as "Go"), which involves defeating one's rival primarily by positioning homogenous "forces" in the form of stones in advantageous ways so as to create positional advantage, rather than by physically capturing enemy pieces as in the game of chess.³

If China can continue to improve its positional advantage without the direct use of force, many countries in the region will feel increasingly compelled to accept the rise of a new regional order whose rules are determined by Beijing alone. Japan could be confronted with the unwelcome choice of greatly increasing its military capabilities or accepting Chinese hegemony. As for the United States, it would forfeit its long-standing objective of preventing the rise of a hostile

¹ The Western Pacific Theater of Operations contains both the first and second island chains, extending from the Japanese island of Hokkaido in the north to Australia in the south, and from Hawaii in the east to China in the west.

² Aaron Friedberg, *A Contest for Supremacy* (New York: W. W. Norton & Company, 2011), 40.

³ See Scott A. Boorman, *The Protracted Game: A Wei-Ch'i Interpretation of Maoist Revolutionary Strategy* (Oxford, UK: Oxford University Press, 1971). See also David Lai, "Learning from the Stones: A Go Approach to Mastering China's Strategic Concept, *Shi*" (Carlisle PA: Strategic Studies Institute, U.S. Army War College, May 2004).

hegemonic power on the Eurasian landmass.⁴

Continued efforts by the community of nations to preserve peace and harmony in the region by encouraging China to adhere to the current rules-based international order have not succeeded in dissuading Beijing from its provocative behavior. Consequently, other like-minded states in the Asia-Pacific region are increasingly looking to the two great Pacific democracies, Japan and the United States, for leadership.

Figure 1. The Western Pacific theater of operations



Source: The World Factbook, Central Intelligence Agency, 2017, available online at: <https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html> ; and Asia Maritime Transparency Institute, "Island Features of the South China Sea," Center for Strategic and International Studies, 2017, available online at: <https://amti.csis.org/scs-features-map/> .

Unlike Japan, the United States is a global military power and confronts growing challenges to peace in Europe and the Middle East, as well as in the Western Pacific. And it does so with diminishing resources.⁵ Russian aggression in Ukraine and concerns over Moscow's intentions with regard to the Baltic States and Syria have distracted Washington from its proclaimed "pivot" to the Asia-Pacific. And despite the signing of a treaty intended to dissuade Iran from pursuing a nuclear capability, that country continues to wage proxy wars against U.S. security partners in the Middle East.

⁴ Andrew F. Krepinevich, *Preserving the Balance: A U.S. Eurasia Defense Strategy* (Washington DC: Center for Strategic and Budgetary Assessments [CSBA], 2017), 1–4.

⁵ *Ibid.*, 38–44, 59–74.

These realities, combined with the growing Chinese belligerence, find Tokyo taking on an expanded role in its own defense and in regional affairs. Japan's Diet has passed legislation facilitating this role, and the Japan Self-Defense Forces have started adapting and enhancing their capabilities to discourage acts of aggression or coercion against the Japanese archipelago, including the Ryukyu Islands.

In the face of the growing challenge posed by China, both Tokyo and Washington must decide how best to cooperate within the framework of the Japan-U.S. Alliance (hereafter referred to simply as the "Alliance") to preserve the peace and stability in the Western Pacific. A number of potential defense strategies and military posture options exist. Those involving initiating war or engaging in acts of coercion against China are neither desirable nor consistent with the values of Japan or the United States. On the other hand, a strategy based on appeasing or accommodating China by accepting its demands for control over the Senkakus, the South China Sea islands, and Taiwan, and thus accepting China's expansionist agenda, would likely increase regional instability and encourage Beijing to act as the region's hegemon rather than as a member of the community of nations. Simply put, should China gain control of the South China Sea, Taiwan, or portions of the East China Sea, either through aggression or coercion, it would produce a fundamental shift in the balance of power and could trigger a collapse of the rules-based international order in the region and beyond.

Japanese political and military leaders emphasize that their efforts are designed to secure peace and stability along the northern sector of the first island chain.⁶ This approach is consistent with long-term American regional interests and obligations. The United States has either defense treaties or implied security commitments with the three countries that comprise the chain: Japan, the Philippines, and Taiwan. Both Tokyo and Washington have a common objective in convincing China that its future lies not in regional hegemony but in being a member of the Asia-Pacific community of nations. *Thus, the Alliance must have as its objective deterring Beijing from acts of aggression or coercion along the first island chain.*⁷ Failure to do so would greatly compromise not only Japan's security but also the peace and stability of the entire Western Pacific region. Under the rubric of Archipelagic Defense, this study outlines a defense posture and associated operational concept to accomplish this objective.

⁶ The first island chain stretches from the Japanese archipelago (which comprises the *northern sector*), down through Taiwan and the Philippines and south to the Malaysian portion of Borneo (which combine to constitute the *southern sector*).

⁷ In May 2015, I spent time with the Western Army, including its commander and its senior generals. I received briefings and, at the commander's request, gave a presentation on my preliminary work on Archipelagic Defense. All of the discussions focused on concepts for deterring aggression or coercion through a forward defense of the first island chain. This posture was *generally* supported by other senior Japanese officials with whom I met, including Japan's Vice Minister of Defense Hideshi Tokuchi; National Security Council Vice Director Nobukatsu Kanehara; and former ministers of defense Shigeru Ishiba and Satoshi Morimoto; as well as staff of the National Institute for Defense Studies. See Andrew F. Krepinevich Jr., "How to Deter China: The Case for Archipelagic Defense," *Foreign Affairs* 94, no. 2 (March–April 2015), <https://www.foreignaffairs.com/articles/china/2015-02-16/how-deter-china>.

Limitations of the Enterprise

The reader should understand that the challenges associated with crafting a defense strategy to defend the countries of the first island chain from acts of Chinese coercion or aggression are considerable. For one thing, this assessment is limited by a lack of data. The three principal military powers that form the basis for this assessment—China, Japan, and the United States—have not engaged in a large-scale war with another major military power since World War II, nearly three-quarters of a century ago. In that interval, the advances in military capabilities have been dramatic. Yet the data on the relative value of these new capabilities are meager, culled from minor conflicts that may induce as many false conclusions as useful insights regarding how best to organize, train, equip, and deploy forces in the most effective manner.

Even setting aside nuclear weapons, the character of warfare has changed dramatically over the past 70 years. Advances in military capabilities, such as the introduction of jet aircraft, nuclear-powered submarines, and missiles of ever-greater range, speed, accuracy, and lethality, have shaped and reshaped thinking regarding the sources of military advantage. Over the past 30 years, the progressive spread of military-related capabilities into relatively new domains, such as space and cyberspace, has become central to assessments of the military balance, further complicating matters. The growth of an undersea economic infrastructure further muddies the analytic waters.⁸

Thus, while most military analysts would agree that the character of a war between major military powers is likely to differ substantially from the 1940s, clarifying these differences and their implications poses many problems. Given that the military competition between the Alliance and China shows no signs of ending soon, defense planners must also account for new military capabilities. Between now and the 2030s, for example, the world could witness the broad diffusion of precision-guided munitions and extended-range scouting⁹ forces linked through battle networks. Recent promising advances in directed energy could greatly enhance communications as well as air and missile defenses. New generations of very low yield nuclear weapons or those with special effects (such as electromagnetic pulse, or EMP) could reduce the stigma associated with their use while creating far less destruction than the Cold War “Armageddon” weapons. Hypersonic missiles, should they prove practicable and affordable in substantial numbers, could greatly reduce engagement times and attack warning, while complicating Alliance missile defense operations. Cyber weapons may be able to fracture battle networks and corrupt information provided by scouting forces. Advances in artificial intelligence could enable robotic systems to conduct complex operations independent of human control.

⁸ Andrew F. Krepinevich, “The Terrorist Threat Beneath the Waves,” *Wall Street Journal*, November 2, 2011, <https://www.wsj.com/articles/SB10001424052970203687504577005811739173268>.

⁹ As used in this assessment, “scouting” is “information gathering by any and all means—reconnaissance, surveillance, cryptanalysis, or any other type of what some call information warfare,” which is completed when that information is delivered to the commander, as defined by Wayne P. Hughes Jr. in “Naval Tactics and Their Influence on Strategy,” *Naval War College Review* 39, no. 1/sequence 301 (January–February 1986): 8.

Moreover, the more advances there are in military capabilities, the wider the range of paths competitors might pursue in exploiting their potential. While some light might be shed on the more likely paths by examining a state's geographic position, strategic culture, stated geopolitical objectives, economic and technical resources, and ability to mobilize those resources for military purposes, at best this knowledge only reduces uncertainty at the margins. There is also the matter of operational concepts. Militaries may choose a certain path in *fielding* new capabilities (and blending them in with existing capabilities), but this does not necessarily tell us how they will *employ* those capabilities in war.¹⁰

While these barriers are formidable in terms of our ability to predict the character of a conflict or the state of the military balance between the Alliance and China in the Western Pacific, they are not an excuse for abandoning an assessment of the situation or for not attempting to establish and sustain the kind of military balance that will discourage Chinese coercion or aggression. At a minimum, a well-crafted assessment can reduce the level of uncertainty under which decisions regarding the Alliance's military posture must be made. The Archipelagic Defense posture prescribed in this study provides an initial approach to addressing these issues.

Structure

This assessment employs the following structure. Chapter 1 describes the sources of Chinese behavior and gives an account of its increasingly belligerent conduct. Chapter 2 presents an overview of China's objective of establishing regional hegemony. It describes the role of the PLA in achieving that goal, the character and form of its military buildup, and its view of warfare, including the requirements for offensive operations in the Western Pacific. Chapter 3 examines the Alliance's strengths and weaknesses relative to China and concludes by presenting key asymmetries that can be exploited by one side or the other to gain advantage. Chapter 4 outlines an Alliance and Coalition¹¹ defense posture, with an emphasis on how the Japanese and U.S. militaries, along with Coalition security partners, can implement Archipelagic Defense. Particular focus is given to strengthening existing sources of competitive advantage, developing new sources of advantage, and mitigating areas of weakness. Chapter 5 offers a selected set of specific steps that should be taken with respect to Archipelagic Defense. The final chapter offers some brief summary thoughts for the Alliance.

¹⁰ For example, in the period between the world wars, both Germany and Japan exploited rapid advances in aviation and mechanization to enhance their military forces' effectiveness, but did so in very different ways. Germany developed a method of warfare known as "blitzkrieg" (lightning war), while Japan was at the forefront in developing a fleet centered on carrier forces.

¹¹ As used in this study, the term "Coalition" refers to the Alliance and those states that participate in its efforts to implement Archipelagic Defense to achieve its stated objectives. In addition to Japan and the United States, members of the Coalition may be U.S. allies or simply like-minded states participating as security partners. As the Coalition's composition is almost certain to shift over time, its composition cannot be stated with any degree of precision.

Chapter 1

Sources of Chinese Behavior

Chapter 1: Sources of Chinese Behavior

The Chinese Communist Party (CCP), which has ruled over China for nearly 70 years, accords top priority to remaining in power. A regime's legitimacy is derived from one or more of four basic "pillars." One pillar is the vote. Regimes voted into power by their people through free and open elections possess a powerful sense of legitimacy. The CCP has denied itself this source of legitimacy as it has never offered the Chinese people the opportunity to vote it into power. A second pillar is ideology. Whether elected or not, regimes that the people believe have identified the true path to security and prosperity can experience a high level of legitimacy. In the CCP's case, however, its Marxist ideology that once won over large numbers of Chinese has largely been discredited.

The CCP's legitimacy, therefore, rests on the other two pillars: economic growth and nationalism. Economic growth is a particularly salient legitimizing factor in countries that have experienced long-term, widespread poverty in the past, as is the case in China. The CCP's ability to engineer solid, sustained economic growth has provided it with a strong source of legitimacy. But there are indications that this pillar, which has been the regime's strongest over the past several decades, might be declining as the country hits the inevitable "flattening" of the economic growth curve that accompanies a country's transition from an emerging (or recovering) economy to a mature one.

The final pillar is nationalism. Regimes lacking support from the other three pillars can sustain themselves in power by demonstrating their ability to restore or enhance their people's sense of national pride and honor or to protect them from their enemies. Since its victory over the Nationalist Party in 1949, the CCP has made it a priority to burnish its credentials as the entity responsible for defeating Imperial Japan in World War II, ending China's "century of humiliation" at the hands of the Western powers, and restoring the country's position as a great power. The CCP has persistently worked to rewrite history to show itself in a more favorable light than can be sustained by historical fact.¹² This suggests the regime accords great value to the nationalism pillar.

Economic Growth: A Weakening Pillar

China's remarkable period of rapid economic growth that began over two decades ago appears to be slowing significantly. In January 2016, Beijing announced that, despite the market crash China experienced during the previous summer, the country's 2015 growth rate was a healthy 6.9 percent.¹³ The CCP's reassuring estimates notwithstanding, there are growing concerns that

¹² See, for example, "Xi's History Lessons," *Economist*, August 15, 2015, <http://www.economist.com/news/leaders/21660977-communist-party-plundering-history-justify-its-present-day-ambitions-xis-history>; and "China Rewrites History Books to Extend Sino-Japanese War by Six Years," *Guardian*, January 13, 2017, <https://www.theguardian.com/books/2017/jan/13/china-rewrites-history-books-to-extend-sino-japanese-war-by-six-years>.

¹³ Leslie Shaffer, "China's Economy Grew 6.9 Percent in 2015, a 25-Year Low," CNBC, January 18, 2016, <http://www.cnbc.com/2016/01/18/china-reveals-key-q4-2015-gdp-data.html>. The government had lowered its

China's economic growth is on a declining path toward rates more characteristic of an advanced industrial state.¹⁴ Moreover, relatively slow growth rates in the United States, Japan, and the European Union show no sign of changing for the better any time soon.¹⁵ This is bad news for China's economic model, which relies heavily on exports—particularly to Europe and America—to sustain growth. Complicating matters further, China also seems to be in danger of experiencing the bursting of its real-estate bubble.¹⁶

An economic slowdown (let alone an economic crash) would pose a significant problem for the CCP. Some 200 million Chinese remain in wretched poverty, with nearly 100 million living in “extreme poverty” as defined by the World Bank.¹⁷ These Chinese represent a major source of potential internal dissent, and thus a threat to the regime. Making matters worse, the country's stock market crash hurt many Chinese attempting to enter the middle class.¹⁸ Moreover, those Chinese who have finally made the long journey from poverty and crossed into the lower middle class are fearful of slipping back into destitution and angry over the government's manipulation of the country's financial markets.

The regime faces hard realities in the form of strong and unfavorable trends that are flattening the country's economic growth rate. These trends have taken decades to form, and will likely

economic growth forecast to 7 percent, which some Chinese leaders referred to as the “new normal” growth level. This rate is China's lowest in more than two decades. The last time the government had missed its growth target was in 1998, during the Asian economic crisis. China's Prime Minister Li Keqiang expressed concerns that “systematic, institutional, and structural problems have become ‘tigers in the road’ holding up development.” Mark Magnier, “China Lowers Growth Target to About 7%,” *Wall Street Journal*, March 4, 2015, <http://www.wsj.com/articles/china-lowers-growth-target-to-about-7-1425515032>; Neil Gough, “China Lowers Official Economic Growth Target,” *New York Times*, March 4, 2015, <http://www.nytimes.com/2015/03/05/business/china-lowers-official-economic-growth-target.html>; Mark Magnier, “China's Workers Are Fighting Back as Economic Dream Fades,” *Wall Street Journal*, December 14, 2015, <http://www.wsj.com/articles/chinas-workers-are-fighting-back-as-economic-dream-fades-1450145329>; and Jonathan Chew, “Chinese Officials Admit They Faked Economic Figures,” *Fortune*, December 14, 2015, <http://fortune.com/2015/12/14/china-fake-economic-data/>.

¹⁴ One expert China watcher stated, “This expansion of [China's] debt is way beyond anything we saw in Japan, both in terms of magnitude and time frame. I think a Japan outcome in many ways would be a best-case scenario for China.” Another financial expert concurred, declaring, “[T]he price tag you pay—if you don't do the financial restructuring and real economy restructuring that is necessary to restore things to health—is that you get a very long period of very low growth and anemic activity.” Neil Gough, “As China's Economy Slows, a Look at What Could Happen,” *New York Times*, October 18, 2016, https://www.nytimes.com/2016/10/19/business/international/china-economy-slows-impact.html?_r=0.

¹⁵ “IMF Sees Subdued Global Growth, Warns Economic Stagnation Could Fuel Protectionist Calls,” IMF Research, *International Monetary Fund*, October 4, 2016, <http://www.imf.org/en/News/Articles/2016/10/03/AM2016-NA100416-WEO>.

¹⁶ Jimmy Chang, “Noodle Shops, Pigeon Cages,” *Rockefeller Asset Management Market Review*, November 1, 2016, http://www.rockco.com/documents/FG/rockefeller/commentary/576686_November_2016_Monthly_Market_Review_Version_A.pdf. See also Joel Kotkin and Wendell Cox, “China's Planned City Bubble Is About to Pop—and Even You'll Feel It,” *New Geography*, September 25, 2015, <http://www.newgeography.com/content/005055-china-s-planned-city-bubble-is-about-pop-and-even-you-ll-feel-it>.

¹⁷ Office of the Secretary of Defense (OSD), *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2016* (Washington DC: U.S. Department of Defense, April 26, 2016), 49, hereafter cited as *China's Military Power 2016*; and Chun Han Wong, “More Than 82 Million Chinese Live on Less Than \$1 a Day,” *Wall Street Journal*, October 15, 2014, <http://blogs.wsj.com/chinarealtime/2014/10/15/more-than-82-million-chinese-live-on-less-than-1-a-day/>.

¹⁸ Linette Lopez, “China's Stock Market Dream Could Bring About Its Worst Nightmare,” *Business Insider*, June 21, 2015, <http://www.businessinsider.com/falling-chinese-stocks-could-bring-social-unrest-2015-6>.

take decades and considerable effort to reverse. They include a rapidly aging population,¹⁹ growing water shortages, progressive environmental depredation,²⁰ internal corruption, the aforementioned real estate “bubble,” and the rise of relatively cheap skilled labor in South and Southeast Asia.

Recent data suggests that mean disposable household incomes have been rising by only 2 to 3 percent a year, while a number of studies suggest it has actually stagnated for some 400 million Chinese over the past ten years, with half of China’s population subsisting on less than \$2 per day. If so, China appears woefully unprepared to meet the needs of its aging population; indeed, only about 15 percent of Chinese workers have some form of pension fund.²¹

The CCP will likely need to increase social welfare spending dramatically to avoid social catastrophe. More than half of all medical costs are borne by individual citizens in urban areas; in rural settings, it is more than 75 percent. As China continues to age, the government may face a difficult choice between its two pillars of legitimacy: either sustain spending devoted to enhanced military power and national prestige or provide the necessary resources to cover the basic needs of its people.

¹⁹ Over the past three decades, China has enjoyed an abundant demographic dividend, defined as having an unusually large percentage of its people of working age (that is, between the ages of 15 and 65). China’s population is aging, however, in large part due to the CCP’s decision in the early 1980s to impose a one-child policy on the Chinese people. Given current trends, China will experience negative population growth in 2027. Importantly, China’s demographic shift is decreasing the labor pool and increasing the number of elderly people. Today there are roughly 120 million Chinese over the age of 65; by 2035, the number is projected to grow to 320 million. Today, the ratio of working age Chinese to those of retirement age is about five-to-one. Current projections suggest that by 2035 there will be fewer than 2.5 working persons for every retiree. Simply put, more resources will need to be diverted to support the elderly, while relatively fewer people of working age will be available to generate economic output. BBC News, “China to End One-Child Policy and Allow Two,” October 29, 2015, <http://www.bbc.com/news/world-asia-34665539>; Vasudevan Sridharan, “China Formally Abolishes Decades-Old One-Child Policy,” *International Business Times*, December 27, 2015, <http://www.ibtimes.co.uk/china-formally-abolishes-decades-old-one-child-policy-1535006>; Wenmeng Feng, “China’s Response to its Ageing Population,” in *Fostering Resilient Economies: Demographic Transition in Local Labour Markets* (Paris: Organization for Economic Cooperation and Development, 2014); and John Lee, “Pitfalls of an Aging China,” *National Interest* 123 (January–February 2013).

²⁰ The damage caused by the government’s general indifference to the environmental consequences of its efforts to sustain high levels of economic growth is proving increasingly difficult to ignore in terms of both the human and economic costs involved. World Bank estimates find that the various forms of environmental depredations in China cost the country roughly 9 percent of its gross national income. Only a fraction of 1 percent of China’s 500 largest cities meet the World Health Organization’s recommended air quality standards. Seven of China’s cities are ranked among the ten most-polluted cities in the world. In addition to air pollution, problems with water pollution and availability are worsening, in no small consequence from runoff of fertilizer, pesticides, and discharges from intensive animal-production facilities. Feeling the direct consequences of environmental damage, Chinese citizens have conducted a growing number of demonstrations against the CCP’s policies. Beina Xu, “China’s Environmental Crisis,” *Council on Foreign Relations Backgrounder* (April 25, 2014), <https://www.cfr.org/backgrounder/chinas-environmental-crisis>; and Qinfeng Zhang and Robert Crooks, *Toward an Environmentally Sustainable Future: Country Environmental Analysis of the People’s Republic of China* (Manila: Asian Development Bank, 2012). China’s own Ministry of Environmental Protection estimated the cost of pollution at around 3.5 percent of GDP. In 2009, the Chinese Academy of Sciences assessed the total annual cost of resource and environmental degradation in 2005 to be 13.5 percent of GDP.

²¹ Lee, “Pitfalls of an Aging China.”

Nationalism: The Sturdy Pillar

Visitors to Beijing today find the image of Mao Zedong ubiquitous. It appears in the form of posters, statues, and various other representations. The “Great Helmsman’s” visage is not there to remind the Chinese people of Mao’s many victories in free, open elections, of which there were none under his 27-year dictatorship. Nor are they intended to recall the country’s prosperity under Mao’s rule, as only Stalin rivals him in the mass starvation he inflicted by choice on his own people. Nor is it a reminder of communism’s success, for it has long since been discredited.

Rather, the image of Mao remains useful to the party as a reminder that, after a century of humiliation by external powers, he unified the country under a single central government and set it on the path toward being an object of respect—and fear—by other countries. In the CCP’s version of history, it was the PLA that defeated the Japanese invaders during World War II.²² The Chinese people are reminded that theirs was the first nation in the developing world to possess nuclear weapons and that it was Richard Nixon, president of the world’s most powerful nation, who came to Beijing to visit Mao, not the other way around. The party has not forgotten what Mao did for China and what service he may still perform to sustain the party’s hold over the Chinese people.

With the weakening of the economic pillar, the party is likely to rely increasingly on nationalism, based on “China’s historical sense of entitlement to regional hegemony,” to preserve its position and its image as China’s guardian against the depredations of hostile foreign powers.²³ As Aaron Friedberg notes, “Nationalism helps rulers to deflect popular frustrations, mobilize and channel mass support, forge coalitions among disparate groups, and win the backing of those who might otherwise seek their ouster.”²⁴ Hence the United States is portrayed as the “agitator” in the region, a country that must be “deterred” from threatening China’s peaceful rise, and a “dangerous hegemon that it must replace.”²⁵ The CCP’s most strident nationalist appeals, however, are directed against Japan, which defeated China in the Sino-Japanese War (1894–1895),²⁶ occupied Manchuria in 1931, and fought another war with China from 1937 to 1945.

During the 1970s, however, the CCP sought to employ Japan as a counterweight to the Soviet Union, against which China had fought a series of battles along their common border in 1969.

²² On the CCP’s distortion of history in general, and its related attempts to promote its image, see Michael Pillsbury, *The Hundred Year Marathon* (New York: Henry Holt and Company, 2015), 99–107; and Jung Chang and Jon Halliday, *Mao: The Unknown Story* (New York: Alfred A. Knopf, 2005), 233.

²³ Odd Arne Westad, “In Asia, Ill Will Runs Deep,” *New York Times*, January 6, 2013, http://www.nytimes.com/2013/01/07/opinion/why-china-and-japan-cant-get-along.html?_r=0.

²⁴ Friedberg, *A Contest for Supremacy*, 51.

²⁵ Jonathan Holslag, “Seas of Troubles: China and the New Contest for the Western Pacific” (unpublished draft, Brussels Institute of Contemporary China Studies, 2011); Yifu Dong, “China’s Clickbait Nationalism,” *Foreign Policy*, July 25, 2015, <http://foreignpolicy.com/2015/07/25/china-clickbait-nationalism-japan-war/>; Friedberg, *A Contest for Supremacy*, 161; and Pillsbury, *The Hundred Year Marathon*, 99.

²⁶ In defeat, China was compelled by the Treaty of Shimonoseki to cede the island of Taiwan to Japan. Although not included in the treaty’s terms, Japan also annexed the uninhabited Senkaku Islands, which Tokyo viewed as part of the agreement regarding Taiwan.

At the time, Moscow was seen as the principal threat to the Middle Kingdom's security.²⁷ Now Japan is seen as a useful outlet for Chinese jingoism, what one scholar has termed a "virulent new form of state-sanctioned anti-Japanese nationalism."²⁸ Rather than work to reduce tensions with other states in the Western Pacific, the CCP's efforts to stoke its people's nationalist fervor seem designed to produce the opposite effect.

China as a Rising Great Power

China's behavior as a rising great power is similar to that of other rising powers in history, albeit with distinct Chinese characteristics. As they begin to assert themselves, rising powers usually challenge territorial boundaries, international institutions, economic arrangements, and the trappings of prestige that were established when they were still relatively weak. In China's case, its relative weakness coincided with its "century of humiliation" and with the Cold War era that followed. The leaders of rising powers, as well as their people, often believe that owing to their diminished status when the existing system was established, they were denied what was rightfully theirs. As Samuel Huntington points out, since the Industrial Revolution, rising great powers have behaved in a similarly assertive and often disruptive fashion. He notes, "The external expansion of the UK [United Kingdom] and France, Germany and Japan, the Soviet Union and the United States coincided with phases of intense industrialization and economic development."²⁹ China today fits this description, both in terms of its development and its behavior.

China's behavior is also influenced by its unique history, especially that of the Warring States period, during which a struggle between proto-nations saw the Qin (Ch'in) state emerge victorious. As Christopher Ford observes,

The Chinese tradition has as its primary model for interstate relations a system in which the focus of national policy is, in effect, a struggle for primacy, and legitimate, stable order is possible only when one power reigns supreme—by direct bureaucratic control of the Sinic geographical core and by at least tributary relationships with all other participants in the world system. This monist model of global order is not merely a by-product of China's ancient history. Its central assumptions . . . [are] the need for political unity, the natural order of all politics as a pyramidal hierarchy, and the fundamental illegitimacy of truly separate and independent state sovereignties . . .³⁰

²⁷ At the time, Beijing encouraged Tokyo to abandon its traditional ceiling of spending no more than 1 percent of its GDP on defense, urging the figure be revised upward to 3 percent. Deng Xiaoping declared China to be "in favor of Japan's Self-Defense Force buildup." Michael Pillsbury, "A Japanese Card?" *Foreign Policy* 33 (Winter 1978–1979): 3–30, as cited in Pillsbury, *The Hundred Year Marathon*, 207.

²⁸ Westad, "In Asia, Ill Will Runs Deep." Westad states, "Most Chinese today therefore regard Japan's wealth, and its position as America's main ally in Asia, as results of ill-gotten gains." See also Anna Fifield, "War between China and Japan Ended 70 Years Ago, But Fighting Continues," *Washington Post*, July 22, 2015, https://www.washingtonpost.com/world/asia_pacific/the-war-between-china-and-japan-ended-70-years-ago-the-fighting-continues/2015/07/21/a7f52d29-28ae-4ef7-b48c-56b5cebad3da_story.html.

²⁹ As quoted in Friedberg, *A Contest for Supremacy*, 40–41.

³⁰ Christopher A. Ford, *The Mind of Empire: China's History and Modern Foreign Relations* (Lexington: University Press of Kentucky, 2010), 4.

Put another way, China's history either finds the Middle Kingdom as the victim of external powers' depredations or as a hegemon to which others must pay tribute. It is a case of "all or nothing." For China, there is no middle path built on a model of cooperation with other states.

China's View of the International Order

Reflecting both China's growing power and its historical experience, in May 2014 President Xi Jinping denounced military alliances—including both the Japan-U.S. Alliance and other bilateral U.S. alliances in the Asia-Pacific region. Rather, Xi has proposed building a "New Model of Major-Country Relations" with the United States, while calling on Washington to respect China's "core interests."³¹ The concept was initially advanced by then Vice President Xi during a visit to Washington in February 2012 and broadly advanced by China's leadership thereafter. Indeed, Xi's initiative appears to be part of a highly coordinated effort to advance the proposition that the United States and China should work toward a "new type of relationship between major powers."³² The intellectual basis for this "new model" may stem from Chinese concerns over the historical pattern of conflict between rising and established great powers, as alluded to above.³³ The Chinese leadership appears anxious to avoid such a conflict—at least while China's military buildup remains a work in progress.

At its core, however, the "new model" is little more than a repackaging of the historical experience in which the rising great power seeks to recast (or overturn) the existing international order in its favor. China's view of how best to establish this new model relationship involves, in then Vice Foreign Minister Cui Tiankai's words, "removing obstacles" and "accommodating each other's interests."³⁴ The Chinese, however, view the United States/as the sole source of mistrust and conflict in their relationship. It is therefore incumbent upon Washington to meet China's demands. Cui (currently China's ambassador to the United States) asserts that "China has never done anything to undermine U.S. core interests and major concerns, yet what the United States has done in matters concerning China's core and important interests and major concerns is unsatisfactory."³⁵ Thus, regarding developments in the South China Sea, Cui asserts "China is not the maker of these problems, and still less the perpetrator of harm. Rather, it is a victim on which harm has been imposed."³⁶

³¹ Japan Ministry of Defense, *2016 Defense of Japan*, 63, http://www.mod.go.jp/e/publ/w_paper/2016.html.

³² Hu Jintao, "Promote Win-Win Cooperation and Build a New Type of Relations Between Major Countries" (address at the 4th Round of the China-U.S. Strategic and Economic Dialogues in Beijing, May 4, 2012), People's Republic of China (PRC) Ministry of Foreign Affairs website, http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t931392.shtml; and Xi Jinping, "Work Together to Maintain World Peace and Security" (address at the opening ceremony of the World Peace Forum in Beijing, July 7, 2012), PRC Embassy in the United States website, <http://www.china-embassy.org/eng/zgyw/t951973.htm>.

³³ Ely Ratner, "The Emergent Security Threats Reshaping China's Rise," *Washington Quarterly* 34, no. 1 (Winter 2011): 36–37, <https://www.csis.org/analysis/twq-emergent-security-threats-reshaping-china's-rise-winter-2011>.

³⁴ Cui Tiankai, "On the Asia-Pacific and Sound China-U.S. Interaction in the Region"; and Cui Tiankai and Pang Hanzhao, "China-U.S. Relations in China's Overall Diplomacy in the New Era," as quoted in Ratner, "Threats Reshaping China's Rise."

³⁵ As quoted in Ratner, "Reshaping China's Rise," 27–28.

³⁶ Ibid.

The China Dream, China's Actions

China's actions reflect its determination to be accorded what it believes to be its proper place in the international order or, more precisely, to establish a new international order. When President Xi came to power in 2013, he proclaimed his desire to pursue what he calls the "China Dream." Xi describes the dream as working to "spread the Chinese spirit, which *combines the spirit of the nation with patriotism as the core*, and the spirit of the time with reform and innovation as the core."³⁷ Accordingly, the China Dream calls for developing the country's military power to support China's status as a great power.

Indeed, while Beijing asserts that its intentions are benign, its recent actions suggest a growing aggressiveness corresponding to its expanding military power. The world is beginning to see what a China-dominated Western Pacific would look like. Witness China's declaration that its "core interests" now include Taiwan, nearly all of the South China Sea's 1.3 million square miles, and much of the East China Sea, including the Senkaku Islands that have long been administered by Japan. At a 2010 international summit, then Chinese Foreign Minister Yang Jiechi bluntly dismissed Singapore's concerns over Beijing's growing territorial claims declaring, "China is a big country, and other countries are small countries and that is just a fact."³⁸ Or, as Singapore's Lee Kuan Yew put it,

[The Chinese] expect Singaporeans to be more respectful of China as it becomes more influential. They tell us that countries big or small are equal: we are not a hegemon. But when we do something they do not like, they say you have made 1.3 billion people unhappy . . . So please know your place.³⁹

Reflecting both the modest origins of Chinese power and its rapid growth, Beijing's, actions in the region have been progressive. Initially small and tentative, they have expanded over time in scope and intensity.

³⁷ As quoted in Suthichai Yoon, "The China Dream: What Does It Really Mean?" *Nation*, August 1, 2013 (emphasis added), <http://www.nationmultimedia.com/opinion/The-China-Dream-What-does-it-really-mean-30211609.html>. Xi also speaks of a "strong-army dream." See also "Xi Jinping and the Chinese Dream," *Economist*, May 4, 2013, <http://www.economist.com/news/leaders/21577070-vision-chinas-new-president-should-serve-his-people-not-nationalist-state-xi-jinping>. Others see the China Dream as an attempt by the CCP to further increase its hold over power. As one observer puts it, "The Communist Party already controls much of the reality in China; now it wants to control its people's dreams." Clarissa Sebag-Montefiore, "The Chinese Dream," *New York Times*, May 3, 2013, http://latitude.blogs.nytimes.com/2013/05/03/whats-xi-jinpings-chinese-dream/?_r=0.

³⁸ As quoted in Geoff Dyer, "Beijing's Elevated Aspirations," *Financial Times*, November 10, 2010, <https://www.ft.com/content/1cfa57c4-ed03-11df-9912-00144feab49a>.

³⁹ As quoted in Han Fook Kwang et al., *Lee Kuan Yew: Hard Truths to Keep Singapore Going* (Singapore: Straits Times, 2011), 331.

Figure 2. The South China Sea



Country names in parentheses reflect the country occupying or in effective control of the feature and should not be considered as recognition or implication of sovereignty or any other legal status.

Source: The World Factbook, Central Intelligence Agency, 2017, available online at: <https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html> ; and Asia Maritime Transparency Institute, "Island Features of the South China Sea," Center for Strategic and International Studies, 2017, available online at: <https://amti.csis.org/scs-features-map/>.

Taking 1995 as a (somewhat arbitrary) starting point, we find China claiming sovereignty over Mischief Reef in the South China Sea, which lies within the Philippines' exclusive economic zone as defined by the United Nations Convention on the Law of the Sea (UNCLOS). That same year, the PLA test-fired ballistic missiles that landed within 50 miles of Taiwanese territory. In March 1996, just days before Taiwan's presidential elections, the PLA fired test missiles that landed inside Taiwan's territorial waters in an attempt to intimidate that country's voters.⁴⁰

⁴⁰ In the March exercise, three missiles were launched. Two missiles landed less than 30 miles from the port of

In November 2004, a Chinese nuclear-powered attack submarine (SSN) violated Japan's territorial waters between the islands of Ishigaki and Tarama, transiting submerged from the Pacific Ocean to the East China Sea.⁴¹ Beijing has yet to provide an explanation of this breach of international law.⁴²

A few years later, Chinese aggressive behavior intensified. In 2008, PLA Navy (PLAN) ships began moving into the Western Pacific through a lane north of Ishigaki and between the islands of Miyako and Okinawa.⁴³ When in 2010 Japan detained a Chinese fishing boat that had rammed a Japanese Coast Guard vessel near the Senkakus and arrested its captain, China temporarily cut off its exports to Japan of rare earth metals, which are critical for making electronic components, and arrested Japanese nationals in China.

In 2012, China began sustained patrols around the Senkaku Islands lasting for weeks at a time. Coinciding with the patrols, widespread anti-Japanese protests broke out in dozens of cities across China. Thousands of Chinese surrounded Japan's embassy in Beijing. The CCP encouraged the protestors, broadcasting messages such as "Japan has violated China's rights and it is only natural to express your views."⁴⁴ In September 2013, China submitted information to the UN Commission on the Limits of the Continental Shelf, claiming an extended continental shelf in the East China Sea that encompassed waters adjacent to the Senkaku Islands.⁴⁵

At the same time, the Chinese ramped up their provocative actions in the South China Sea, as China Coast Guard ships maintained a persistent presence at Scarborough Reef. Chinese Coast Guard vessels surrounded Philippine Coast Guard vessels on station near Scarborough Shoal. The Philippine ships eventually ran out of supplies and were compelled to abandon the shoal.⁴⁶ Chinese officials asserted that the patrols were justified since China enjoyed indisputable sovereignty over the various features in the South China Sea and adjacent waters. After the release of a U.S. State Department press statement in August 2012 expressing concerns about particular Chinese actions in the South China Sea, the Communist Party's leading newspaper, the *People's Daily*, told Washington to "shut up," accusing the United States of "fanning flames"

Keelung. The third missile landed near the port of Kaohsiung, which is only 35 miles from Taiwan's southern coast. Over 70 percent of commercial shipping enters Taiwan through these two port cities. The close proximity of these tests to the ports and China's warnings for ships and aircraft to avoid the test areas disrupted port operations as well as international shipping and air traffic in that area. "Taiwan Strait: 21 July 1995 to 23 March 1996," Global Security, http://www.globalsecurity.org/military/ops/taiwan_strait.htm.

⁴¹ Akimoto Kazumine, "The Strategic Value of Territorial Islands from the Perspective of National Security," *Review of Island Studies* (October 9, 2013): 2–3.

⁴² Japan Ministry of Defense, *2016 Defense of Japan*, 44.

⁴³ Kazumine, "The Strategic Value of Territorial Islands," 7.

⁴⁴ "Anti-Japan Protests Spread across China," *Financial Times*, September 2012, <https://www.ft.com/content/85f4f7a2-0138-11e2-99d3-00144feabdc0>.

⁴⁵ OSD, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China* (Washington DC: Department of Defense, 2011), 5. Hereafter, this series of annual reports is cited as *China's Military Power*. See also: Michael McDevitt and Catherine Lea, eds., "CNA Maritime Asia Project—Workshop One: The Yellow and East China Sea" (conference report published by the Center for Naval Analyses, May 2012).

⁴⁶ Jeff Himmelman, "A Game of Sharks and Minnow," *New York Times*, October 27, 2013, <http://www.nytimes.com/newsgraphics/2013/10/27/south-china-sea/>; and Richard Javad Heydarian, "China Dominates the Scramble for the South China Sea," *National Interest*, March 19, 2015.

of division.⁴⁷ Both China and the Philippines continue to claim sovereignty over Scarborough Reef and Second Thomas Shoal.⁴⁸ Two years later, in March 2014, Chinese Coast Guard vessels blocked Philippine cargo vessels from resupplying a small contingent of Filipino marines stationed on Second Thomas Shoal in a decrepit amphibious ship that had been intentionally grounded on the Shoal.⁴⁹

Nor have China's recent belligerent actions been limited to the South China Sea. In January 2013, a Chinese warship activated its fire-control radar at a Japan Maritime Self-Defense Force destroyer. Both the Chinese Ministry of National Defense and Ministry of Foreign Affairs denied the action. Later that year, on November 23, the Chinese created the "East China Sea ADIZ" [Air Defense Identification Zone]. The ADIZ encompasses Japan's Senkaku Islands, which Beijing describes as though they are Chinese.⁵⁰

Turning our attention back to the South China Sea, beginning in 2014, China initiated large-scale land reclamation projects at seven locations in the Spratly Islands. By the end of 2015, these efforts had reclaimed over 3,200 acres of land. China has built infrastructure on the reclaimed land, including three airfields, aircraft hangars, harbors, communications and surveillance systems, logistics facilities, and radar installations. The harbor under construction at Fiery Cross Reef is capable of receiving surface warships. Meanwhile the Chinese continue work that began in 2013 on expanding the runway at Woody Island.⁵¹

China continues to mislead the international community regarding its intentions. Evidence of this is found in President Xi's statement at the September 2015 U.S.-China summit meeting, where he stated that "China does not intend to pursue militarization" of the South China Sea islands. One month later, however, China's Ministry of Foreign Affairs admitted that "China has military facilities of a defensive nature" on the islands.⁵² In fact, China had deployed offensive systems—including J-11 fighters—on Woody Island and several months later positioned what appear to be surface-to-air missiles on the island as well.⁵³ Stating the obvious, the U.S. Defense Department concludes that Beijing clearly intends to use the reclaimed land to augment its presence in the region as well as its ability to exercise air and sea control.⁵⁴

Beyond misleading the international community, China has actively defied it as well. Consider

⁴⁷ "South China Sea Tensions: China Media Tell U.S. to 'Shut Up,'" *Reuters*, August 6, 2012, <http://in.reuters.com/article/2012/08/06/china-usa-southchinasea-idINDEE87504320120806>. The text of the State Department statement can be found at U.S. State Department, "South China Sea Press Statement" (Washington DC, August 3, 2012), <http://www.state.gov/r/pa/prs/ps/2012/08/196022.htm>.

⁴⁸ China maintains a continuous Coast Guard presence at both locations while the Philippines stations military personnel aboard a tank landing ship that has been grounded on Second Thomas Shoal since 1999. OSD, *China's Military Power*, 2016, 7.

⁴⁹ OSD, *China's Military Power*, 2015, 4. The Philippines refers to the shoal as Ayungin Shoal, while the Chinese call it the Ren'ai Reef.

⁵⁰ Japan Ministry of Defense, *2016 Defense of Japan*, 33, 44.

⁵¹ *Ibid.*, 57; and OSD, *China's Military Power*, 2016, 7, 13.

⁵² Toshi Yoshihara, "Japanese Bases and Chinese Missiles," in *Rebalancing U.S. Forces: Basing and Forward Presence in the Asia-Pacific*, ed. Carnes Lord and Andrew S. Erickson (Annapolis: Naval Institute Press, 2014), 44.

⁵³ Japan Ministry of Defense, *2016 Defense of Japan*, 6, 44, 57.

⁵⁴ OSD, *China's Military Power*, 2016, 7.

the findings of an international tribunal in The Hague on a case brought by the Philippines regarding China's claims to sovereignty over most of the South China Sea and its islands. In a unanimous ruling, the tribunal found that Beijing's claims had no legal standing. The tribunal also found that China had caused "irreparable harm" to the marine environment through its actions, while also endangering Philippine shipping, fishing, and oil exploration. Of particular note, the ruling found that Mischief Reef, where the Chinese have constructed a military airstrip, lies in Philippine waters. China's Foreign Ministry responded to the ruling by declaring, "China does not accept it or recognize it."⁵⁵

As China continues its military buildup in the South China Sea, the PLA's intrusions into Japanese airspace and territorial waters have become a regular occurrence as well. China persistently probes the Senkakus by sea and by air. Chinese paramilitary vessels and PLAN ships have greatly expanded their incursions into Japan's territorial waters. Similarly, the number of incursions by PLA Air Force (PLAAF) aircraft into Japan's ADIZ has increased significantly since 2012.

Summary

While China's leaders profess they are engaged in "peaceful development," their actions suggest otherwise. China's activities in the South China Sea are designed to weaken the control of other countries over the islands to which China claims territorial sovereignty while creating "new facts" through its militarization of key islands to strengthen its position. Beijing has tried to keep its sub-conventional aggression campaign in the South China Sea bilateral, coercing individual states and avoiding multilateral forums where weaker states might join forces. It has also not shied away from using its economic strength as a coercive instrument against Japan or other countries in the region. With regard to China's aggressive moves in the East China Sea, it appears to be pursuing a cost-imposing strategy focused on maintaining a persistent presence of Chinese fishing vessels near Japan's territorial waters while also pursuing other methods (such as its ADIZ declaration) of infringing on Japan's sovereignty.

Moreover, China's expansionist aims are not limited to the first island chain. Evidence of this is seen in the character of its large-scale military buildup, now entering its third decade. This buildup strongly suggests that China is engaged in a long-term competition for regional hegemony.

⁵⁵ As quoted in Jane Perlez, "Tribunal Rejects Beijing's Claims in South China Sea," *New York Times*, July 12, 2016, https://www.nytimes.com/2016/07/13/world/asia/south-china-sea-hague-ruling-philippines.html?_r=0. China punished Manila by blocking fruit imports from the Philippines and imposing a ban on Chinese tourism to the Philippines due to "safety" concerns. Kelsey Broderick, "Chinese Activities in the South China Sea," *Project 2049 Institute*, May 2015, 4–5.

Chapter 2

China Seeks Regional Hegemony

Chapter 2: China Seeks Regional Hegemony

A Powerful China

In its efforts to establish dominance in the Western Pacific region, the Chinese Communist Party sees events moving in its favor “as the world economic and strategic center of gravity is shifting ever more rapidly to the Asia-Pacific region.” The result is that “China’s comprehensive national strength, core competitiveness and risk-resistance capacity are notably increasing, and China enjoys growing international standing and influence.”⁵⁶ China scholar David Shambaugh finds “the Chinese believe their ‘time has come’ and that the United States is in protracted decline.”⁵⁷

Beijing sees the United States, Japan, and other Asia-Pacific countries as seeking to block China’s rise and, to borrow a phrase from a bygone era, deny it its “rightful place in the sun.” This was reflected in a recent government white paper:

The U.S. carries on its “rebalancing” strategy and enhances its military presence and its military alliances in this region. Japan is sparing no effort to dodge the post-war mechanism, overhauling its military and security policies. Such development has caused grave concerns among other countries in the region. On the issues concerning China’s territorial sovereignty and maritime rights and interests, some of its offshore neighbors take provocative actions and reinforce their military presence on China’s reefs and islands that they have illegally occupied. Some external countries are also busy meddling in South China Sea affairs; a tiny few maintain constant close-in air and sea surveillance and reconnaissance against China.⁵⁸

Shambaugh notes that this view is, to a large extent, driven by the political insecurity of the CCP regarding its legitimacy. That insecurity manifests itself in part in the idea that “Western hostile forces” (code words mainly referring to the United States) are working to subvert the party’s grip on power. This, he notes, has become a core narrative of the CCP, deeply ingrained in both its institutional psyche and the party’s propaganda.⁵⁹

Thus, achieving the “China Dream” requires the creation of a military powerful enough to preclude any attempt to frustrate its ambitions. As China’s official military strategy paper states, “The Chinese Dream is to make the country strong. China’s armed forces take their dream of making the military strong as part of the Chinese Dream. Without a strong military, a country can be neither safe nor strong.”⁶⁰

⁵⁶ Zhang Tao, ed., *China’s Military Strategy* (Beijing: State Council Information Office of the People’s Republic of China, May 2015), <http://eng.mod.gov.cn/Database/WhitePapers/index.htm>.

⁵⁷ David Shambaugh, “Dealing with China: Tough Engagement and Managed Competition,” in “Roundtable: Assessing U.S.-Asia Relations in a Time of Transition,” *Asia Policy* 23 (January 2017): 10. For a detailed discussion of Chinese philosophy and concepts of efficacy, see François Jullien, *The Propensity of Things: Toward a History of Efficacy in China*, trans. Janet Lloyd (New York: Zone Books, 1999).

⁵⁸ Zhang, *China’s Military Strategy*.

⁵⁹ Shambaugh, “Dealing with China,” 10.

⁶⁰ Zhang, *China’s Military Strategy*.

Still, from Beijing's perspective, time is on China's side. Slowly but surely, the balance of power is shifting in China's favor. At some point, the balance will be so favorable that it will not be necessary to employ military force to overturn the regional order; rival states will simply see the hopelessness of their position.⁶¹ Should this come to pass, Beijing might resolve outstanding security issues with Japan, Taiwan, and other states—such as those with claims on South China Sea islands—through coercion, if not aggression. In short, U.S. allies and security partners along the first island chain risk witnessing China's progressive "Finlandization" of the region.⁶² This approach is consistent with Chinese history and strategic culture. Achieving its revisionist aims without resorting to military force is consistent with the teachings of Sun Tzu, who declared, "The supreme art of war is to subdue the enemy without fighting."⁶³

China's strategy is also consistent with the principles of its traditional game of Wei-Ch'i. Unlike the game of chess, Wei-Ch'i does not emphasize the capture of pieces, but on placing stones on a game board arranged as a grid in such a way as to achieve a positional advantage⁶⁴ over the opponent.⁶⁵ Victory is achieved by seizing control over areas and isolating the other player's stones. This strategy is clearly on display today. China's moves into the South China Sea have robbed both the Philippines and Vietnam of much of their strategic depth. China's moves into Burma and Pakistan, as well as its establishment of outposts along Africa's east coast, can be seen as part of an effort to isolate India.

Informationized Warfare

Not long after the First Gulf War revealed the potential of precision-guided munitions combined with battle networks to dramatically alter the character of warfare, China's military strategic guideline addressed the implications of these developments for the PLA. The principal focus involved winning local wars where "high technology" is employed, as the Americans demonstrated in the two Gulf Wars. In 2004, following the Second Gulf War, China's guideline was updated to emphasize preparing for military struggle under conditions of "informationization."⁶⁶

As the PLA's military build-up continued into the second decade of the 21st century, Chinese military writings on the changing character of war mirrored to a significant extent those of the Americans, particularly the Pentagon's Office of Net Assessment.⁶⁷ In particular, the 2013

⁶¹ Jacqueline Newmyer, "Oil, Arms, and Influence: The Indirect Strategy Behind Chinese Military Modernization," *Orbis* 53, no. 2 (Spring 2009): 207.

⁶² Krepinevich, "China's 'Finlandization' Strategy."

⁶³ Related to this is Sun Tzu's belief that "to win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill."

⁶⁴ The term "positional advantage" as employed in this paper is defined as the ability to exert influence or control over an area of strategic importance.

⁶⁵ See, for example, Boorman, *The Protracted Game*. See also Henry Kissinger, *On China* (New York: Penguin Press, 2011), 23–25; and Lai, *Learning from the Stones*.

⁶⁶ Zhang, *China's Military Strategy*.

⁶⁷ Net Assessment as an analytic discipline is described in Andrew F. Krepinevich and Barry Watts, *The Last Warrior* (New York: Basic Books, 2015), 193–226; and Andrew F. Krepinevich, "The Military-Technical Revolution: A Preliminary Assessment" (unpublished paper, Office of Net Assessment, Department of Defense, July 1992; the paper was eventually published by the Center for Strategic and Budgetary Assessments in 2002).

edition of the *Science of Military Strategy* focuses much of its attention on battle networks and extended-range precision strike capabilities.

Reflecting the growing emphasis on “informationized warfare” and observations of U.S. military operations, the *Science of Military Strategy* finds the competition between rival networks is the “fundamental manner of confrontation” owing to the fact that military power is enhanced by exploiting a “networked military system.”⁶⁸ As China’s Ministry of Defense notes,

The world revolution in military affairs (RMA) is proceeding to a new stage. Long-range, precise, smart, stealthy and unmanned weapons and equipment are becoming increasingly sophisticated. Outer space and cyber space have become new commanding heights in strategic competition among all parties. The form of war is accelerating its evolution to informationization.⁶⁹

The ministry concludes that the “unification of information and artillery as the main method of operation”—the combination of battle networks and extended-range precision fires—is at the core of informationized warfare.⁷⁰ Within this construct, the use of space and cyberspace finds the “area of operation expand[ing] from three-dimension[s] to five-dimension[s].” This expansion into new warfare domains enables the battle network to scout over wide areas and move information quickly to the precision strike forces. Thus between comparably equipped forces—i.e., those possessing battle networks and precision fires—the “fast-movers” (the network that locates targets and transmits that information quickly) dominate the “slow-movers” (the less effective battle network).⁷¹ The side that establishes an advantage in battle networks enables “mid- and long-range accuracy strike[s],” that emerge “as the determining method of operation.”⁷² Therefore, “China’s armed forces must closely center around the CPC’s [Communist Party of China’s] goal of building a strong military, respond to the state’s core security needs, aim at building an informationized military and winning informationized wars.”⁷³

The Western Pacific as the Key Theater of Operations

China’s efforts to overturn the rules-based international order, as well as its expanding territorial claims, are centered on the Western Pacific. The WPTO is also where China finds the principal defenders of the existing order in the form of the Alliance. Consequently, the main focus of China’s military buildup is on the WPTO. Toward this end, the Chinese leadership has instructed its military to reorient itself away from its traditional defensive orientation and

See also Andrew F. Krepinevich, “Cavalry to Computer: The Patterns of Military Revolutions,” *National Interest*, no. 17 (October 1994): 30–42.

⁶⁸ Research Department of Military Strategy, *The Science of Military Strategy* (Beijing: Military Science Press, 2013), 93–94. Cited in Mingda Qiu, “China’s Science of Military Strategy: Cross-Domain Concepts in the 2013 Edition” (Cross-Domain Deterrence Working Paper, University of California at San Diego, September 2015).

⁶⁹ Zhang, *China’s Military Strategy*.

⁷⁰ Research Department of Military Strategy, *Science of Military Strategy*, 95.

⁷¹ *Ibid.*, 96.

⁷² *Ibid.*, 94.

⁷³ Zhang, *China’s Military Strategy*.

land-centered people's war and toward a more offensive posture focused on controlling the nearby seas and the airspace above them.

The traditional mentality that land outweighs sea must be abandoned, and great importance has to be attached to managing the seas and oceans and protecting maritime rights and interests. It is necessary for China to develop a modern maritime military force structure commensurate with its national security and development interests, safeguard its national sovereignty and maritime rights and interests, protect the security of strategic SLOCs [sea lines of communication] and overseas interests, and participate in international maritime cooperation, so as to provide strategic support for building itself into a maritime power.⁷⁴

The 2013 version of *The Science of Military Strategy* concluded,

The threat from the east is more severe than that from the west, the threat from the sea is more severe than that from the ground; the threat from space and cyber network is gradually becoming true . . . The most probable war threat is a limited military conflict from the sea. The war we need to prepare for, particularly given the background of nuclear deterrence, is a large-scale, and highly intensive local war from the sea.⁷⁵

That same year, the CCP leadership, through its “military strategic guidelines,” directed the PLA to prepare to fight and win “informationized local wars” with an emphasis on the “maritime military struggle.” As the guidelines identify the type of war for which the PLA must prepare, this is widely interpreted as an indication that Beijing believes a major conflict would most likely occur against Japan and the United States in the WPTO.⁷⁶

Anti-Access/Area-Denial, Counter-Intervention and Power Projection

China characterizes its military strategy as one of “active defense,” “strategically defensive but operationally proactive in orientation.”⁷⁷ Reflecting the PLA's emphasis on deception and surprise, which is rooted in its strategic culture, this strategy calls for the PLA to respond aggressively once an adversary *decides* to attack—which the U.S. military would describe not as an active defense posture, but rather as a preemptive strike posture. The strategy calls for the PLA to assume the defensive as part of a counter-intervention posture, but also execute offensive operations when called upon—and not necessarily in that order. Hence, Chinese defense white papers refer to achieving offensive military goals, followed by “counter-intervention” defensive operations.⁷⁸

⁷⁴ Ibid.

⁷⁵ Research Department of Military Strategy. *The Science of Military Strategy*. (Beijing: Military Science Press, 2013), 100, as quoted in Qiu, “China's Science of Military Strategy,” 5-6.

⁷⁶ OSD, *China's Military Power 2016*, 43.

⁷⁷ Ibid., 44.

⁷⁸ Dan Blumenthal, “China's Military Challenge,” in *Strategic Asia 2012–2013*, ed. Ashley J. Tellis and Travis Tanner (Seattle WA: National Bureau of Asian Research, 2012), 317.

Despite the defensive rhetoric, however, both in terms of its strategy and its associated capabilities, the Chinese have increasingly emphasized the offensive. China's defense white papers have directed the PLA "to strengthen the capabilities for winning both *command of the sea* and *command of the air*, and *conducting strategic counterstrikes*."⁷⁹

The PLA sees command of the air and sea, as well as command in the information domain (in the competition between battle networks), as essential to enabling offensive operations. It also finds that the ability to execute strike operations—particularly precision strikes at extended ranges—is crucial to achieving superiority in the air, sea, and information domains. Correspondingly, the PLA is also concerned about the ability of other militaries to deny it control over these domains. As members of the Operations Theory and Regulations Department at the PLA's Academy of Military Science put it,

In future joint firepower strike campaigns, the military intervention by the powerful enemy power [the United States] is inevitable. The powerful enemy's main military intervention actions include: assisting the enemy's contest against us for *information dominance, air superiority, and sea control; attacking our important coastal and strategic in-depth targets; assaulting our firepower force*, etc. The powerful enemy's military intervention greatly influences our joint firepower strike campaigns, severely complicates and adds to the difficulty of joint firepower strike campaigns, and increases the difficulty of joint firepower strike campaigns.⁸⁰

It comes as no surprise, therefore, that China's military modernization calls for fielding capabilities to execute strikes at long ranges throughout the WPTO, in the air, maritime, space, electromagnetic, and information domains.⁸¹ As the U.S. Defense Department notes, "Current trends in China's weapons production not only enhance China's capabilities to cope with contingencies along its periphery, such as a Taiwan crisis, but will also enable the PLA to conduct a range of military operations in Asia beyond China's traditional territorial claims."⁸²

Simply put, the PLA's impressive efforts to field forces capable of sensing and striking targets, including mobile targets (as well as targets in space and in cyberspace), at extended ranges and with high precision show no signs of slowing anytime soon. Together, these efforts represent the PLA's "counter-intervention" force, or what the U.S. Department of Defense and many U.S. analysts collectively refer to as an anti-access/area-denial (or A2/AD) threat to U.S. and other military forces operating in the Western Pacific.⁸³

⁷⁹ *China's National Defense in 2004* (Beijing: Information Office of the State Council of the People's Republic of China, December 27, 2004; emphasis added), <http://www.fas.org/nuke/guide/china/doctrine/natdef2004.html>.

⁸⁰ *The Science of Joint Campaign Command*, ed. Zhang Peigao (Beijing: Military Science, 2005; emphasis added), 262, as cited in Yoshihara, "Japanese Bases and Chinese Missiles," 50.

⁸¹ OSD, *China's Military Power 2016*, 59.

⁸² OSD, *China's Military Power 2016*, 57.

⁸³ According to the Joint Operational Access Concept, anti-access refers to "those actions and capabilities, usually long-range, designed to prevent an opposing force from entering an operational area," while area-denial refers to "those actions and capabilities, usually of shorter range, designed to limit an opposing force's freedom of action within an operational area." U.S. Department of Defense, *Joint Operational Access Concept (JOAC)*, Version 1.0 (Washington DC: Department of Defense, 2012), 1. For roughly a century, the U.S. military has

Before examining China's military buildup in greater detail, a brief summary is in order. China's "active defense" strategy centers on two elements. The first element focuses on fielding forces capable of shifting the military balance in the WPTO in China's favor to the point where the region becomes "Finlandized"—falling under China's influence and bringing about a dramatic shift in the global power balance in Beijing's favor, enabling Beijing to achieve its goal of regional hegemony without having to fight. The second element, closely aligned with the first, is for these forces to be able to execute offensive campaigns to seize territory while preventing a successful counter-intervention (or counteroffensive) by Alliance and Coalition partner forces. Both elements require PLA forces capable of achieving air and sea control, as well as information dominance, to preclude the United States from coming to the aid of its allies and security partners, or to prevent China from seizing what it desires by force. The ability to achieve control in the information (including space and cyberspace), air, and sea domains is predicated on the PLA's capability to execute extended-range precision strikes. Coming full circle, we find that battle networks enable these strikes.

With this in mind, the discussion of China's military buildup and key capabilities is organized accordingly, grouped by those related to information, strike, air, and sea operations.

Information Superiority

China's efforts to shift the military balance in its favor require the PLA to establish control over the information domain. PLA strategists often cite the need to create an "information blockade" or establish "information dominance"⁸⁴ early in a campaign to set the conditions needed to achieve air and sea superiority.⁸⁵ The Chinese military sees controlling information as "the foundation of seizing initiatives in battle. Without information supremacy, it is difficult to effectively organize fighting for control of [the] air and control of [the] sea."⁸⁶ With this in mind, the PLA's active defense doctrine emphasizes information dominance, which, once achieved, will render it capable of inflicting a paralyzing "mortal blow" and "winning victory with one strike."⁸⁷

The PLA is endeavoring to develop a comprehensive theory of "information power" as part of a broader strategy aimed at defeating a superior opponent. In their view, China need not match overall U.S. and Japanese military capabilities to achieve its political and strategic objectives. By creating an area of relative strength against the Coalition in information operations,

typically undertaken major power-projection operations by transporting forces from the United States to secure overseas bases (such as Great Britain in World War II, Japan during the Korean War, and Saudi Arabia during the First Gulf War). Once these U.S. forces had attained sufficient combat power, they were employed to achieve their assigned war objectives. The spread of advanced scouting and strike capabilities enabling the fielding of A2/AD forces like those being pursued by the PLA threatens to increase dramatically the costs associated with this method of power projection, possibly to prohibitive levels. The origins of the anti-access/area-denial concept can be found in Krepinevich, *The Military-Technical Revolution*, 30.

⁸⁴ The term "information dominance" was introduced in Krepinevich, *The Military-Technical Revolution*, 22–23.

⁸⁵ OSD, *China's Military Power 2016*, 59.

⁸⁶ Research Department of Military Strategy, *Science of Military Strategy*, 130.

⁸⁷ Mark A. Stokes, *China's Strategic Modernization: Implications for the United States* (Carlisle PA: U.S. Army Strategic Studies Institute, September 1999), 8–9.

Chinese strategists plan to deter U.S. military intervention in local wars and avoid having to fight altogether.

The PLA's military theorists view information within the context of battle networks as enabling widely distributed scouting and strike elements to act as a single, unified "operational body"—what Russian theorists during the Soviet era referred to as a "reconnaissance-strike complex."⁸⁸ Accordingly,

China's armed forces will endeavor to address the pressing problems constraining the capabilities for system-vs.-system operations. They will make further exploration and more efficient utilization of information resources, strengthen the building of the systems of *reconnaissance*, early-warning and command and control, develop *medium- and long-range precision strike* capabilities, and improve the comprehensive support systems.⁸⁹

The informationized operation occurs across all warfare domains, including land, sea, air, space, and cyberspace. Thus, PLA strategists seek to exploit an information advantage to dramatically increase the effectiveness of their "kinetic" forces.

With respect to cyberspace, PLA theorists highlight the importance of establishing "cyberspace superiority" that will facilitate efforts to establish the air superiority and sea control needed to enable offensive campaigns while precluding other militaries from intervening. They assert that information operations and offensive cyber operations can cripple an adversary's command and control networks—"the nerve center of the entire battlefield"—and its logistics networks as well.⁹⁰

The authors of the PLA's *Science of Military Strategy* view the cyber competition as favoring the offense and cyberattacks being difficult to attribute.

Attacking weapons in cyberspace are low-cost and fast developed. The risk of being punished due to cyber attack is relatively minimum [sic]. [The] network system itself has complicated and sophisticated networks, thus the presence of weakness and loop-holes is inevitable. Meanwhile, cyber defenders only succeed in fixing the weakness that has been attacked, but not those [that] remain inactive or have not been identified. In general, cyberspace has the characteristic of being easy to attack and difficult to defend which is apparently asymmetrical.⁹¹

Given these attributes, deterring the PLA from undertaking cyber operations will likely prove very difficult. As the competition favors the offense, deterrence through denial will prove both costly and likely ineffective. And since attribution is problematic, identifying China as the perpetrator of cyberattacks may also prove difficult, potentially compromising the prospect of

⁸⁸ Yuan Wenxian, chief ed., *Lectures on Joint Campaign Information Operations* (Beijing: PLA National Defense University Press, 2009), 4.

⁸⁹ Zhang, *China's Military Strategy* (emphasis added).

⁹⁰ OSD, *China's Military Power 2016*, 60, 64.

⁹¹ Research Department of Military Strategy, *Science of Military Strategy*, 193.

effective deterrence through the threat of retaliation. With this in mind, *The Science of Military Strategy* states,

Regarding the characteristic that cyberspace is easy to attack but hard to defend, [we should] insist [on] emphasizing on [cyber]attack, which could disrupt the [enemy's] software system and damage the hardware system simultaneously. Regarding the characteristics that the boundary of cyberspace is amorphous and it is hard to distinguish military activities from civilian ones, [we should] insist on combining peaceful and military use, integrating civilian and military use. So [we could] use civilian activity to cover military activity during peaceful times, and combine the forces of civilian and military during war times.⁹²

Along with the cyber domain, the PLA sees the space domain as central to achieving information dominance and places a high priority on denying adversaries the use of space by neutralizing their satellites and/or terrestrial elements of their space architectures. *The Science of Military Strategy* declares,

We need to target the characteristics of high cost, limited amounts and uneasy development of space weapon technology, to create superiority in a localized area in order to hit and destroy critical targets of the enemy's space system. Regarding the characteristic of military-civilian dual use of space system, [we should] . . . use civilian space system[s] to enhance the capability of our military space system. Regarding the characteristic that space activity requires support from the surface, [we should] insist [on] using multiple methods in various domains including land, sea, air, space, cyberspace, and electromagnetic to disrupt the [enemy's] communication system which could cut the connection between space and the earth. Thus the enemy will not be able to operate its space system.⁹³

Given the importance it attaches to the space domain, it is not surprising that the PLA is acquiring a range of technologies to improve China's space and counter-space capabilities. With respect to the former, the number of satellites China has placed in orbit has increased dramatically over the past two decades. Taken in five-year increments, we find that China put 33 satellites into orbit between 1997 and 2002. During the period from 2009 to 2014, that number more than tripled to 111. Most of these satellites have military or other governmental functions, with ISR (intelligence surveillance and reconnaissance) and remote sensing, communications, and earth observation missions predominating.⁹⁴

While exploiting space to enhance its military capabilities, the PLA is working hard to deny adversaries a similar advantage. Beginning in the early 2000s, China's military has pursued a wide array of counter-space capabilities, including those capable of illuminating ("dazzling") U.S. satellites and enhancing satellite jamming. The PLA has also been developing directed-energy

⁹² Ibid., 130–31.

⁹³ Ibid.

⁹⁴ Eric Heginbotham, et al., *The U.S.-China Military Scorecard* (Santa Monica CA: RAND, 2015), 229.

weapons and testing kinetic anti-satellite systems.⁹⁵

The PLA is putting its doctrine into practice, as evidenced in its military exercises. Chinese training emphasizes operations in complex environments involving cyber and electronic warfare, deception operations, and kinetic action—comprising attacks against an adversary’s command and control, intelligence, surveillance, and reconnaissance (C4ISR) systems, which includes its satellites and terrestrial-based systems. These actions are all designed to achieve information superiority.⁹⁶

Strike and Air Superiority

Modern military systems, when integrated into battle networks, let scouting to occur over a wide area and the information gathered from such efforts to be moved quickly to various strike elements. Achieving information superiority would enable the PLA scout far more effectively than Alliance forces. As China’s military strategy declares, information dominance and precision strikes go hand-in-hand: “Integrated combat forces will be employed to prevail in system-vs.-system operations featuring information dominance, precision strikes and joint operations.”⁹⁷

This combination of scouting and strike elements forms the basis for what the Americans refer to as precision warfare—a combination of battle networks (the scouting or “reconnaissance” element) and extended-range precision fires (the “strike” element).

Fully consistent with China’s overarching strategy of “active defense” and concepts for “counter-intervention,” the PLA’s *Science of Second Artillery Campaigns* calls for employing extended-range precision fires, with emphasis on missile forces.

When the powerful enemy [the United States] uses allied military bases in our periphery and aircraft carriers as aircraft launch platforms to implement various forms of military intervention; and when the powerful enemy’s allied military bases around our periphery are beyond our air arm’s firing range, and when the carrier battle groups are far away from our shores . . . conventional missiles can be used to implement harassment strikes against the military bases of the enemy’s allies around our periphery as well as the carrier battle groups.⁹⁸

In this concept of operations, PLA Rocket Force⁹⁹ precision-guided missiles can be viewed as an effective way to pin forward-based air forces on the ground long enough for the PLAAF to arrive and deliver a far greater volume of precision-guided weapons.¹⁰⁰ As the U.S. military is a signatory (along with Russia) of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty,

⁹⁵ Heginbotham, *U.S.-China Scorecard*, 258.

⁹⁶ OSD, *China’s Military Power 2016*, 63.

⁹⁷ Zhang, *China’s Military Strategy*.

⁹⁸ PLA Second Artillery Corps, *The Science of Second Artillery Campaigns* (Beijing: PLA Press, 2004), 401.

⁹⁹ The Second Artillery was renamed the PLA Rocket Force in China’s 2015 reorganization of its armed forces.

¹⁰⁰ David A. Shlapak, David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson, *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute* (Santa Monica CA: RAND, 2009), 36–37, 42–43, 51, <http://www.rand.org/pubs/monographs/MG888.html>.

it is precluded from deploying similar missiles.¹⁰¹ This offers the PLA an important asymmetric advantage, which it clearly intends to exploit.

Toward this end, the PLA Rocket Force is developing and testing several new classes and variants of offensive missiles (including a hypersonic glide vehicle); forming additional missile units; upgrading older missile systems; and developing methods to counter ballistic missile defenses. While China has large numbers of short-range ballistic missiles (SRBMs), it is placing increasing emphasis on medium-range ballistic missiles (MRBMs) and intermediate-range ballistic missiles (IRBMs) to enable strikes far beyond Taiwan. In addition to enhancing its satellite capabilities to locate targets at great distances from China, the PLAN is also improving its sky wave and surface wave over-the-horizon (OTH) radars, which can be employed with satellites to support long-range precision strikes, including those by anti-ship ballistic missiles (ASBMs).¹⁰²

Short-Range Ballistic Missiles (Range: Less than 1,000 km)

In 2016, the U.S. Defense Department estimated that the PLA Rocket Force possesses roughly 1,200 SRBMs. These missile forces are positioned primarily opposite Taiwan. China is augmenting its conventional SRBM forces by fielding the CSS-11 (DF-16) ballistic missile.¹⁰³

Medium-Range Ballistic Missiles (Range: 1,000–3,000 km)

China is expanding its force of conventionally armed MRBMs, including the CSS-5 Mod 5 (DF-21D) ASBM, which has a range of roughly 1,500 km and employs a maneuverable warhead. This provides the PLA with the ability to attack ships, including aircraft carriers, in the WPTO within the first island chain and, perhaps, at greater distances as well.¹⁰⁴

Intermediate-Range Ballistic Missiles (Range: 3,000–5,500 km)

The PLA is developing a road-mobile IRBM that would enable it to execute “near-precision” strikes out to the second island chain.¹⁰⁵

Cruise Missiles and Precision-Guided Munitions

China’s conventional ballistic missile forces are supplemented by an array of cruise missiles. The PLA is expanding its air- and ground-launched precision land-attack cruise missiles (LACMs). China’s PLAAF possesses a small number of tactical air-to-surface missiles as well as precision-guided munitions including all-weather, satellite-guided bombs, anti-radiation missiles, anti-ship cruise missiles (ASCMs), and laser-guided bombs. The PLAN boasts a wide range of ASCMs, some with ranges out to 200 km. These missiles are deployed on both surface warships and submarines.¹⁰⁶

¹⁰¹ The INF Treaty between Russia and the United States prohibits the signatories from deploying any nuclear or conventional land-based ballistic or cruise missiles with ranges between 500 and 5,500 kilometers. Sea-launched missiles were not covered.

¹⁰² OSD, *China’s Military Power 2016*, 22, 72.

¹⁰³ *Ibid.*, 25, 72.

¹⁰⁴ *Ibid.*

¹⁰⁵ *Ibid.*, 72.

¹⁰⁶ The PLA is also developing and deploying extended-range rocket artillery systems. These systems have the

While China's arsenal of ballistic and cruise missiles is imposing, even more impressive is the speed with which the PLA has created this force. Between 2003 and 2015, the Chinese stock of conventionally armed SRBMs has grown from less than 350 to roughly 1,200. Its MRBM arsenal has expanded from having no such missiles to having between 100 and 250. During the same time period, China's cruise missile inventory has jumped from zero to between 450 and 1,250.¹⁰⁷

To sum up, China is fielding an array of conventionally armed ballistic and cruise missiles that, when supplemented with cyber and special operations forces, along with aircraft armed with precision-guided munitions, are capable of holding a rapidly expanding number of targets at risk in the WPTO, especially the Coalition's land-based air forces. This includes air bases along the entire first island chain and, increasingly, those along the second island chain. China's improving ability to scout mobile targets—such as U.S. aircraft carriers—at extended ranges and its growing arsenal of ASBMs and ASCMs (as well as submarine-launched torpedoes) is placing these forces at ever-greater risk.¹⁰⁸

Maritime Superiority: Controlling the Sea from the Air and Land

The PLA believes that its growing land-based scouting and strike forces, when combined with its rapidly modernizing fleet, will enable it to exert ever-greater control over the near seas, and eventually out to the second island chain. As one Chinese strategist, Professor Ye Zicheng of Beijing University, notes, "If the land power [army, ground-based missiles, ground-based air force] on the Chinese homeland is sufficiently strong, it will suffice to control the situation in the Taiwan Strait."¹⁰⁹

Toshi Yoshihara and James R. Holmes conclude,

If Chinese land forces can hoist a protective umbrella over the near seas, PLA Navy units will be able to range freely within the waters Beijing deems important without leaving the protective cover of shore defenses.

Under this aegis, defense will increasingly blur into offense, even eastward of the first island chain. Advanced ground-based air-defense systems, capable naval fighter/attack aircraft, long-range cruise missiles, and even a ballistic missile reportedly able to find and attack vessels on the high seas are central to China's military modernization effort.¹¹⁰

potential to strike targets across the Taiwan Strait. The PHL-03 300 mm multiple-rocket launcher (MRL) can reach targets over 100 km away, while the AR-3 dual-caliber MRL has a range that exceeds 200 km. The Chinese have ground-launched cruise missiles as well, with the CJ-10 missile possessing a range of over 1,500 km. *Ibid.*, 25, 72–73.

¹⁰⁷ Heginbotham, *U.S.-China Scorecard*, 48.

¹⁰⁸ OSD, *China's Military Power 2016*, 60–61.

¹⁰⁹ As quoted in Toshi Yoshihara and James R. Holmes, *Red Star Over the Pacific: China's Rise and the Challenge to U.S. Maritime Strategy* (Annapolis MD: Naval Institute Press, 2010), 40.

¹¹⁰ *Ibid.*, 74.

Thanks to its expanding array of increasingly integrated scouting capabilities and a growing array of missiles, strike aircraft, and torpedoes, the PLA has made great progress toward achieving this end.

This progress is further enhanced by the PLAN's progressive improvements in its surface warships and submarines. From a fleet of very modest capabilities some two decades ago, the PLAN has been built up into an imposing force that stands as the largest in Asia, with more than 300 surface ships, submarines, amphibious ships, and patrol craft. And there appears to be no end in sight for China's naval expansion. The PLAN is emphasizing large, multi-mission ships equipped with advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This reflects China's ongoing strategic reorientation from focusing on defense of its territory and the near seas to a far seas force capable of conducting operations beyond the first island chain.¹¹¹ Importantly, however, the PLAN's principal emphasis is on anti-surface warfare. Given the Japanese and U.S. emphasis on, and expertise in, anti-submarine warfare (ASW), this may constitute an important asymmetry in the Alliance's favor.

Surface Ships

The PLAN maintains a vigorous surface combatant construction program of various ship classes, including guided-missile destroyers and guided-missile frigates armed with vertical launch system tubes that can be armed with ASCMs, LACMs and surface-to-air missiles (SAMs). These new warships provide a significant upgrade to the PLAN's air defense capability, which will be increasingly important as it expands operations into distant seas beyond the range of shore-based air defense systems. China has also constructed an amphibious ship force that includes large amphibious transport docks, and in 2015 launched its first aircraft carrier. This suggests the PLAN's intent to create a maritime force capable of conducting major offensive operations.¹¹²

Submarines

The PLAN places a high priority on its submarine force. Beginning in the mid-1990s, the PLAN's modernization efforts led to a decline in the size of its submarine fleet by nearly one-third, from 75 boats down to 54 in 2010. Since then, however, China's submarine force has increased in both size and capability. According to the U.S. Defense Department, the PLAN's current fleet of 5 SSNs, 4 nuclear-powered ballistic missile submarines (SSBNs), and 53 diesel-powered attack submarines (SS) will expand over the next three years to between 69 and 78 submarines.¹¹³ That being said, in the case of both surface combatants and submarines, the PLAN will need to improve its seamanship and tactical capabilities to realize the full benefit from its growing fleet.

¹¹¹ OSD, *China's Military Power, 2016*, 25–27.

¹¹² OSD, *China's Military Power, 2016*, 26–28. The PLAN carrier, the *Liaoning*, is considerably more modest in size and capability than either the U.S. Navy's current *Nimitz*-class carriers or its new *Ford*-class carrier, now under construction.

¹¹³ Heginbotham, *U.S.-China Scorecard*, 184–85; and OSD, *China's Military Power 2016*, 26.

An Increasingly Non-Permissive Maritime Environment

The combination of existing land-based scouting and strike systems, along with those in development, is enabling the PLA to hold Alliance and Coalition partner surface warships at risk at ever-increasing distances. Particularly worrisome from the perspective of the Japanese and U.S. Navies are the threats posed by China's ASBMs, which have the potential to impose highly disproportionate costs on adversary ships—and not necessarily by sinking them. The ASBMs only need to come within a surface fleet's defense perimeter to trigger its missile defenses. From a cost perspective, the exchanges between attacking missiles and missile interceptors are highly likely to favor the attacker. ASBMs can also release anti-radiation submunitions that can disable a fleet's radars at potentially a fraction of the radar's cost.¹¹⁴

PLAAF and Air Defenses

As is the case with the PLA in general, the PLAAF has been augmenting its capabilities within China's active defense strategy. As in most other areas of the military competition, the PLAAF is closing the gap with the Japanese and American Air Forces. The U.S. Defense Department concludes that by 2020, the PLAAF will probably comprise primarily fourth-generation combat aircraft. The PLA is also the only military with two ongoing stealth fighter programs, and it is pursuing an ambitious program to develop a range of unmanned aerial vehicles (UAVs). China's Air Force includes three variants of its H-6 bomber, which are capable of reaching U.S. bases as distant as Guam along the second island chain. The H-6K can carry LACMs and ASCMs, enabling it to conduct long-range standoff strikes.¹¹⁵ As noted earlier, China's construction of airfields on Woody Island and in the Spratly Islands will significantly enhance the PLAAF's ability to operate at extended ranges from the mainland, especially in the first island chain's southern sector.

Turning to air defense, one finds that since the mid-1990s the PLA has transformed its air defense network from a negligible factor in the military balance to one that poses a formidable challenge to all but the most advanced air forces employing the most cutting-edge tactics. The PLAAF is relying heavily on Russian-produced systems, including the SA-20 (S-300PMU1/2), and plans to acquire the S-400/Triumpf as a successor to the SA-20. Over the longer term, the PLAAF seems likely to build up its indigenous air defense capabilities, which currently include the CSA-9 SAM system, while developing the more advanced CSA-X-19 (HQ-19) system, which may have a ballistic missile defense capability.¹¹⁶

Ground Forces

China's ground forces are increasingly focused on conducting operations under informationized conditions. The PLA Army (PLAA) emphasizes executing these operations in areas bordering China, but they could also be deployed in operations overseas, such as against Taiwan and

¹¹⁴ Yoshihara and Holmes, *Red Star*, 120; and Heginbotham, *U.S.-China Scorecard*, 198.

¹¹⁵ OSD, *China's Military Power, 2016*, 30–31, 62. The range of PRC aircraft can be extended further with air-refueling tankers (IL-78s) acquired from Ukraine.

¹¹⁶ *Ibid.*, 31; and Heginbotham, *U.S.-China Scorecard*, 130.

the Philippines.¹¹⁷ Recognizing the importance of rapidly concentrating military power, the PLAA has recently conducted mobility exercises across military regions to test the results of equipment designed to greatly enhance the army's mobility, as well as its C4ISR capabilities.¹¹⁸

Logistics

One of the most cited aphorisms among those in the military is that while “amateurs talk tactics, professionals talk logistics.” The point is not lost on Chinese military theorists, some of whom argue that the adversary's supply system is its center of gravity, and thus a primary target of PLA operations:

The future operational center of gravity should not be placed on the direct confrontation with the enemy's assault systems. We should persist in taking the information system and support system as the targets of first choice throughout . . . In regard to the supply system, we should try our best to strike the enemy on the ground, cut the material flow of his efficacy sources so as to achieve the effect of taking away the firewood from the cauldron.¹¹⁹

The PLA envisions employing its missile forces to launch periodic strikes near major Alliance and Coalition member ports and air bases, creating “no-go” zones for Alliance forces. These strikes could also, along with submarines, mines, and unmanned underwater vehicles (UUVs), comprise the key elements of an economic blockade of countries along the first island chain, and perhaps other states in the region as well.¹²⁰

Cyberattacks have the potential to cause serious disruptions to U.S. and Japanese logistics. In the case of the United States, a significant portion of its logistics is conducted using the Defense Department's unclassified network, the Non-Secure Internet Protocol Router Network (NIPRNet, or “nipper-net”). The NIPRNet has been penetrated at least several times over the past two decades or so in operations such as Moonlight Maze, Titan Rain, and the Byzantine series. While the U.S. Defense Department has worked to improve NIPRNet security, Pentagon officials are not convinced its firewalls against further intrusions are impenetrable.¹²¹

Japanese and U.S. forces also rely on critical commercial infrastructure for electrical power, transportation, and fuel supplies, among other key logistics functions. Much of this infrastructure

¹¹⁷ The PLA recently announced plans to increase the size of its Marine Corps from roughly 20,000 to 100,000. Elements of this greatly expanded force would be stationed overseas, including in the South China Sea, at the PLA's new base in Djibouti, in Somalia, and at the port of Gwadar in Pakistan. Franz-Stefan Gady, “China is Building a 100,000 Strong Marine Corps,” *Diplomat*, March 24, 2017, <http://thediplomat.com/2017/03/china-is-building-a-100000-strong-marine-corps/>.

¹¹⁸ China has given priority to fielding mechanized combat brigades composed of highly mobile infantry and combined-arms battalions. Ground units are being equipped with C4ISR systems that enable brigade formations and higher to share data in real-time. OSD, *China's Military Power 2016*, 33.

¹¹⁹ Peng Guangqian and Yao Youzhi, *Science of Military Strategy*, 464, as quoted in Yoshihara, “Japanese Bases and Chinese Missiles,” 49–50.

¹²⁰ *Ibid.*, 52.

¹²¹ The Moonlight Maze intrusion is believed to have been a Russian operation. Both Titan Rain and the Byzantine series appear to have been the work of the Chinese. Heginbotham, *U.S.-China Scorecard*, 261.

is regulated by supervisory control and data acquisition (SCADA)¹²² systems that appear to be vulnerable to being penetrated and manipulated by cyberattacks.¹²³

Summary

By both its words and deeds, China has declared itself a revisionist power. Its expansive territorial claims are backed by a military doctrine whose objective is to shift the military balance of power progressively in China's favor, with emphasis on the first island chain in the near-to-medium term, and the second island chain over the long term. One only needs to look at the PLA's ongoing buildup, now in its third decade, to confirm this diagnosis.

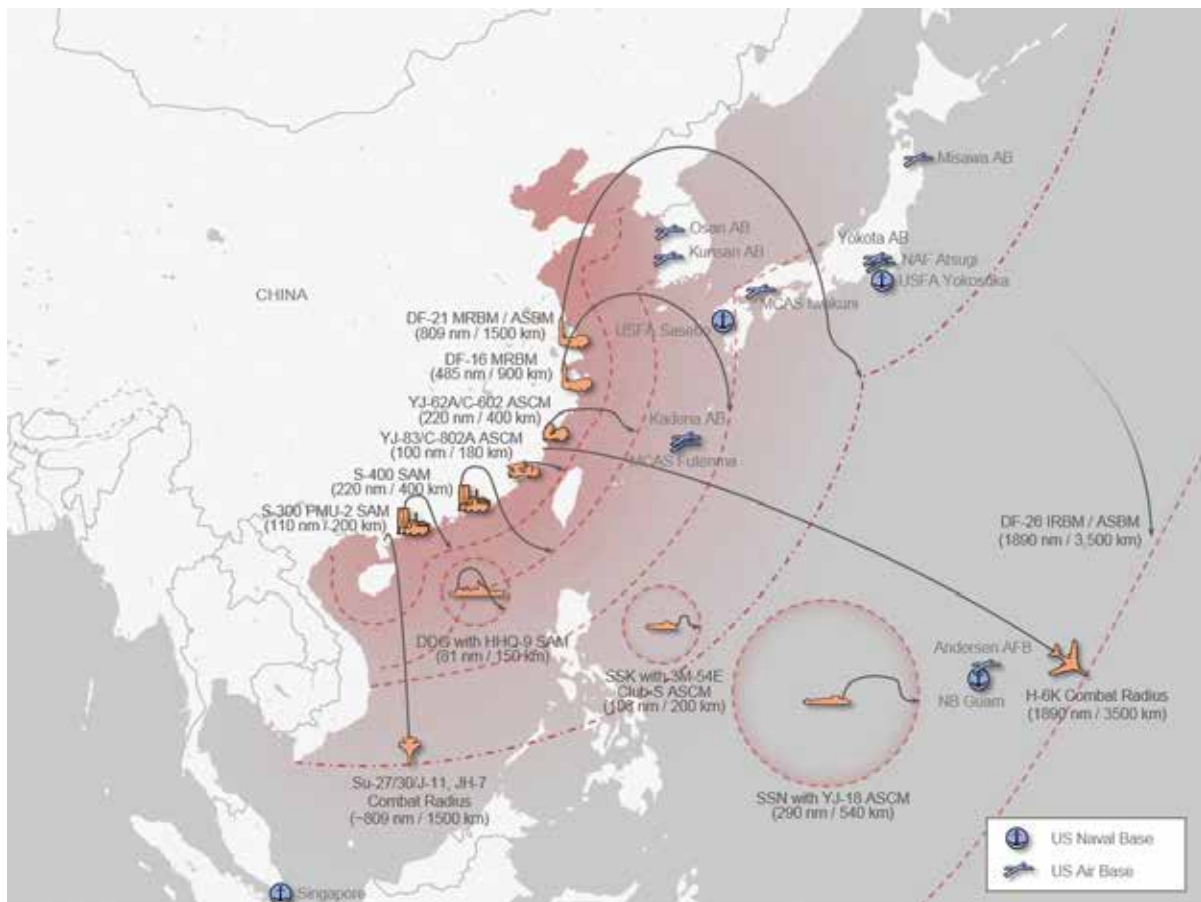
At present, it appears Beijing believes that time is on its side. So long as this is true, the CCP may be content to pursue an incremental approach to achieve its aims. This would find China gradually shifting the military balance in its favor with an eye toward eventually Finlandizing the region. Such a strategy would be consistent with its military culture and its emphasis on achieving positional advantage to place its adversaries in an untenable situation, compelling them to give way without any attempt at forcible resistance.

Toward this end, China's military effort emphasizes creating a counter-intervention capability centered on dominating the information, air, and maritime domains in the WPTO. By precluding U.S. military intervention on behalf of its allies under the cover of its anti-access/area-denial umbrella, the PLA can enhance its ability to conduct offensive operations against lesser powers in the region, particularly the Philippines, Taiwan, and Vietnam. This is important as it provides Beijing with options to achieve its ambitions by force in the event it believes time is no longer on its side (increasing the pressure to act before conditions become less favorable), or if circumstances have become sufficiently favorable that it believes it can accomplish its goals quickly, through aggression, rather than over a protracted period.

¹²² A SCADA control system uses computers, networked data communications, and graphical user interfaces, along with programmable logic controllers, to manage a wide range of industrial functions. As Rose Tsang notes, "SCADA systems are used in distribution systems such as electrical power grids, water distribution and wastewater collection systems, oil and natural gas pipelines, and railway transportation systems. These control systems, which are often highly interconnected and mutually dependent systems, are critical to the operation of . . . critical infrastructures." Rose Tsang, "Cyberthreats, Vulnerabilities and Attacks on SCADA Systems" (unpublished paper, University of California, Berkeley, c. 2012), 1–2.

¹²³ Andrew F. Krepinevich, *Cyber War: A "Nuclear Option?"* (Washington DC: CSBA, 2012), 39–47; and Heginbotham, *U.S.-China Scorecard*, 263.

Figure 3. China's anti-access/area-denial forces



Source: OSD, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2017 (Washington DC: U.S. Department of Defense, 2017); Defense Intelligence Ballistic Missile Analysis Committee, Ballistic and Cruise Missile Threat 2017 (Washington DC: U.S. Department of Defense, 2017); Dennis Gormley, Andrew Erickson, and Jingdong Yuan, *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions* (Washington DC: NDU Press, 2014); Jane's Weapons: Naval, Jane's Land Warfare Platforms: Artillery & Air Defense, Jane's Strategic Weapons Systems, and Jane's All the World's Aircraft, Jane's by IHS Markit, 2017. The H-6K range estimate is based on press reports such as Wendell Minnick, "China Puts Guam Within Missile Range," *Defense News*, May 12, 2016.

Simply put, China's revisionist aims fundamentally conflict with Japanese and U.S. security objectives, as well as U.S. security commitments to the countries comprising the first island chain. The Coalition faces a strategic choice: How to respond to China's revisionist agenda? The remainder of this paper addresses this issue by advocating the Coalition sustain a stable, favorable military balance along the first island chain and in the WPTO to discourage China from engaging in acts of aggression or coercion against its neighbors or the United States.

Chapter 3

Sources of Relative Advantage and Weakness

Chapter 3: Sources of Relative Advantage and Weakness

Strategy and the Importance of Asymmetries

As noted in the introduction, the task facing the Alliance from a military perspective is to deter Beijing from undertaking acts of aggression or coercion to achieve its revisionist objectives and—should deterrence fail—defeat aggression and restore peace on terms favorable to the Alliance and its Coalition partners. Deterring China’s leaders requires convincing them that, for them, the military balance is sufficiently unfavorable to achieve their goals by force.

As the competition with China is open-ended—that is, it is likely to be protracted—the Coalition must strive not only to achieve a favorable military balance but to sustain it over an extended period of time, perhaps several decades or longer. This requires a strategy geared to the needs of a long-term competition, where priority must be given to maintaining a favorable military balance in the near term while also developing new sources of competitive advantage and mitigating vulnerabilities over the longer term.¹²⁴ The PLA is working to offset the Alliance’s existing advantages. If the Alliance cannot sustain these advantages at an acceptable cost, it will need to explore opportunities to divest these “wasting assets.”¹²⁵

This chapter identifies significant asymmetries between China on the one hand, and the Alliance and other U.S. allies and security partners on the other. The asymmetries identified are those most likely to influence the military balance. The general areas examined are those pertaining to geography, geopolitics (alliances), demography, time, and military capabilities.

Geographic

Overview

When it comes to achieving its expansionist objectives, the geography of the Western Pacific is a source of both advantage and weakness for China, as well as for the Alliance and its Coalition partners in the Indo-Pacific region.

The Alliance benefits from the U.S. basing architecture, which has been described by Chinese strategists as a “three-line configuration.” The first line stretches in a sweeping arc from Japan and South Korea to Diego Garcia in the Indian Ocean, forming an interlocking set of bases in the Western Pacific and Indian Oceans. The second line links Guam and Australia, while the last line of bases extends north from Hawaii, passing through Midway to the Aleutians and terminating at Alaska. Chinese planners view these three lines as forming a network of mutually supporting bases, ports, and access points.¹²⁶

¹²⁴ Richard Rumelt, *Good Strategy, Bad Strategy* (New York: Crown Business, 2011), 10, 30.

¹²⁵ For a discussion of wasting assets, see Andrew F. Krepinevich, “The Pentagon’s Wasting Assets,” *Foreign Affairs* 88, no. 4 (July–August 2009): 18–33.

¹²⁶ Yoshihara, “Japanese Bases and Chinese Missiles,” 45.

The First Island Chain Barrier

Figure 4. The first and second island chains



Source: The World Factbook, Central Intelligence Agency, 2017, available online at: <https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html> ; and Asia Maritime Transparency Institute, “Island Features of the South China Sea,” Center for Strategic and International Studies, 2017, available online at: <https://amti.csis.org/scs-features-map/>.

The first island chain’s geography constrains China’s access to the high seas. The Chinese see their lack of control (direct or indirect) over much of the chain as a critical security concern given their great reliance on maritime trade for the country’s economic health. As Ye Hailin of the Chinese Academy of Social Sciences argues,

No matter how much China desires a harmonious world and harmonious oceans, it cannot possibly rely on other countries’ naval forces to guard the safety of its SLOCs [sea lines of communication]. A big country that builds its prosperity on foreign trade cannot put the safety of its ocean fleet in the hands of other countries. Doing so would be the equivalent of placing its throat under another’s dagger and marking its blood vessels in red ink.¹²⁷

¹²⁷ Ye Hailin, “Safe Seas: As China Relies More on the Ocean, Maritime Security Becomes a Greater Concern,” *Beijing Review* 13 (March 31, 2009), as quoted in Yoshihara and Holmes, *Red Star*, 20.

This is particularly true with respect to Japan and Taiwan. Given its great power status, Japan is the lynchpin in any effort to defend the first island chain, while Taiwan represents the southern anchor of Japan's Ryukyu Island "southwest wall" defense.¹²⁸ As Chinese military expert Tian Wu describes the situation,

If the U.S. military was ever forced to withdraw from Okinawa and Japan, then it would be compelled to retreat thousands of kilometers to set up defenses on the second island chain. Not only would it lose tremendous strategic defense depth, but it would also lose the advantageous conditions for conducting littoral operations along the East Asian mainland while losing an important strategic relay station to support operations in the Indian Ocean and Middle East through the South China Sea.¹²⁹

Chinese strategists also believe that gaining control over Taiwan would dramatically shift the military balance in their favor. They refer to the island as the "Gibraltar of the East," and a "springboard to the Pacific." Lin Sixing, a professor from Jinan University, finds, "A China without Taiwan will not be able to break out of the 'first island chain' and be denied entry into the Pacific, so much so that its southeastern territory will be devoid of any security."¹³⁰ On the other hand, as one Chinese military expert, Gong Li, states, "If the Taiwan problem is resolved, the door to the Pacific Ocean will be opened for mainland China, thus breaking the first island chain." Similarly, Bai Yanlin notes,

If Taiwan is in our hands, the hostile countries [Japan and the United States] would quite possibly have to reconsider their policies. If our country establishes powerful naval and air forces on Taiwan . . . then those bases would significantly increase China's combat and deterrent power . . . Under such circumstances, it is possible that the Diaoyu [Senkaku] island problem would develop in favor of our country.¹³¹

Geostrategist Robert Kaplan agrees, warning,

Were Taiwan's de facto independence ever to be seriously compromised by China, American allies from Japan to Australia—including all the countries around the South China Sea—would quietly reassess their security postures, and might well accommodate themselves to Chinese ascendancy.¹³²

Indeed, control of Taiwan today represents more than a source of geostrategic advantage. As was the case with Berlin and the two Germanys during the Cold War, Taiwan offers a potential alternative for the Chinese people, a choice between their life under the Chinese Communist Party and that on the offshore island. Like West Berlin, Taiwan's independence from China has become a symbol to countries throughout the Western Pacific and beyond.

¹²⁸ The Japanese government, including its Ministry of Defense, uses the term "Southwestern (Nansei) Islands" when referring to the Ryukyu Islands (Okinawa Islands, Senkaku Islands, and Sakishima Islands) and Satsunan Islands (Osumi Islands, Tokara Islands, and Amami Islands, located in between Kyushu and Okinawa).

¹²⁹ Tian Wu, "A Survey of U.S. Naval Bases in Japan," *Shipborne Weapons*, no. 1 (January 2004): 17. As quoted in Yoshihara, "Japanese Bases and Chinese Missiles," 48.

¹³⁰ Lin Sixing, "Sino-North Korean Relations Are Indestructible Though Not Stable," *Yazhou Zhoukan*, no. 32 (August 13, 2006), as quoted in Yoshihara and Holmes, *Red Star*, 52–53.

¹³¹ Bai Yanlin, "Island Chains and the Chinese Navy," *Modern Navy* (October 2007): 17.

¹³² Robert D. Kaplan, *Asia's Cauldron* (New York: Random House, 2014), 143.

Just as Chinese planners see the first island chain as a barrier to the PLA's ready access to the sea and seek to control key islands along the chain, U.S. and allied planners understand the value of defending the chain. As one Japanese scholar puts it with respect to the Ryukyu Islands,

Much of the strategic value islands have is related to their geographic potential. For Japan, such potential of its territories in the Nansei [Ryukyu] Islands forms a core element of its defense and security strategy. The islands are of great geographic importance not only for Japan's security but also for that of its neighbors and allies. As such, Japan's sovereignty over these islands has high strategic value.¹³³

Strategic Depth

Strategic depth, or the lack thereof, is often an important factor in determining the military balance of power, and this is very much the case in the WPTO. Militaries that enjoy strategic depth can employ a defense in depth (or a "layered" defense), trading space to gain time so as to achieve a more advantageous position. Militaries lacking strategic depth can be at a severe competitive disadvantage. While PLA strategists view the first island chain as a barrier to their ambitions, Japanese and (especially) U.S. military planners express concern over their lack of strategic depth. A look at the first island chain's geography shows why.

The first island chain runs both within and beyond China's principal A2/AD forces. Constituting much of the northern sector and center of the first island chain, Taiwan and the Ryukyu Islands run roughly parallel to the Chinese coastline, well within the range of the PLA's A2/AD capabilities.

On both flanks, however, the chain runs perpendicular to the Chinese coastline, thus moving away from it. These two areas—the southern Philippines (including Mindanao) and eastern Japan (parts of Honshu as well as Hokkaido) offer some measure of strategic depth. Moreover, as the distance from China increases, the PLA's scouting and strike capabilities decline. Beyond 800–900 miles from China (the effective range of the PLA's MRBMs and PLAAF tactical aircraft), the Chinese military's sensor and strike coverage decreases precipitously. This has not escaped Beijing's attention. Recent Chinese moves to militarize natural and artificial South China Sea Islands finds the Philippines and Vietnam losing much of their strategic depth. The United States also enjoys strategic depth thanks to its global posture and its ability to position forces along the second island chain (such as in Guam)¹³⁴ and beyond (such as in Hawaii and, potentially, Australia and Singapore).

These basing options notwithstanding, the Coalition is at a severe disadvantage relative to China when it comes to strategic depth. The Alliance, as well as the Philippines and Taiwan, are not in a position to trade space for time in defending the first island chain. The United States and its allies must be prepared to defend forward. Failing to defend forward would facilitate China's goal of "Finlandizing" the region. Should this occur, and should Japan—an advanced industrial

¹³³ Kazumine, "The Strategic Value of Territorial Islands," 14.

¹³⁴ The United States may also be able to employ bases in Saipan, Tinian, Palau (a U.S.-affiliated state), and Iwo Jima (Japanese territory) to establish a defense-in-depth posture.

state with the world's third-largest economy—fall under China's influence, it would bring about a dramatic shift in the global power balance in Beijing's favor.¹³⁵

Interior Lines of Communication

Geography also favors China by providing it with interior lines of communication. Interior and exterior lines of communication can be important factors in determining the military balance. The first island chain can be viewed as an arc stretching along China's maritime periphery. Relative to Japan and the United States, this affords China positional advantage in that it lies along the inner, or interior, portion of the arc. All other factors being equal, the interior distance to points along the arc (in this case, the Japanese archipelago down through the Ryukyus and to Taiwan) is shorter than the exterior distance. Consequently, China, which occupies the interior of the arc, can move forces to any given point on the arc more quickly than can the Coalition (which is operating on exterior lines of communication) in occupying the outer portion of the arc. This enables the Chinese to concentrate forces more quickly at any given point along the first island chain than can the Alliance or the United States alone. This is particularly true with respect to ground forces since China—a continental power—can employ road and rail networks to move troops more quickly than forces based on islands in and along the first island chain.

Long Borders

China has the longest land border of any country, stretching nearly 14,000 miles, along with a coastline extending over 9,000 miles. Moreover, it shares borders with several major military powers, including India and Russia, while Japan lies not far offshore. As noted in the PLA writings above, the United States maintains an imposing basing posture in the Indo-Pacific region. Beijing cannot discount the military potential of any of these four major powers when calculating its military requirements.

China's long borders and coastline also provide opportunities for attacking forces. A country with long borders—particularly one that shares them with major military powers—can find itself having to stretch its military resources over a wide area in order to maintain acceptable local military balances. China's disadvantage here can be exacerbated by competitor militaries possessing long-range systems that not only reduce the value of China's strategic depth but also can approach China from different directions, further inducing the PLA to spread its resources thin.

The Bottom Line

Both China and the Coalition enjoy sources of relative advantage and weakness in terms of how geography affects their respective competitive positions. Given the importance of geography, even in an age of intercontinental missiles and cyberattacks, any Alliance strategy for preserving a favorable military balance will need to develop and exploit existing and prospective sources

¹³⁵ Other postures, such as the mobilization posture the United States employed before the two world wars or offshore control (which relies principally on the threat of blockade), implicitly accept the loss of the first island chain on the presumption that it could be retaken. These alternative postures are unnecessarily risky. Given China's rapidly advancing A2/AD capabilities, it is difficult to see how the Coalition could launch a successful counteroffensive at anything approaching an acceptable cost, if it could do so at all.

of geographic advantage while looking for opportunities to offset China's efforts to do the same.

Geopolitical

As noted in the previous section, there are a number of great military powers and capable lesser powers in the Western Pacific region. When it comes to forming security relationships with these countries, the United States enjoys a clear advantage over China, at least for the time being. The U.S. alliance portfolio is impressive. It includes bilateral agreements with Australia, Japan, the Philippines, and the Republic of Korea. Washington also has a long-standing implied commitment to Taiwan's defense, enjoys good relations with a number of other states in the region, including Singapore, and has enhanced its relationship with Hanoi by recently lifting a long-standing arms embargo on Vietnam.

For its part, Japan has improved ties with several U.S. allies and partners, including the Philippines and Taiwan. Even more important, perhaps, is Japan's growing relationship with India and Vietnam, two countries that could exert a significant influence on the military balance in the Indo-Pacific region. All these states, as well as others such as Indonesia, are prospective members of a Coalition committed to preventing the emergence of hegemonic China in the Western Pacific.

For its part, China maintains good relations with Russia, despite long-standing differences that extend back over centuries and that remain simmering just beneath the surface. A particular source of significant friction between the two countries concerns the rich natural resources of Russian Siberia and China's need for a secure source of raw materials. Beijing also has a quasi-client state in North Korea, which owing to its political unpredictability and anemic economy, may prove more of a liability than an asset.

China is, however, looking to improve its leverage over key U.S. allies and partners, often by employing economic carrots and sticks, as seen in Beijing's economic warfare against the Philippines, South Korea, Taiwan, and even Japan. The CCP leadership appears to be pursuing a long-term strategy in this regard, anticipating that through a combination of favorable shifts in the military balance and economic warfare, it will gradually but inexorably pull both non-aligned states and (eventually) the Alliance's natural security partners into its orbit. In this regard, the United States' decision to abandon the Trans-Pacific Partnership, whatever the agreement's economic flaws, stands as a potential major geopolitical error.

Finally, as history shows, even as powerful a country as the United States cannot compel its allies and security partners to march to the beat of its own drum. Seemingly reliable allies can change their positions quickly. Such shifts could exert a major influence on the military balance. It thus becomes important to identify what security partners are essential to the Alliance's ability to secure its objective and to develop, to the extent possible, hedges against shifts in their security postures.

The Bottom Line

Japan and the United States enjoy what is by far the world's most powerful bilateral alliance. When combined with other U.S. bilateral alliances in the Asia-Pacific region, it offers the democracies a clear advantage over China and its autocratic partners in Moscow and Pyongyang. The Alliance's advantage is further enhanced thanks to good and/or improving relationships with India, Vietnam, and other states in the Indo-Pacific region that could be key members of the Coalition. That said, China is looking to offset its weakness by playing a long game in which, over time, it can create and exploit fault lines in these alliances and partnerships.

Economic

Historically, a country's military potential is closely associated with its economic might, including both its productive capacity and technical sophistication. In recent decades, the locus of world economic power has been shifting from Europe to Asia. Today, China and Japan boast the world's second and third largest GDPs respectively, while India's ranks seventh.¹³⁶ This trend seems destined to continue for the foreseeable future, as the overall Asian country growth rate exceeds that of the European states. It also supports the argument that Asia—the Western Pacific in particular—should be accorded top priority in U.S. military planning and resource allocation. From an American perspective, the principal economic challenge to the balance of power along the Eurasian periphery lies in the Western Pacific.¹³⁷ Indeed, as measured in terms of GDP, China's economic might relative to the United States is substantially greater than was the Soviet Union's during the Cold War.¹³⁸

That said, at present, the combined Japanese and U.S. GDP is roughly twice that of China. Moreover, the two allies are among the world's most advanced economic powers. Their economies are on the cutting edge of emerging military-related technologies, including artificial (machine) intelligence, big data, the biosciences, directed energy, and robotics, among others. The United States also enjoys ready access to a wide range of raw materials and the ability to tap deeply into large financial markets.

China, however, continues to enjoy economic growth rates substantially exceeding those of Japan and the United States, and this seems unlikely to change anytime soon. Even if China's growth were to slow in the near term to half its current level, over the next two decades or so it could match and even surpass the combined GDP of Japan and the United States. If GDP is viewed from a purchasing power parity (PPP) perspective, this will likely happen in the next few

¹³⁶ The rankings are based on currency exchange rates for 2016. World Bank, "Gross Domestic Product 2016," <http://databank.worldbank.org/data/download/GDP.pdf>.

¹³⁷ Krepinevich, *Preserving the Balance*, 38–43.

¹³⁸ Gross domestic product does not provide a direct correlation to military potential. That said, viewed from the perspective of the two-plus centuries since the onset of the Industrial Revolution, there does appear to be a significant correlation, not only between a country's GDP and its military potential but also between GDP and its military capability. Relative to the United States at the time, China's GDP in 2014 was roughly 50 percent greater than the Soviet Union's relative GDP in 1980. *Ibid.*, 39.

years.¹³⁹ While the United States may be the indispensable nation with respect to discouraging aggressive and coercive behavior by China, Japan stands as Washington's indispensable ally.

The Bottom Line

Given these considerations, neither Japan nor the United States can pursue a “rich man's approach” to preserving stability in the Western Pacific, buying their way out of strategic missteps and overwhelming China through sheer weight of effort. Instead, they will need to craft a “smart man's strategy” that forms the core of a wider effort involving close cooperation with key U.S. allies and prospective partners in forming a Coalition to preserve the military balance and, through it, regional peace and prosperity.

Demographic

Demographic trends have important second-order implications for the military balance. A country's demographic profile is an important factor in determining, among other things, economic growth, the allocation of scarce resources, and the manpower available for military service.

From a demographic perspective, Japan and the United States present a strong contrast. Japan is the world's oldest country and continues aging as its birth rate remains well below the replacement rate. America's demographic profile is strong and will likely improve relative to both China and Japan over the next several decades. Moreover, the United States and Japan currently possess large pools of technically literate manpower. Thus, while China has over three times the population of Japan and the United States combined, arguably the qualitative advantage rests with the Alliance.

When U.S. allies and the Alliance's prospective Coalition partners are included, their quantitative standing relative to China improves significantly. Importantly, India, a traditional rival of China and prospective de facto Alliance security partner, has a population roughly equal to China's and a healthier demographic profile.¹⁴⁰

Moreover, China's population is aging. Unlike the world's advanced economic powers, China is growing old before its economy has fully developed.¹⁴¹ Compounding Beijing's problems, its

¹³⁹ Rather than using international market exchange rates, the PPP method of estimating a country's GDP takes into account the relative cost of that country's goods and services and the inflation rates of the country. The World Bank GDP figures for 2015 find China's GDP as measured by PPP at \$21.4 trillion, the U.S. at \$18.6 trillion, and Japan at \$5.3 trillion. The World Bank, “Gross Domestic Product 2016, PPP,” available at http://databank.worldbank.org/data/download/GDP_PPP.pdf. For a discussion of the relative merits of measuring GDP by exchange rates or PPP, see Tim Callen, “PPP Versus the Market: Which Weight Matters?” *Finance and Development* 44, no. 1 (March 2007), <https://www.imf.org/external/pubs/ft/fandd/2007/03/basics.htm>.

¹⁴⁰ India and the United States have also gradually moved to improve their security ties. U.S. Office of the Press Secretary, White House, “Joint Statement: the United States and India: Enduring Global Partners in the 21st Century” (June 7, 2016), <https://obamawhitehouse.archives.gov/the-press-office/2016/06/07/joint-statement-united-states-and-india-enduring-global-partners-21st>.

¹⁴¹ Nancy E. Riley, “China's Population: New Trends and Challenges,” *Population Bulletin* 59, no. 2 (June 2004); Nicholas Eberstadt, “Power and Population in Asia,” *Policy Review*, no. 123 (February–March 2004); and Wenmeng Feng, *The Silver and White Economy: The Chinese Demographic Challenge*, Local Economic and Employment Development (LEED) Working Paper Series, Organization for Economic Cooperation and Development (2012).

rapidly growing elderly population and shrinking workforce will increasingly act as a brake on the country's economic growth.¹⁴² China also confronts potentially serious consequences from a male-biased gender ratio imbalance. There is some evidence that societies with a surplus of young adult males suffer from greater levels of crime and internal disorder.¹⁴³ This could lead the CCP to become more focused on preserving internal security. Alternately, it could find China attempting to redirect this internal source of tension outward toward enemies, be they real or imagined.

The Bottom Line

The sheer size of China's population and its growing technical sophistication represent a potentially significant source of advantage. Fortunately for the Alliance, the WPTO is primarily an air-sea-space theater, putting a premium on capital-intensive capabilities such as ships and planes, satellites, unmanned systems, and cyber weapons. Logistics limitations are also likely to substantially constrain the PLA's ability to project large land forces to territories along the first island chain in the event of war. Simply put, the WPTO's geography dilutes China's manpower advantage.¹⁴⁴ It may be further diminished, given that manpower-rich India stands astride China's southern border. To the extent China views India as a threat, New Delhi's large army serves to draw PLA manpower resources away from China's coastal areas. This may ease significantly the Coalition's efforts to maintain a stable military balance in the theater. Finally, China's sex ratio imbalance that is producing large numbers of "surplus" males could drain resources away from the PLA and into the country's internal security forces.

Temporal

The competition between a revisionist China and any coalition of states whose core is the Japan-U.S. Alliance shows no indication of ending anytime soon. Japan, the United States, and their prospective security partners have shown no indication that they are willing to abandon their long-standing vital interests and submit to a new international order set in Beijing. Nor have the Chinese suggested they will accept anything less than such an outcome. Moreover, at present Beijing appears inclined to continue its slow but steady advance rather than run the risk of war to achieve its geopolitical goals in the near term.

Consequently, Alliance defense planning should consider not only the military balance as it exists today, or even over the next decade, but how it might evolve over the next several decades. This requires establishing a balance between resources allocated to improving the

¹⁴² Feng Wang, "Racing Towards the Precipice," *China Economic Quarterly* (June 2012), <https://www.brookings.edu/articles/racing-towards-the-precipice/>.

¹⁴³ "The Worldwide War on Baby Girls," *Economist*, March 4, 2010, <http://www.economist.com/node/15636231>. See also Valerie M. Hudson and Andrea den Boer, "A Surplus of Men, A Deficit of Peace," *International Security* 26, no. 4 (Spring 2002): 5–38.

¹⁴⁴ That said, should China occupy and convert places like Scarborough Shoal into significant forward bases, it could support a larger invasion force against the Philippines with less risk than an operation launched from Hainan or the mainland.

Alliance's competitive position in the near term with those devoted to developing major new sources of competitive advantage over the long term. The problem is further magnified by the uncertainties created by the ongoing rapid advance in military-related technologies.¹⁴⁵

Major changes in a country's defense posture typically require an extended period of time. Next-generation military systems, such as combat aircraft, warships, and armored vehicles can take a decade, or even decades, to move from concept to reality. Increases in the production rate of fielded sophisticated equipment, such as aircraft carriers and satellites, can take years, as can a significant expansion of a military's force structure. New military doctrines that inform how the military will organize and train itself to conduct new kinds of operations also take many years to develop, put into place, and master. Similarly, a new basing posture—shifting, for example, from an expeditionary posture to a forward-deployed posture—can also take a decade or more to effect, owing to the requirement for new infrastructure and (in some cases) adapting or creating political agreements.

Given these considerations, the Archipelagic Defense posture will almost certainly take a decade or more to implement. As it is intended to address a long-term competition with China, its focus is not merely on today's military balance, but on establishing and sustaining a favorable balance over the indefinite future. This should come as no surprise. Consider, for example, that it required over a decade after the North Atlantic Treaty Organization (NATO) was formed before the Americans, Canadians, and their European allies had put into place the level of forces and infrastructure in Western Europe that would sustain deterrence against a Soviet attack for the remainder of the Cold War. Like NATO, the Japan-U.S. Alliance finds itself in a race against time in a protracted and *dynamic* competition with China to maintain and sustain a favorable military balance of power. Under these circumstances, the sooner Tokyo and Washington begin adopting Archipelagic Defense, the better.

The Bottom Line

This, however, begs the question: On whose side is time? The answer is: It depends. China has done much in recent years to erode the stable military balance in the region. Given the PLA's ongoing buildup, absent a prompt and robust effort by the Alliance and like-minded states in the Indo-Pacific region to sustain a favorable military balance and, with it, the existing international order, time is on China's side. Consequently, as Ashley Tellis notes, "This corrective strategy needs to be developed now, while China is still some distance away from being able to effectively challenge the United States, or else it risks being too late."¹⁴⁶

¹⁴⁵ For a discussion of this issue, see Andrew F. Krepinevich, *Defense Investment Strategies in an Uncertain World* (Washington DC: CSBA, 2008).

¹⁴⁶ Ashley J. Tellis, *Balancing Without Containment* (Washington DC: Carnegie Endowment for International Peace, 2014), 8.

Military

Sources of Chinese Asymmetric Advantage

Relatively Few and Increasingly Vulnerable U.S. Bases

The “eggs” that constitute the bulk of the U.S. military’s strike capacity in the WPTO are largely concentrated in a relatively small number of “baskets.” For example, the U.S. Air Force’s combat power is generated from a handful of air bases in the region. As the preceding chapter on existing and emerging PLA A2/AD capabilities suggests, with China’s growing long-range strike and power-projection capabilities, a substantial portion of U.S. combat forces positioned along the first (and even second) island chains are likely to find themselves increasingly at risk of destruction, especially in the event of a surprise PLA attack.

Relatively Few and Vulnerable Surface Ships

The vast majority of the American and Japanese fleets’ combat power in the WPTO is concentrated in their surface ships, particularly carriers in the U.S. case. Just as the Americans have relatively few forward air bases in the region, the same is true with respect to its carriers. Only a few are in the theater of operations at any given time. The ongoing decline in the size of the U.S. fleet finds the Americans concentrating more combat power on a decreasing number of ships. The PLA’s growing scouting and strike forces further exacerbate the Alliance’s maritime force problems. The U.S. Navy, for example, finds itself allocating more of its munitions inventory to defensive weapons such as missile interceptors to defend against the PLA’s growing arsenal of anti-ship weaponry, leaving less magazine room available for offensive weapons.¹⁴⁷ In light of these trends, and absent any offsetting measures by the Alliance, it seems almost certain that U.S. and Japanese major surface combatants will find operating inside the second island chain increasingly difficult and perhaps prohibitively costly.

Dependence on Vulnerable Satellite Communications

The U.S. military has become highly reliant on space-based systems for a wide range of C4ISR-related activities—especially when conducting power-projection operations. Moreover, air and naval forces, which lack access to terrestrial communications networks, are also quite dependent on satellites to operate at high levels of effectiveness. As shown by the expanding range and sophistication of its anti-satellite, cyber, and electronic warfare capabilities, the PLA recognizes this vulnerability and is moving to exploit it.

Shallow Magazines

Allied air and maritime forces, as compared to ground forces, are relatively limited in the payloads they can carry. They also often have to travel great distances to reload, with aircraft returning to land and/or sea bases, while warships must often return to major naval bases. As noted above, these bases are becoming increasingly vulnerable to PLA attack. Moreover,

¹⁴⁷ At present, roughly two-thirds of the vertically launched weapons capacity of U.S. Navy cruisers and destroyers is typically dedicated to defensive weapons. Bryan Clark, *Commanding the Seas: A Plan to Reinvigorate U.S. Navy Surface Warfare* (Washington DC: CSBA, 2014), 17.

Alliance munitions stocks themselves may not be sufficient for a conflict with China that extends beyond the timeframe of recent major U.S. combat operations—i.e., more than a month or two. Given the state of the Japanese and U.S. defense industrial bases, and both countries' projected defense budgets, expanding these stocks is likely to prove both difficult and expensive.

Importantly, both Japan (through self-imposed constraints) and the United States (through treaty obligations) have ceded an entire class of weaponry to the PLA in the form of the latter's large and increasing inventory of short-, intermediate-, and medium-range ballistic missiles. This provides the PLA with the potential to strike targets with conventional munitions promptly, at extended ranges, and with precision—a capability the Alliance lacks.

Limited Deployability

The U.S. military maintains only a small portion of its overall combat power in the WPTO. Following the Cold War, the United States moved to emphasize expeditionary forces that could deploy primarily from the Continental United States (CONUS) to hot spots around the world. Given the exceedingly modest capabilities of hostile powers such as Iran, Iraq, and North Korea, this appeared justified. Thus, today only a fraction of U.S. military forces are forward deployed in the Western Pacific. This means that in the event of a crisis or war, the majority of the U.S. military power that could be brought to bear would have to be deployed from the CONUS and from bases and garrisons in other parts of the world outside the WPTO.¹⁴⁸ Even under optimum circumstances, these forces could take days, weeks, or months to deploy to the theater.¹⁴⁹ Confronted by China's increasingly sophisticated A2/AD threats, the deployment of U.S. reinforcements to the Western Pacific could take considerably longer, and these forces could suffer significant, perhaps catastrophic, attrition in attempting to do so. For some forces, or in some areas, deployment might not be possible at all.

These challenges to deployment—both in terms of the great distances involved and the risk of significant attrition—could create a window of opportunity for the PLA to use force to achieve a *fait accompli* before the bulk of U.S. expeditionary combat power can be brought to bear. Furthermore, U.S. efforts to reinforce its forward-deployed forces in a crisis could undermine deterrence, inducing the Chinese to attack before the military balance begins shifting in the Coalition's favor.

¹⁴⁸ According to Admiral Samuel Locklear, then head of U.S. Pacific Command, the “forward stationed and consistently rotational forces—the point of the ‘arrow’—represent our credible deterrence and the ‘fight tonight’ force necessary for immediate crisis and contingency response,” while, “follow-on-forces from the continental U.S. required for sustained operations form the ‘shaft of the arrow.’” Statement before the Senate Committee on Armed Services on U.S. Pacific Command Posture, March 25, 2014, https://www.armed-services.senate.gov/imo/media/doc/Locklear_03-25-14.pdf.

¹⁴⁹ The most direct route from the U.S. Navy's major West Coast base in San Diego to the first island chain is roughly 5,700 nautical miles. Assuming a U.S. Navy task force departed immediately and steamed at full speed along the shortest possible route, it would take 12 days at a minimum for it to reach the vicinity of Okinawa. Ground forces typically require significantly longer time to deploy. For example, according to the U.S. Army, a brigade combat team's anticipated transit time from CONUS to points along the first island chain would take roughly 37 days via sealift and 29 days via airlift. PowerPoint presentation presented at the U.S. Army Senior Leader Seminar, November 20, 2013, slide 15.

Limited Ally and Partner Cooperation and Interoperability

Unlike in Europe, where it belongs to a single alliance with several dozen members, in the Western Pacific, the United States' alliances are bilateral arrangements. Washington functions as the "hub" in a "hub-and-spoke" constellation of alliances. American allies—Australia, Japan, the Philippines, South Korea, and Taiwan¹⁵⁰—are allied solely with the United States, not with one another. This alliance structure makes it difficult for the United States and its regional allies to develop interoperable systems and command structures to enhance the effectiveness of combined operations. The problem is further aggravated by the absence of more formal security relationships with existing and prospective security partners, such as India, Indonesia, Singapore, and Vietnam. This highlights the importance of the Alliance engaging prospective security partners to create a Coalition to protect their common security interest of precluding the emergence of China as a regional hegemon.

Sources of Japan-U.S. Alliance Asymmetric Advantage

Economic Concentration

The bulk of China's most economically productive areas are concentrated along its coast, offsetting much of China's advantage in strategic depth. The ability of the United States (and potentially that of Japan as well) to hold these economic targets at risk can compel the PLA to divert substantial resources away from fielding offensive and coercive capabilities to those focused more on defense. While Japan's industrial base is similarly vulnerable, comparatively speaking the U.S. industrial base presents a far more difficult target for the PLA.

Threats to Chinese Maritime Economic Activity

China is heavily reliant on overseas trade, both to obtain access to raw materials and components from the global supply chain and to enable its export-driven economic growth model. The vast majority of this trade is accomplished through commercial shipping. This is a key factor in the high concentration of industrial and commercial activity along China's coastline. In addition to holding China's coastal economic infrastructure at risk, the Coalition has the potential to choke off Beijing's maritime commerce by imposing a blockade. Doing so could exacerbate the CCP's fears over internal dissent, as it has staked so much of its legitimacy on its ability to promote economic prosperity. The United States is far less vulnerable than China to this form of economic warfare.

Extended Borders

As noted in the discussion of geography, China's long borders are a source of potential weakness. The PLA is relying on China's strategic depth to help protect key assets from attack, such as elements of its nuclear and missile forces, anti-satellite systems, command and control

¹⁵⁰ Again, while Taiwan is not an ally of the United States, the latter is committed to its defense through the Taiwan Relations Act of 1979. The act states that the United States would "consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States." HR 2479, 96th Cong. (March 24, 1979), <https://www.congress.gov/bill/96th-congress/house-bill/2479>.

centers, and industrial and research facilities. The United States military has demonstrated an enduring competence in long-range strike operations. By sustaining *and enhancing* this capability to hold at risk even high-value targets deep in China, the U.S. military (and perhaps other Coalition member militaries over time) may compel the PLA to divert resources to defending these assets, leaving relatively fewer resources to field more threatening offensive capabilities.

The Perceived Need for A Short War

Related to the discussion of temporal factors described above, the Chinese leadership is widely assessed to have a strong preference for a short, decisive conflict (a “short, sharp war”) so as to limit the risk of economic disruption that could trigger civil unrest and threaten the CCP’s legitimacy.¹⁵¹ This being the case, it is also worth noting that while the United States has the *potential* to wage a protracted war effectively, it is far from clear that its allies and partners along the first island chain could. Moreover, the Coalition’s ability to defend the first island chain’s southern sector successfully so as to confront the Chinese with the prospect of a protracted war is, absent forceful steps to sustain it, likely to fade rapidly over the next decade. As will be elaborated upon presently, the Archipelagic Defense concept is designed to deny the CCP’s desire for a short, sharp war.

The Bottom Line

Overall, the PLA appears to be winning the competition to exploit existing sources of military advantage and to develop and field new sources of advantage. Perhaps this should not come as a surprise as it has been playing a game of “catch-up” with the Alliance when it comes to advanced military technology.

On a more positive note, the Alliance has significant opportunities to enhance its competitive advantage. That these opportunities have yet to be realized reflects a long period of complacency on Tokyo and Washington’s part that is only now beginning to change. Indeed, this is the basis of the Pentagon’s recent call for a “Third Offset Strategy” whose objective is for the United States to develop new sources of advantage to offset its declining advantages, particularly with respect to the challenges posed by A2/AD capabilities. Finally, given the rapid advance in military-related technologies, such as artificial intelligence, big data, the biosciences, directed energy, and robotics, the advanced technology sectors of Japan and the United States may enable the Alliance to steal a march on the Chinese in developing the “next big things” in military capabilities. If they can win this race, they will have created important new sources of competitive advantage.

¹⁵¹ “Navy Official: China Training for ‘Short Sharp War’ with Japan,” *U.S. Naval Institute Newsletter*, February 18, 2014, <https://news.usni.org/2014/02/18/navy-official-china-training-short-sharp-war-japan>; and James R. Holmes, “Of Course the PLA is Planning for a ‘Short, Sharp War,’” *Diplomat*, March 14, 2014, <http://thediplomat.com/2014/03/of-course-the-pla-is-planning-for-a-short-sharp-war/>.

Summary

Unless steps are taken to mitigate existing and emerging Japanese and American competitive weaknesses, the military balance could shift in Beijing's favor to the extent that China's opportunistic leaders would be confident of their ability to achieve their expansionist aims through aggression, coercion, or a combination of both. The challenge for Alliance defense planners and their Coalition counterparts is to identify ways to mitigate critical weaknesses while exploiting existing and emerging sources of advantage. These efforts must be embedded within joint and combined concepts of operation whose principal focus is to defend the first island chain. This is the objective of Archipelagic Defense.

Chapter 4

Archipelagic Defense

Chapter 4: Archipelagic Defense

The Alliance's objective is to deter China from achieving its revisionist aims through acts of aggression or coercion.¹⁵² This is to be accomplished principally by establishing a favorable military balance that enables a successful defense of the three states comprising most of the first island chain and, by extension, other like-minded states in the WPTO. Should deterrence fail, the objective is to defeat Chinese aggression and terminate the war as quickly as possible on terms favorable to the Japan-U.S. Alliance and its Coalition partners.

Toward this end, Archipelagic Defense calls for Japan and the United States to develop a forward defense-in-depth posture in conjunction with their Coalition partners along the first and second island chains. Given China's A2/AD capabilities, in the event of war, the U.S. military will likely find it prohibitively costly to reinforce its forward-deployed forces, at least early in the conflict. Therefore, the United States will need to substantially increase its current force levels in the WPTO along with its logistics stocks.

Japan is preparing to assume the lead for its own defense and, by definition, the defense of the first island chain's northern sector.¹⁵³ Over time, U.S. Army units emphasizing cross-domain¹⁵⁴ operations should be introduced in forward-deployed rotations in the Ryukyus to supplement Japan Ground Self-Defense Force units currently engaged in developing a similar posture and capabilities.¹⁵⁵

The United States should assume primary responsibility for the first island chain's southern sector, including defense of the Philippines and military assistance to Taiwan. To raise the cost of Chinese aggression and delay the PLA's ability to consolidate its gains and expand its A2/AD capabilities, the Philippines, Taiwan, and Vietnam should be assisted in creating local A2/AD defenses and resistance forces capable of conducting advanced irregular warfare operations.¹⁵⁶ Assuming Hanoi and Manila are willing to cooperate in defense of their interests, their A2/AD capabilities could turn China's military incursion in the South China Sea into a highly vulnerable salient, restoring the Coalition's positional advantage over China and providing a stronger anchor for the southern sector's defenses. Increased effort should be accorded to enhancing Taiwan's defenses given its status as the first island chain's "lynchpin" and the "anchor" of Japan's southwestern defenses.

¹⁵² The Alliance also finds itself confronted by a hostile North Korea. A discussion of the threat posed by North Korea is beyond the scope of this study. That being said, the reader will find that many aspects of Archipelagic Defense would likely prove useful in dealing with North Korean efforts at coercion and/or aggression.

¹⁵³ Author's discussions with General Koichiro Bansho, commander, Japan Ground Self-Defense Forces, Western Army, and his staff, Kengun Base, May 18, 2015.

¹⁵⁴ As the term suggests, ground forces engaged in cross-domain operations are focused beyond the land domain. Such operations could involve coastal defense anti-ship missile artillery, extended-range missile strike, and air and missile defense forces.

¹⁵⁵ "Transformation of Western Army" (briefing by the Japan Self-Defense Ground Forces, Western Army Headquarters, May 18, 2015).

¹⁵⁶ For a detailed discussion of the kinds of forces and operations that would characterize indigenous defense activities in the Philippines and especially Taiwan, see Jim Thomas, John Stillion, and Iskander Rehman, *Hard ROC 2.0* (Washington DC: CSBA, 2014).

In addition to the emphasis on Vietnam, the Philippines, and Taiwan, efforts should be made to enlist the active support of Indonesia, Singapore, and South Korea. The latter has the potential to threaten China's flank should Beijing engage in acts of aggression along the first island chain's northern sector. Indonesia could further solidify the defense of the southern sector, providing important positional advantage relative to PLA forces operating in the South China Sea, as well as supporting distant blockade operations against China in the event of war.

As its name suggests, Archipelagic Defense is designed to deny the PLA both the air and sea control and the scouting capability (or "information dominance") it believes it needs to launch and sustain a campaign of aggression or engage in acts of coercion against states comprising the first island chain archipelago, while preserving sufficient Alliance and Coalition capability to sustain the effort over a protracted period should that become necessary. By exacerbating Beijing's doubts about the PLA's ability to gain control in these domains, the Alliance, along with U.S. allies and partners, can enhance deterrence.

Archipelagic Defense and Strategy

Archipelagic Defense forms the basis for a military strategy to achieve the objectives stated above. Strategy can be defined as a coherent set of actions that respond effectively to an important challenge or opportunity.¹⁵⁷ In this way, a strategy clearly states how the resources available to meet or overcome the challenge are to be employed to enable the strategy's success. With respect to establishing and maintaining a favorable position in a military competition, strategy necessarily involves "identifying or creating *asymmetric* advantages that can be exploited to help achieve one's ultimate objectives despite resource and other constraints, . . . the opposing efforts of adversaries or competitors and the inherent unpredictability of strategic outcomes."¹⁵⁸

A good strategy is one that effectively employs one's advantages to greatest effect, while a better strategy is one that aligns one's advantages against an enemy's weakness. An optimum strategy, particularly in the context of the competition between the Coalition and China, is one that aligns enduring Coalition strengths against enduring Chinese weaknesses. Finally, to the extent possible, a strategy must also take into account the dynamic character of the military competition and how its key characteristics—the competitive environment—may change over time.

A good strategy contains three parts: The first is a *diagnosis* that identifies the key challenges and their character. This issue was addressed in chapters 1 and 2. The second part provides an *overall approach* to addressing the challenges identified in the diagnosis, to include identifying key sources of competitive advantage and weakness, both existing and prospective. These matters were discussed in chapter 3. And the third part of a good strategy presents a set

¹⁵⁷ Rumelt, *Good Strategy, Bad Strategy*, 6.

¹⁵⁸ Andrew F. Krepinevich and Barry D. Watts, *Regaining Strategic Competence* (Washington DC: Center for Strategic and Budgetary Assessments, 2009), 19. (Emphasis in the original.)

of *integrated actions* designed to support the overall approach—this chapter’s objective. Thus, while Archipelagic Defense includes an operational concept, it can also be viewed as a key component in an overall strategy for achieving the political objective cited above.¹⁵⁹

Key Planning Assumptions

To better inform thinking about the integrated set of actions comprising Archipelagic Defense, it is important to identify and explicitly state those key assumptions regarding the characteristics of a major conventional conflict as well as the geopolitical alignments. By definition, “key” assumptions are those that exert a significant influence on the prospects for a successful allied defense of the Western Pacific in general, and of the three countries that constitute the great majority of the first island chain. To the extent that an assumption works in favor of the Alliance and its Coalition partners, Archipelagic Defense should identify mitigating actions that might be put in place should the assumption prove incorrect. Similarly, where an assumption works against the United States and its allies, the concept should identify ways to exploit an unexpected opportunity should the assumption prove false.¹⁶⁰ The following set of assumptions informs the point-of-departure Archipelagic Defense posture.

Neither the Alliance nor its Coalition Partners Will Initiate Hostilities

Archipelagic Defense assumes China will be the aggressor. All benefits that would accrue from initiating hostilities at a place and time of one’s choosing are assumed to rest with Beijing. Consequently, the Coalition must be able to withstand the initial PLA offensive operations well enough to sustain a successful defense.

Japan and the United States Will Be Active Allies

Given the fundamental values and interests the two allies share, it is assumed that in the event of isolated Chinese aggression against either Japan or the United States, the other member of the Japan-U.S. Alliance would immediately come to the aid of its ally. In the event of isolated aggression against a U.S. ally (such as the Philippines) or security partner (Taiwan), Japan’s

¹⁵⁹ For example, the baseline Union military strategy in the U.S. Civil War, the so-called Anaconda Plan, described how Union forces would be employed as well as the priorities for their employment. The Archipelagic Defense concept also answers the “how” question with respect to Alliance and Coalition force mission priorities and employment. Like the Anaconda Plan, Archipelagic Defense provides the basis for a military strategy. For a discussion of the Anaconda Plan, see Bruce Catton, *This Hallowed Ground* (New York: Doubleday & Co., 1956), 53, 84, 86, 124; and James M. McPherson, *Battle Cry of Freedom* (New York: Oxford University Press, 1988), 333–35, 819. Just as the Anaconda Plan, while fundamentally sound, had to be adapted over time in light of changing circumstances, so too might Archipelagic Defense (for example, if key assumptions fail to prove out).

¹⁶⁰ The military balance in Central Europe along the intra-German border between NATO and the Warsaw Pact during the Cold War provides a useful historical example. Two factors were believed to have a major effect on the military balance: the amount of warning time NATO would have prior to a Warsaw Pact attack, and alliance cohesion. Thus, the viability of NATO’s defense was assessed assuming various levels of attack warning, some more favorable and some less so. The military balance was also assessed employing different assumptions as to whether or not “fault lines” would emerge between the Soviets and their Eastern European satellites, and whether or not the NATO allies would respond to an attack in “lock-step.” For a discussion of the general parameters of how the NATO–Warsaw Pact military balance was addressed during the Cold War, see Krepinevich and Watts, *The Last Warrior*, 179–89.

participation would greatly complicate Chinese planning and likely compel the PLA to divert large forces that would otherwise be available for use against the United States and its allies. In addition to Japan's capable military forces, the geographic orientation of its territory offers significant strategic depth along the first island chain. Japan also possesses numerous air and port facilities, some of which are only targetable by longer-range PLA ballistic missiles. If Japan failed to join its ally defending the first island chain's southern sector, U.S. defense options would be significantly constrained. Simply put, Japan's full participation, to include the employment of its armed forces at the onset of war, is essential to the success of Archipelagic Defense.

The Alliance and Its Coalition Partners Assume the Strategic Defensive

Since the fall of the Berlin Wall, the United States has been involved in conflicts against minor powers in which the American military took the strategic offensive, engaging in regime change operations in Afghanistan, Iraq, Libya, Panama, and Serbia. Contrary to this experience, Archipelagic Defense assumes the Alliance and its Coalition partners will adopt a strategic defensive posture, seeking to maintain what is theirs rather than dislodge hostile regimes. Put another way, it is more the strategy pursued by President Harry Truman during the Korean War rather than that advocated by General Douglas MacArthur. That said, being on the strategic defensive does not preclude taking the offensive at the operational level of war. During the Cold War, for example, the United States and its NATO allies assumed a strategic defensive posture. The U.S. military, however, was prepared to conduct offensive operations and maintained the ability to hold at risk a wide range of key targets inside the Soviet Union itself. Failure to do so with respect to China would be to accord it a de facto sanctuary status, while no such benefit would accrue to the countries along the first island chain. It would free the PLA to invest in more threatening offensive systems, such as ballistic missiles and submarines, than in less threatening systems, such as active and passive defenses against air attack.

The Chinese, Japanese, and U.S. Homelands Will Be Subjected to Attack

It is assumed the belligerents' homelands will not be sanctuaries from attack. At a minimum, selected conventional strikes (primarily by the United States)—both kinetic and non-kinetic (cyber)—will be authorized against China. The PLA's air defenses, C4ISR assets, and counter-space/space control, as well as its fixed-site and mobile ballistic missiles (including production sites), are essential to its ability to wage an offensive war. As noted above, according these targets sanctuary status would severely undermine attempts to maintain a stable military balance in the Western Pacific and, as such, undermine the Coalition's ability both to deter and defend.

Mutual Nuclear Deterrence Holds

It is assumed that both China and the United States will refrain from employing nuclear weapons, save perhaps for China's use of nuclear weapons of very low yield to generate relatively discreet EMP effects, primarily against Coalition scouting and command-and-control

systems.¹⁶¹ Avoiding escalation to nuclear weapons use is in both parties' interest.¹⁶² If this assumption does not hold, war's character would likely change so dramatically as to render discussion of major conventional warfare—and Archipelagic Defense—irrelevant.

Space and Cyberspace Will Be Contested

If China were willing to risk war, to include attacks on its territory, it would seem unlikely that Beijing would accord sanctuary status to key allied assets in space, or avoid operations in cyberspace. This is all the less likely as PLA writings emphasize conducting attacks in space and cyberspace to achieve information dominance. Correspondingly, Archipelagic Defense calls for the United States to conduct counter-space and cyber operations upon being attacked by China.

A Prolonged War Would Favor the Alliance and its Coalition Partners

Owing to the Alliance's advantage in maritime forces and the U.S. global basing posture, in a conventional war with China, the combined Japanese and U.S. fleets could cut off Beijing's seaborne trade, potentially inflicting severe shortages of key war-related materials on the Chinese economy, perhaps even triggering economic collapse and/or widespread internal disorder. Given this assumption, denying China a quick victory in any conflict becomes a key Alliance objective. This also implies fielding Coalition forces capable of defeating Chinese attempts to impose a counter-blockade on Japan and other states (such as Taiwan and Vietnam) as well.

Advances in Military-Related Technology Will Not Radically Shift the Military Balance in Either Side's Favor

Rapid advances in military-related technologies—such as artificial intelligence, big data, the biosciences, directed energy, nanotechnology, propulsion, and robotics, among others, have the potential to effect disruptive shifts in the military competition. For example, during the period between the two world wars, advances in mechanization, aviation, and radio enabled the German Army to steal a march on its rivals by developing the blitzkrieg form of warfare. This gave it a marked advantage over its enemies in the early years of World War II. The assumption here is that neither the Chinese nor the Japan-U.S. Alliance is able to combine emerging technologies (perhaps with mature technologies as well) in such a way as to realize a major leap in military effectiveness over its rival.¹⁶³ Simply put, while Archipelagic Defense calls for both Japan and the United States to accord high priority to exploiting emerging military-related

¹⁶¹ An electromagnetic pulse is a burst of electromagnetic energy. A nuclear explosion can create an EMP. An EMP burst can, under the right conditions, disrupt and damage electronic systems and electrical infrastructure on a broad scale. "Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack," vol. I, Executive Report, 2004, 4, <http://www.empcommission.org>.

¹⁶² There have been several wars where weapons of mass destruction were possessed by one side or the other and yet were not employed, even by the defeated power. In World War II, Germany accepted a total defeat at the hands of the Allies without employing its formidable arsenal of chemical weaponry. Similarly, in the First Gulf War, Iraq suffered a severe defeat but did not resort to the use of its chemical weapons.

¹⁶³ An example of this assumption is found in the U.S. and Imperial Japanese Navies between the world wars. Both succeeded in transforming their fleets to exploit the advantages resulting from the maturation of naval aviation. The result was the carrier formations that obsolesced the battleship-centered line of battle. Thus, neither side accrued a major advantage as both introduced this major innovation in naval warfare before the onset of hostilities.

technologies to realize a significant competitive advantage over the PLA, it does not assume that this will necessarily occur. The assumption here is that the Alliance will do sufficiently well so that the PLA does not realize a major asymmetric advantage.

PLA Dependence on Air, Sea, and Information Control

Air superiority, sea control, and information dominance are all identified in PLA writings and doctrine as critical preconditions for successful offensive military operations along the first island chain. By exacerbating Beijing's doubts regarding the PLA's ability to establish and maintain control of these domains, the Coalition can increase Chinese decision makers' uncertainty regarding the prospective value of employing military force, making them less willing to commit an act of aggression. Similarly, although they pose acute threats to U.S. and allied forces and bases in the Western Pacific, China's extended-range precision-strike capabilities are still relatively limited in number, owing primarily to their large price tag. Precision weapons provide accuracy independent of range, but not independent of cost. Any U.S. and allied initiatives that drive up the cost of using these capabilities substantially—particularly in ways that impose disproportionate costs on the PLA relative to U.S. and allied militaries—will likely enhance deterrence.

Posture Overview

Archipelagic Defense calls for the United States to adopt a forward-defense posture. Failing to defend forward risks having the region—including Japan, the world's third-largest economy and one of its most advanced industrial states—be “Finlandized.” Moreover, given China's rapidly advancing A2/AD capabilities, islands seized by the PLA could prove difficult to recover through Coalition counteroffensive operations.

Thus, adopting any other posture, such as the mobilization posture the United States employed before the two world wars or the expeditionary posture assumed after the Cold War, would signal Washington's abandonment of two key allies and a long-term security partner. The Chinese appear to recognize this. The PLA's General Huang Bin has stated, “We can fight a war with [the United States]; they will not be able to continue the war after a while.”¹⁶⁴ A U.S. expeditionary or mobilization posture would enable China to pursue a “short, sharp” war, waging a brief campaign to seize its objectives. This would leave the United States unable to counterattack until after undertaking a large-scale mobilization and deployment of its forces. This could take a year or longer, giving the PLA plenty of time to extend and expand its A2/AD umbrella over newly conquered territories.

While Japan's four principal islands (Hokkaido, Honshu, Kyushu, and Shikoku) may not be invaded, the PLA is fielding and planning to create forces that could execute offensive operations to seize Taiwan and parts of the Philippine and Ryukyu Islands. Should this occur, China

¹⁶⁴ Interview by Xu Bodong, director of the Institute of Taiwan Studies, with Major General Huang Bin, PRC National Defense University, published by Tak Jung Pao, U.S. Foreign Broadcast Information Service (FBIS), May 13, 2002.

would have broken through the first island chain and, in so doing, enjoy great positional advantage over Japan and South Korea.

Given these considerations, U.S. forward-deployed forces must, in conjunction with the forces of their allies, be capable of mounting a successful defense against a PLA offensive.

A forward defense should not be built on a U.S. “tripwire force”¹⁶⁵ designed primarily to deter Chinese aggression through the threat of involving the United States in a war. A tripwire force suggests the United States and its allies will rely on escalating the conflict horizontally (e.g., through a blockade) or vertically (e.g., by threatening the use of nuclear weapons), or on a mobilization strategy that will eventually enable successful counteroffensive operations over time. Relative to establishing a forward defense, these alternative postures involve greater risks as well as higher costs if deterrence fails.

Archipelagic Defense requires the military forces of the Alliance and its Coalition partners to conduct joint and combined operations. From a U.S. perspective, Japan is its indispensable ally in the WPTO. The active support of the Philippines is key to a U.S.-led defense of the first island chain’s southern sector, with support from Australia and Japan. Taiwan provides a critical link between that sector and the northern sector, whose defense is led by Japan’s Self-Defense Forces with U.S. support.

As South Korea and Vietnam are positioned on the flanks of the first island chain, their active engagement (especially Vietnam’s), while not absolutely essential to executing Archipelagic Defense, would greatly improve the odds of its success. Similarly, should China need to account for the military capabilities of Australia and India, it would also significantly improve the military balance in the Coalition’s favor. Finally, owing primarily to their strategic positions, Indonesia and Singapore could further enhance the prospects of maintaining a favorable military balance.

Although primarily an aerospace and maritime theater of operations, Archipelagic Defense builds upon the U.S. AirSea Battle¹⁶⁶ concept of operations to incorporate ground and U.S. ally

¹⁶⁵ A tripwire posture calls for a small force that serves as an initial line of defense. It is assumed that the force by itself is not capable of mounting an effective defense. From a U.S. perspective, the purpose of the force is to ensure that, in the event of hostilities, the United States will become a belligerent and that it will bring far greater forces to bear over time. A tripwire force posture can also prove attractive if the side employing it enjoys escalation dominance (and is willing to use it) or when one has strategic depth, enabling the defender to trade space for time.

¹⁶⁶ In 2010, AirSea Battle was proposed as a “point-of-departure operational concept” by analysts (including this paper’s author) at the Center for Strategic and Budgetary Assessments to address the specific challenge posed by Chinese A2/AD capabilities. The Pentagon followed by developing its own “Air-Sea” Battle concept. Unlike the CSBA concept, the Defense Department’s approach focuses on a generic A2/AD threat, and thus lacks important factors that are revealed when planning against a specific adversary, among them: its strategic objectives; the size and structure of its military capabilities; its doctrine and strategic culture; the geographic area within which the competition is occurring; potential allies; the U.S. and allied basing posture; and other factors that would exert a significant bearing on both the military competition and how U.S. and allied forces might best posture themselves to achieve their objectives. Jan van Tol, with Mark Gunzinger, Andrew Krepinevich, and Jim Thomas, *AirSea Battle: A Point of Departure Operational Concept* (Washington DC: CSBA, 2010); and Air-Sea Battle Office, *Air-Sea Battle: Service Collaboration to Address Anti-Access & Area Denial Challenges* (Washington DC: Department of Defense, 2013), <http://www.defense.gov/pubs/ASB-ConceptImplementation-Summary-May-2013.pdf>.

(and potential security partner) forces. In this way, Archipelagic Defense presents a truly joint and combined defense posture that brings all the military services' capabilities to bear in ways that highlight their comparative advantages. In particular, the introduction of U.S. ground forces can greatly enhance the Coalition's overall competitive position. This is due in large measure to technological advances since World War II that enable ground forces to exert significant influence on military operations in other domains, to include air, space, sea, the electromagnetic spectrum, and even undersea. As described above, the PLA has clearly embraced the potential of ground forces to operate effectively in most of these domains.

As will be elaborated upon presently, Archipelagic Defense calls for U.S. ground forces to shift from an expeditionary posture to a forward-deployed¹⁶⁷ posture in the WPTO, with emphasis on Japan and the Philippines. American air and naval services, on the other hand, owing to the relatively short range of their strike aircraft, have emphasized forward basing and forward presence, respectively. Given the PLA's growing ability to threaten air bases along the first two island chains, as well as large surface combatants (such as carriers) operating within the two island chains, the U.S. military will need to place greater emphasis on stealthy extended-range aircraft that can be based outside the range of most PLA scouting and strike forces, and on undersea systems that can operate forward within the PLA's A2/AD threat zone at acceptable levels of risk. This will require the United States to substantially increase these capabilities beyond those currently called for in its defense program.

Summary: Key Elements of Archipelagic Defense

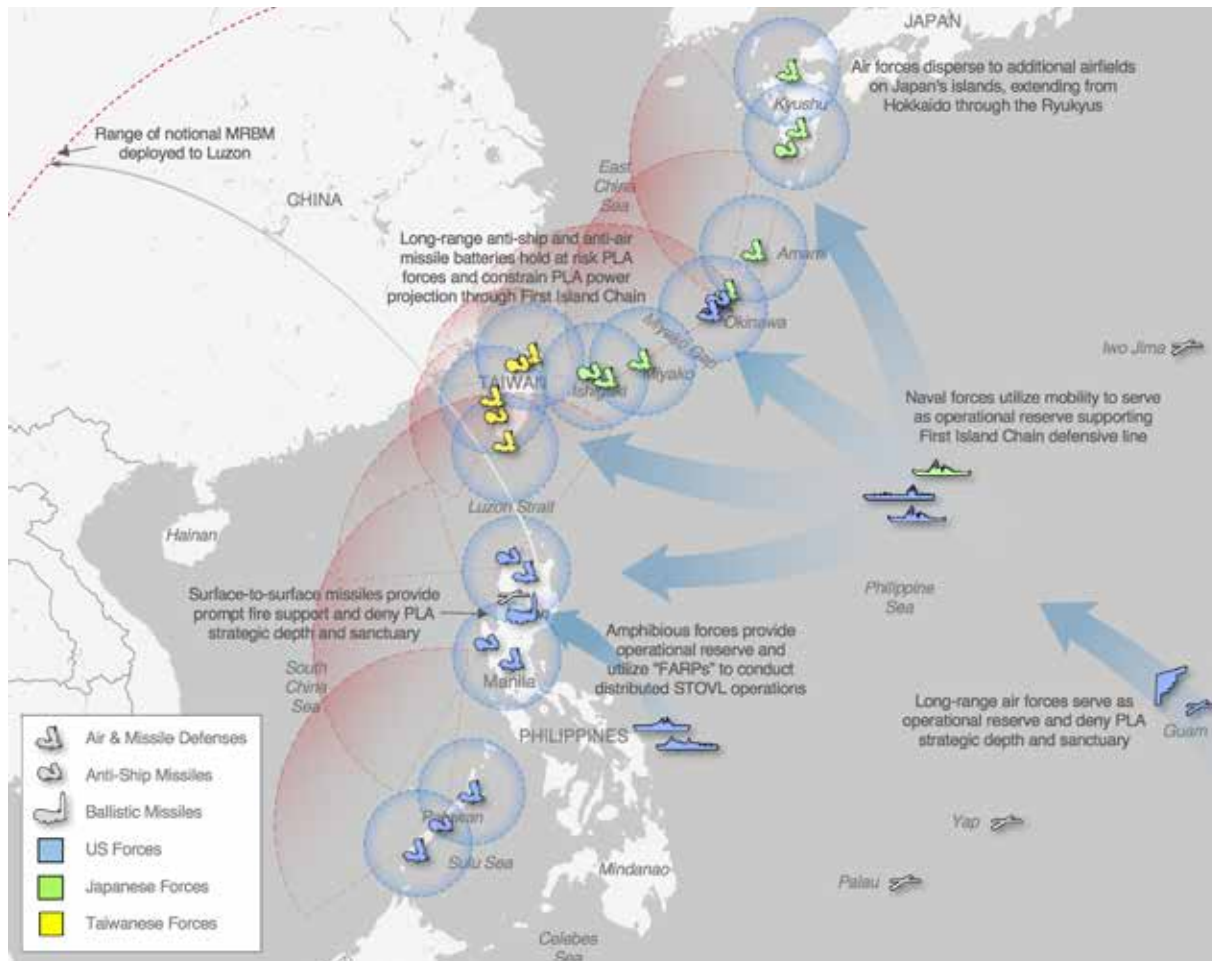
Based on the foregoing analysis, and as will be elaborated upon presently, the Alliance can enhance its defenses (and those of its Coalition partners) by

- shifting the U.S. defense posture from its primary focus on an expeditionary posture to a forward-deployed posture (and perhaps forward-based posture over time), to include establishing robust U.S./allied fuel and munitions stocks along the first island chain;
- reducing reliance on vulnerable land and sea bases, as well as surface ships, through a combination of systems capable of conducting long-range scouting and strike operations in contested environments, and active and passive defenses to degrade the PLA's ability to strike effectively at extended ranges;
- forming a mobile operational reserve capable of deploying rapidly to threatened sectors along the first and second island chains, and in follow-on and counteroffensive operations along the two island chains should that become necessary;
- emphasizing capabilities directly related to air, sea, and information denial operations;
- denying China its ability to exploit its strategic depth by holding key strategic military and economic assets at risk;

¹⁶⁷ A forward-deployed posture is not the same as a forward-based posture. The former posture calls for a regular rotation of forces that are positioned forward, while the latter posture finds forces stationed permanently forward. The distinction between the two postures may seem minor, but it is significant from a political perspective.

- extending the amount of time required by China to achieve its wartime operational and strategic objectives; and
- fostering and enabling greater Alliance and Coalition partner cooperation and interoperability, including frequent, rigorous, and realistic training in peacetime.

Figure 5. Archipelagic Defense overview



Source: The World Factbook, Central Intelligence Agency, 2017, available online at: <https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html> ; and Asia Maritime Transparency Institute, “Island Features of the South China Sea,” Center for Strategic and International Studies, 2017, available online at: <https://amti.csis.org/scs-features-map/>.

Ground forces—particularly those of the U.S. Army and Japan Ground Self-Defense Forces—enjoy important advantages over their air and maritime counterparts, particularly with respect to survivability, lethality, and sustainability. Ground forces are capable of disaggregating into small groups and dispersing far more effectively than can surface warships or aircraft. Ground forces are also less reliant than air and naval forces on large bases.¹⁶⁸ They can operate from hardened positions in ways that air and maritime forces cannot. While not as mobile as ships or (especially) aircraft, ground forces are sufficiently mobile to complicate enemy scouting

¹⁶⁸ Warships operating at sea are not necessarily reliant on large bases. They can also be supported by combat logistic ships to provide them with oil, food, and ammunition. These logistics ships can operate from commercial ports as well as naval bases.

operations, especially when they can exploit the cover and concealment offered by complex land terrain. Ground forces can also establish far deeper munitions magazines and POL¹⁶⁹ stockpiles than can be loaded on ships or aircraft. When ground forces assume a strategic defensive posture, as called for along the first island chain under the Archipelagic Defense concept, they can be made far less reliant on satellites to maintain effective command, control, and communications. This can be accomplished through terrestrial data lines, such as with buried fiber-optic cables linked to aboveground radio-frequency (RF) gateways. Finally, ground forces can enjoy far greater access to power sources than forces operating at sea or in the air. This can enable them to employ much more potent electronic jamming equipment and, as the technology continues to mature, directed-energy weapons.

By leveraging the advantages ground forces provide, the Coalition can focus its air and maritime forces on missions that emphasize their particular strengths, of which there are several. For example, these forces enjoy a great advantage in mobility. It will likely be far easier to concentrate air and maritime forces at points along the first island chain than ground forces whose operational mobility will be limited significantly by geography, as they are positioned on an extended string of islands. Ground forces also lack the extended range of air and maritime force scouting and strike systems.

The following sections elaborate upon how Alliance and Coalition forces might be positioned and employed in accordance with Archipelagic Defense, examining how Coalition forces can withstand an initial PLA attack, describing the role of Coalition forces in the scouting and long-range precision strike competitions (to include air denial), and finally, assessing the sea denial, commerce raiding, and commerce defense operations, as well as the concentration/counter-concentration competition. While beyond the scope of this assessment, the matter of gray zone aggression will also be examined, albeit in a cursory manner. Owing to the interrelationships between many of these operations (such as scouting and striking for example), the following sections of the study suffer from some redundancy, but the overall objective is to enhance the presentation's completeness.

Withstanding the Initial Attack

The Archipelagic Defense concept assumes that China will initiate hostilities. This is not to say that the Alliance and its security partners will be victims of a Chinese “bolt-from-the-blue” attack that occurs without any warning; quite the opposite. Japanese and U.S. intelligence efforts, along with those of their Coalition partners, should assign high priority to obtaining early warning of an attack. *Political* warning provides notice that increasing tensions suggest deterrence may be about to fail. This can occur rapidly, or it can gradually evolve over weeks and even months. *Strategic* warning comes in the form of information that indicates the enemy is mobilizing and deploying forces to wartime locations. For large, conventional forces, this

¹⁶⁹ In U.S. military parlance, POL stands for petroleum, oil, and lubricants. Along with water and munitions, POL items are among the largest required by advanced military forces in terms of volume.

can require weeks, although it depends on a range of factors.¹⁷⁰ Archipelagic Defense is most concerned with these two forms of warning.¹⁷¹

If political or strategic warning is received, the two great powers comprising the Alliance, along with their Coalition partners, will need to decide how to respond.¹⁷² The United States, in particular, would be faced with a decision on whether or not to deploy forces located outside the WPTO into the region. These actions could be viewed as part of a mobilization race between China and the Alliance (and perhaps other states as well).¹⁷³ This could enhance deterrence if Beijing viewed this as a sign of resolve by the democracies and/or that the U.S. military deployments were diminishing the prospects of successful aggression. Conversely, it could undermine deterrence if Beijing feels it must strike before the Coalition's additional combat capability, generated by mobilization and U.S. reinforcements, can be brought to bear. This reinforces the desirability of a U.S. forward-defense posture.

In the event political or strategic warning is obtained, in addition to mobilizing Coalition forces and deploying U.S. reinforcements from other theaters, the Alliance can take other actions to improve its competitive position. For example, forward land-based air forces can disperse to other airfields. Coalition naval forces in the WPTO can be dispatched from their bases, putting to sea to take up their wartime positions. Those ground forces in garrison along the first island chain can also move to pre-selected hardened and dispersed positions. Those U.S. (and possibly Australian) special operations and advisor forces assigned to support advanced irregular resistance forces in the Philippines and Taiwan¹⁷⁴ would move with these forces to their wartime locations.

Coalition attack submarines would position themselves to form—along with ground forces positioned along the first island chain—an ASW barrier, with Japan assuming primary responsibility in the northern sector (the Japanese archipelago) and the United States primary responsibility for the southern sector (Taiwan and the Philippines).

Given the assumption that its space assets will be at high risk of disruption or destruction, the Alliance will need to deploy terrestrial C4ISR “scouting” systems, such as unmanned aerial

¹⁷⁰ During the Cold War, for example, the warning time of a Warsaw Pact attack ranged from a few days to a few weeks. Richard K. Betts, *Surprise Attack* (Washington DC: Brookings Institution, 1982), 179–84.

¹⁷¹ A third type of warning, tactical warning, provides notice of the aggressor's initial war movements. This warning can be as short as a few minutes (such as in the detection of a missile attack) or as long as several hours (such as in the case of the approach of ground forces to a border area). For a detailed discussion of warning and surprise attack see Betts, *Surprise Attack*, 4–5.

¹⁷² There is a difference between *receiving* early warning and *acting* upon it. Sometimes early warning indicators are lost in the larger flow of intelligence information. At other times, factors such as a lack of political will may lead to inaction even in the face of clear intelligence of the enemy's aggressive intentions. *Ibid.*, 87–149; and Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford CA: Stanford University Press, 1962).

¹⁷³ This does not invalidate the forward-defense posture called for in Archipelagic Defense. For example, the United States maintained a forward-defense posture in Central Europe during the Cold War. Nevertheless, it was prepared to reinforce its forward-deployed forces if it was found that the Warsaw Pact was mobilizing its forces in preparation for a possible attack. The same holds here for U.S. efforts to reinforce its forward-deployed forces during a period of PLA mobilization before the onset of hostilities. I am indebted to my colleague Barry Watts for this observation.

¹⁷⁴ Any U.S. force deployment to Taiwan prior to the onset of hostilities would likely need to be done covertly, and thus be greatly limited in size; hence, the emphasis on small numbers of U.S. and allied special forces.

systems, and fully activate command centers linked by underground fiber-optic cables and RF gateways.

Some forces outside the WPTO may be deployed within the theater or nearby. For example, assuming it stands with its American ally as it has throughout the last century, Australia may move maritime forces into Southeast Asia along the periphery of the South China Sea, and stage ground forces (to Mindanao, for example) to support the Philippines. Elements of the U.S. global conventional strike forces, such as its bomber force, might be deployed to Australia, while U.S. Navy nuclear-powered guided-missile submarines (SSGNs) armed with cruise missiles position themselves forward to support Coalition air and sea denial operations.

Given the great distances involved and likely severe limitations on time and mobility assets (such as airlift and rapid sealift), only high-priority reinforcement deployments will be possible. Depending on the character of the threat posed by the PLA, priority could be accorded to air, missile, and coastal defenses, or perhaps to expanding stocks of precision-guided munitions.

The Scouting Competition

Overview

The ability to communicate and move data quickly and reliably to large numbers of geographically distributed users has been a major source of advantage for the U.S. military since the Cold War. It seems clear that this ability will remain important to generating and sustaining the effectiveness of advanced military forces, including those of Japan and China. The PLA's Integrated Network Electronic Warfare (INEW) doctrine supports this view, stating that achieving information dominance is essential prior to initiating hostilities.¹⁷⁵ Thus the Coalition's ability to deny the Chinese military information dominance—the PLA's ability to prevail in the scouting competition—can play an important role in strengthening deterrence in peacetime and enabling an effective defense should deterrence fail.

The struggle for information dominance will likely begin even before the onset of open hostilities, particularly in the cyber domain.¹⁷⁶ Given the importance of information on advanced military operations, efforts to establish an advantage in the scouting competition will almost certainly be accorded high priority once a war has begun.¹⁷⁷ The focus of a campaign designed

¹⁷⁵ “An essential element, if not a fundamental prerequisite, of China's emerging A2/AD regime is the ability to control and dominate the information spectrum in all dimensions of the modern battle space. PLA authors often cite the need in modern warfare to control information, sometimes termed ‘information blockade’ or ‘information dominance,’ and to seize the initiative and gain an information advantage in the early phases of a campaign to achieve air and sea superiority.” OSD, *China's Military Power 2014*, 30.

¹⁷⁶ China and the United States (along with Israel, Russia, and the United Kingdom) are generally assumed to be among the world's leading cyber powers. That said, little is known regarding Chinese or U.S. cyber capabilities or how they might be employed in a conflict. Consequently, this study offers only the most general discussion of the cyber competition.

¹⁷⁷ According to the seminal assessment of what has become known as the “Revolution in Military Affairs,” undertaken by Andrew W. Marshall's Office of Net Assessment in the U.S. Defense Department, “Establishing information dominance could well be the *sine qua non* for effective military operations in future conflicts.” As quoted in Krepinevich, *Military-Technical Revolution*, 22.

to deny the PLA the information advantage it believes is necessary to wage a war of aggression would center on preserving the Coalition's ability to target high-value Chinese assets effectively while denying the same capability to the PLA.

The Competition

The PLA's ability to scout and target friendly forces can be degraded by disabling its satellites through non-kinetic terrestrial-based means, such as directed-energy weapons, cyber payloads, and electronic warfare,¹⁷⁸ as well as by striking and jamming China's terrestrial-based scouting systems, such as its long-range OTH radar network. With an eye toward developing new sources of competitive advantage in what may be a protracted competition, both Japan and the United States should consider investing in solid-state and fiber laser systems capable of disabling satellites, as well as advanced cyber weapons that might corrupt satellite data or compromise ground relay station operations. Strike systems that can operate effectively early in a conflict within the PLA's A2/AD defense zone—for example, the U.S. B-21 stealth bomber, now in development; SSGNs and SSNs armed with cruise missiles; and hardened and/or mobile, dispersed ground forces equipped with extended-range rocket artillery—could hold terrestrial-based PLA scouting assets at risk.

Fixed Targets

Both the PLA and Coalition forces will likely find it difficult to deny the other the ability to target fixed assets, such as major ports and airbases, and key components of fixed critical infrastructure, such as undersea cables and railheads. These targets will almost certainly be identified prior to a conflict. Certain mobile assets that follow predictable paths, such as ships that must transit maritime choke points or satellites in predictable orbits, may be effectively neutralized through periodic strikes.¹⁷⁹

That being said, this advantage may decline over time as both sides take measures to reduce the vulnerability of fixed targets by hardening them or through other means. As will be discussed presently, this is particularly true in the case when the attacker's ability to conduct effective post-attack scouting of battle damage ("battle damage assessment," or BDA) against fixed targets is lacking.

¹⁷⁸ Impressive advances are being made in directed-energy weapons. See Mark Gunzinger, with Chris Dougherty, *Changing the Game: The Promise of Directed-Energy Weapons* (Washington DC: CSBA, 2012). With regard to the electronic warfare competition, see Bryan Clark and Mark Gunzinger, *Winning the Airwaves: Regaining America's Dominance in the Electromagnetic Spectrum* (Washington DC: CSBA, 2015).

¹⁷⁹ The reader will recall that the PLA has considered employing its missile forces not only as a means of destroying maritime targets, but also to dissuade them from operating in certain areas. Viewed in this manner, one might expect the PLA to launch periodic missile salvos at key maritime choke points to increase the risk to both military and commercial vessels from transiting these waters. In military parlance, this is referred to as a "mission kill"; while the ships in question are not destroyed, they are precluded from accomplishing their mission, be it a military operation or the movement of cargo.

Mobile Targets

As China has adopted more expansionist aims, the PLA has moved to field capabilities that enable it to operate at ever-greater distances. This has made the PLA increasingly reliant on non-line-of-sight scouting systems to identify mobile targets. As noted earlier in this study, the PLA employs a wide range of capabilities to scout rival military mobile forces and/or their sources of support. PLA satellites, terrestrial-based radars (both on land and sea), aircraft (including UAVs), and undersea sensors are among the more prominent of these capabilities.¹⁸⁰ Fortunately for the Coalition, these systems have vulnerabilities that can be exploited to degrade PLA scouting operations and reduce the Chinese high command's confidence that it can achieve information dominance.

Degrading Chinese Scouting Capabilities

Archipelagic Defense calls for the U.S. military to conduct strikes, both kinetic and non-kinetic (such as cyber payloads and directed-energy pulses) to neutralize or destroy PLA extended-range scouting systems, to include OTH radars, electronic intelligence sites, and satellites performing C4ISR functions.

Early in a conflict, some operations against terrestrial PLA targets could be executed by Coalition strike elements capable of functioning well within the PLA's A2/AD defenses. The U.S. military would take the lead in such operations, employing its long-range stealthy strike aircraft such as the B-2 and (eventually) B-21 bombers, SSNs and SSGNs, and ground forces equipped with extended-range rocket artillery.

To avoid creating space debris that would threaten all satellites in their orbits, the PLA's satellite constellation could be neutralized by non-kinetic strikes¹⁸¹ and perhaps by jamming operations as well. Alliance and Coalition partner fighter-interceptor aircraft and air defense forces would be charged with destroying or otherwise neutralizing PLA air-breathing ISR platforms while ASW forces bottle up and (if possible) destroy PLAN submarines as they attempt to transit the first island chain. Coalition forces can also employ various forms of electronic warfare, such as jamming and spoofing,¹⁸² to deny or corrupt data being received and transmitted by PLA scouting systems.

¹⁸⁰ Of course, platforms whose principal mission is not related to scouting, such as combat aircraft and submarines, can also perform a scouting function, as can individual soldiers and even civilians. Keith Breene, "Who Are the World's Cyber Superpowers?" May 4, 2016, World Economic Forum website, <https://www.weforum.org/agenda/2016/05/who-are-the-cyberwar-superpowers/>.

¹⁸¹ The ability of directed-energy systems to create a "soft kill" of enemy satellites and of jamming operations to effect a mission kill is important, as the kinetic destruction of satellites can create large amounts of debris ("space junk") that can damage other satellites, including Coalition satellites and those belonging to neutral powers. Heginbotham, *U.S.-China Scorecard*, 248.

¹⁸² In this context, generally speaking, "spoofing" refers to a situation where an attacker is able to introduce false information returns in the defender's radar system.

Defending Coalition Scouting Capabilities

In addition to degrading China's scouting assets, winning the scouting competition will require the Coalition to defend its scouting forces against the PLA's efforts to degrade them. The PLA sees the Coalition's dependence on satellites for long-haul communications as a critical vulnerability that can be exploited, and it is developing and has fielded systems and capabilities to destroy, damage, and disrupt these satellites.¹⁸³

Another threat to the Coalition's scouting networks comes from PLA terrestrial jamming. Should jamming prove ineffective, the PLA's kinetic and non-kinetic anti-satellite capabilities can degrade or destroy much of the U.S., Japanese, and major Coalition partner satellite constellations in low Earth orbit.¹⁸⁴ Given that the competition between Alliance efforts to defend its satellite constellations from Chinese attacks would almost certainly (at least initially)¹⁸⁵ be offense dominant,¹⁸⁶ it makes sense for Japan and the United States, in particular, to look for alternatives to satellite-provided scouting functions.¹⁸⁷

Buried Fiber-Optic Cables Linked to RF Gateways

One way for the Coalition to enhance the robustness of its scouting capabilities would be for Japan and the United States to jointly develop and field an airborne-terrestrial communications network as a hedge against the loss of their satellite constellations. Such a network could employ high-altitude/long-endurance (HALE) aircraft along with aerostats, as well as a terrestrial layer consisting of a secure, underground fiber-optic network linked to RF gateways. Redundant data fusion centers could receive, analyze, process, and transmit data and information. The fusion centers could be mobile (such as being positioned on ships and road-mobile ground vehicles) or placed at fixed, hardened land-based sites. The network could be expanded by linking the airborne elements, together with the network's ground-based RF gateways, into the buried fiber-optic communications network.

Coalition forces would be linked to the network. Ideally, this would be accomplished via line-of-sight, narrow-band, and relatively low-power assets that would complicate PLA electronic warfare jamming operations. To enhance communications security and resilience, the Coalition's networked HALE UAVs and aerostats could employ "smart" signal

¹⁸³ Stew Magnuson, "U.S. Forces Prepare for a 'Day Without Space,'" *National Defense Magazine*, February 2014, <http://www.nationaldefensemagazine.org/articles/2014/2/1/2014february-us-forces-prepare-for-a-day-without-space>; OSD, *China's Military Power, 2014*, 32; and Kevin Pollpeter, "PLA Space Doctrine," in *Chinese Aerospace Power*, ed. Andrew Erickson and Lyle Goldstein (Annapolis MD: Naval Institute Press, 2011), 50–60.

¹⁸⁴ Heginbotham, *U.S.-China Scorecard*, 249, 253, 256.

¹⁸⁵ This statement is based on initial war conditions and the assumption that China is the aggressor—that it initiates the conflict. Should the conflict become extended, and if the Coalition is successful in degrading the PLA's anti-satellite weapons capabilities substantially, at some point it may be desirable to repopulate leading Coalition state satellite constellations.

¹⁸⁶ A competition is offense dominant if, when both the attacker and defender possess equal resources, it costs the attacker less to offset improvements in his rival's defenses than his rival expends to improve them. An example of an offense-dominant competition is that between the United States and the Soviet Union during the Cold War with respect to nuclear attack by ballistic missile delivery systems and defense against such an attack.

¹⁸⁷ For a discussion of some relatively inexpensive Coalition options to preserve at least a modest level of satellite capability, see Todd Harrison, *The Future of MILSATCOM* (Washington DC: CSBA, 2013).

processing and relay payloads to link a wide range of platforms employing varying tactical data links.¹⁸⁸

Japan is the logical location to begin constructing this airborne-terrestrial communications network. It would extend along the Japanese archipelago. The two other states comprising the first island chain, Taiwan and the Philippines, would be invited to become part of this robust fiber-optic telecommunications backbone, which could also provide resilient communications in peacetime, such as in the event of typhoons and other natural disasters.¹⁸⁹

Electronic Warfare

As noted above, in its efforts to achieve the information dominance needed to support offensive operations, the PLA is becoming increasingly dependent on non-line-of-sight systems for scouting and command-and-control.¹⁹⁰ Consequently, Alliance forces should seek opportunities to deny the PLA effective use of its scouting systems or battle network.

Toward this end, the Coalition could leverage Japanese and U.S. investments in active electronically scanned array (AESA) radars. These radars can perform a wide range of missions, including air defense, surface search, surveillance, jamming, and communications. Japan and the United States already possess or are acquiring AESA systems, including those aboard F-35 fighter aircraft. Their land- and sea-based AN-TPY-2 radars, like AESA radars, can execute multiple missions.¹⁹¹ Moreover, AESA radars can also employ electronic decoying and deception measures, such as digital radio frequency memory (DRFM).¹⁹² Ground forces, with greater access to electric power than aircraft and ships at sea, can use AESA radars for jamming operations. Finally, the Alliance could also invest in digitally controlled electronic

¹⁸⁸ The U.S. Air Force and Northrop Grumman developed a first-generation of this type of payload in the “Battlefield Airborne Communication Node (BACN)” program. This high-altitude communications and networking node was able to download and distribute sensor information from an F-22 fighter to F-15 and F-16 fighters. The BACN’s “smart node pod” is designed to provide a communications gateway for both manned and unmanned aircraft. Northrop Grumman Corporation, “Data Link Processing and Management,” <http://www.northropgrumman.com/Capabilities/DataLinkProcessingAndManagement/Pages/default.aspx>. See also Northrop Grumman, “Battlefield Airborne Communications Node (BACN),” <http://www.northropgrumman.com/Capabilities/BACN/Pages/default.aspx>; “Two More Global Hawks to Receive BACN Coms Gateways,” *Defense Update*, February 1, 2012, http://defense-update.com/20120201_two-more-global-hawks-to-receive-bacn-coms-gateways.html; and Joey Cheng, “Air Force Wants to Toughen Up Aerial Layer Communications,” *Defense Systems*, March 20, 2014, <http://defensesystems.com/articles/2014/03/20/afri-aerial-layer-communications.aspx>.

¹⁸⁹ The network’s airborne element could be put in place quicker than the buried fiber-optic element.

¹⁹⁰ “An essential element, if not a fundamental prerequisite, of China’s emerging A2/AD regime is the ability to control and dominate the information spectrum in all dimensions of the modern battlespace. PLA authors often cite the need in modern warfare to control information, sometimes termed ‘information blockade’ or ‘information dominance,’ and to seize the initiative and gain an information advantage in the early phases of a campaign to achieve air and sea superiority.” See OSD, *China’s Military Power, 2014*, 30.

¹⁹¹ For example, the F-35 has built-in electronic warfare capabilities to locate and track enemy forces and jam radio frequencies. The AESA radar can be used to create false targets, conduct network attacks, and suppress enemy radars. According to Lockheed Martin, the F-35 can function as either a standoff jammer, providing ten times the effective radiated power of any current fighter, or as a stand-in jammer. “F-35 Lightning II: Factsheet,” <https://www.f35.com/about/capabilities/electronicwarfare>.

¹⁹² DRFM exploits technological advances in data processing rates. Basically, DRFM employs high-speed sampling and digital memory to capture and alter a radar’s physical radio wave properties, sending a distorted version back to the radar that propagated the original signal, leading it to make incorrect estimates of a target’s range and velocity.

arrays that could fit on unmanned underwater, surface, and aerial vehicles to provide jamming support.¹⁹³

Cryptography and Cyber Operations

An important aspect of the scouting competition involves gathering, processing, moving, and protecting information regarding one's own forces and activities as well as those of the enemy. The Coalition can also gain advantage by obtaining access to the enemy's scouting information (and selectively distorting it) while preventing the enemy from doing the same to Coalition scouting information.

Since World War I, success in cracking a rival military's electronic codes has, on several occasions, provided a major, and in some cases decisive, advantage.¹⁹⁴ More recently, the development of the Internet has facilitated a whole new level of potential penetration into an adversary's scouting capabilities, as well as other key military functions, such as logistics. That being said, given the secrecy under which both cryptanalysis activities and cyber operations are conducted by the militaries under discussion in this study, it is impossible to state with any clarity their relative ability to compete effectively in this key aspect of the scouting competition.

Commander's Intent, Mission-Type Orders, and Field Exercises

Both the PLA and Alliance forces emphasize disrupting the other's ability to scout and to maintain command and control over their forces. In an environment where Alliance C4ISR capabilities are severely degraded, its forces' ability to employ "commander's intent" and "mission-type" orders could emerge as a key factor in maintaining the ability to operate effectively. In the U.S. military, the commander's intent

succinctly describes what constitutes success for the operation. It includes the operation's purpose, key tasks, and the conditions that define the end state. It links the mission, concept of operations, and tasks to subordinate units. A clear commander's intent facilitates a shared understanding and focuses on the overall conditions that represent mission accomplishment.¹⁹⁵

Simply put, commander's intent describes what conditions will exist at the successful conclusion of the mission. Commander's intent accepts that a plan may be rendered completely or partially obsolete as it is being executed due to incomplete and/or distorted information, changes in enemy situation, and other relevant factors. Under such circumstances, having a clear statement

¹⁹³ See D. Tremper and J. Heyer, "Unmanned Sea Surface Vehicle Electronic Warfare, 2007 NRL Review, http://www.nrl.navy.mil/content_images/07Electronics_Tremper.pdf.

¹⁹⁴ The German victory over Russian forces in the Battle of Tannenberg in 1914 was aided by poor Russian communications discipline. (The Russians sent messages without encoding them, or "in the clear.") The U.S. military's partial breaking of the Imperial Japanese Navy's code was a major factor in its decisive victory at the Battle of Midway in June 1942. The breaking of Germany's Enigma code in World War II and related signals cryptanalysis provided the Allies with a "priceless" advantage, according to U.S. General Dwight Eisenhower. See F.W. Winterbotham, *The Ultra Secret* (New York: Harper & Row, 1974), 2.

¹⁹⁵ Army Doctrine Reference Publication (ADRP) 5-0, *The Operations Process* (Washington DC: Government Printing Office, May 2012), 2–19. See also Maj. Richard Dempsey and Maj. Jonathan M. Chavous, "Commander's Intent and Concept of Operations," *Military Review* (November–December 2013): 58–66.

and understanding of the commander's intent enables subordinates in adapting the plan to the changed battlefield environment in such a way as to focus on the desired end state.¹⁹⁶ As the Defense Department's original assessment of the emerging precision-warfare revolution notes, "Junior commanders will need to know how their operations support the senior commander's overall plan, how to integrate their operations within various elements of a full-dimension concept of operations, and how to react quickly, and often independently, to a rapidly changing conflict environment."¹⁹⁷

Closely aligned to commander's intent are mission-type orders—the manner in which the commander's intent is communicated. The U.S. Army states, "Orders must be timely, simple, clear and concise. Mission type orders are used to the greatest practicable extent, but should provide the commander's concept, or intent, to insure [*sic*] that subordinate commanders, acting on their own initiative, direct their efforts to the attainment of the overall objective."¹⁹⁸

Mission-type orders provide subordinates with maximum latitude in accomplishing the commander's intent. This requires subordinates who possess individual initiative. Mission-type orders emphasize this quality in their leaders at all levels, while explicitly stating that those who are found lacking will not be tolerated.

Commanders of subordinate units cannot plead absence of orders or the nonreceipt of orders as an excuse for inactivity in a situation where action on their part is desirable, or where a change in the situation upon which the orders issued were based renders such orders impracticable or impossible of execution. If the subordinate commander knows what the general plan—the end in view—is, lack of initiative on his part is inexcusable.¹⁹⁹

Developing a proficiency in operating within the context of commander's intent and mission-type orders requires persistent and extensive field training under realistic conditions.

While experience in wartime conditions where scouting and command-and-control capabilities are severely degraded can prove a valuable asset, the fact remains that many modern capabilities—such as precision-guided missiles and bombs—require access to the global positioning system (GPS) for navigation and precision timing. These and other important capabilities will be lost if GPS is lost, irrespective of how well units understand their commander's intent.

¹⁹⁶ Chad Storlie, "Manage Uncertainty with Commander's Intent," *Harvard Business Review*, November 3, 2010, <https://hbr.org/2010/11/dont-play-golf-in-a-football-g>.

¹⁹⁷ Krepinevich, *Military-Technical Revolution*, 36–37.

¹⁹⁸ U.S. Department of the Army Headquarters, *FM 100-5, Field Service Regulations: Operations* (Washington DC: GPO, 1962), 51. See also Clinton J. Ancker III, Colonel (Retired), U.S. Army, "The Evolution of Mission Command in U.S. Army Doctrine, 1905 to the Present," *Military Review* (March–April 2013).

¹⁹⁹ U.S. Army, *Field Service Regulations* (Washington DC: Government Printing Office, 1914), 78.

The Long-Range Strike Competition

The PLA's ability to strike at Coalition forces over extended ranges is an important element both in establishing its control in the air and sea and in securing information dominance. China's ability to project power in this manner can be eroded through a combination of suppression strikes against the PLA's scouting and strike forces, along with active and passive Coalition defenses. Stealthy U.S. long-range bombers and unmanned aircraft, along with submarines operating within the PLA's A2/AD threat ring and extended-range missiles can execute suppression strikes against PLA missile forces and air bases. Cyber payloads, electronic warfare and effective scouting forces providing BDA information can support these strikes. Alliance defenses, in particular, can be enhanced through base hardening and aircraft dispersion, as well as by increasing the range of carrier-based aircraft (thereby enabling carriers to operate from more distant, and safer, locations).²⁰⁰ Alliance forces can also employ preferential missile defense, whereby air and missile defense units concentrate their efforts on defending only those airbases where friendly aircraft are actually located. Finally, as described above, by degrading the PLA's scouting capability, including its ability to perform effective BDA, the Alliance can greatly complicate the enemy's targeting problem while driving up its costs.

Strike Operations

U.S. strike forces capable of penetrating China's A2/AD forces and operating effectively in non-permissive environments can do much to deny the PLA the conditions necessary to wage a war of aggression. Unfortunately, the American military's ability to execute such strikes is relatively modest when measured against China's size and the scale of its military forces. On a more positive note, the U.S. military is looking to expand its fleet of penetrating long-range bombers through its B-21 program. It also has maintained a relatively high submarine production rate with respect to its Virginia-class attack submarines, which can be armed with cruise missiles. These submarines can operate in relative safety within China's A2/AD bubble, as can the U.S. Navy's Ohio-class guided-missile submarines (SSGNs), each of which can be equipped with over 150 cruise missiles.

These forces could be enhanced significantly over time. U.S. (and perhaps Japanese) ground forces positioned forward along the first island chain could be equipped with extended-range rocket artillery and cruise missiles. As long as the United States continues to adhere to the INF Treaty, these systems would be limited to a range of 500 kilometers, or slightly more than 300 miles. Nevertheless, this would enable Coalition forces armed with such missiles to threaten some key military and economic targets in China along the first island chain's northern sector, as well as PLA forces occupying South China Sea islands from points along the chain's southern sector. The Coalition could also expand its ability to execute strikes if the U.S. Navy were to introduce stealthy, long-range strike aircraft into its carrier air wings.²⁰¹

²⁰⁰ Currently, the U.S. Navy has no plans to increase the carrier air wing's ability to operate at significantly greater ranges in non-permissive (A2/AD) threat environments.

²⁰¹ In 2016, the U.S. Navy decided against developing such an aircraft, known as the Unmanned Carrier-Launched

A Coalition (primarily U.S.) strike capability along these lines offers several advantages. First, it enables the Coalition to hold a growing number of key PLA targets at risk, even those deep in China's interior. This compels the PLA to decide whether to leave these assets vulnerable or divert resources to defend them. It also provides the Coalition with an option to respond to PLA strikes against its members' territory, thereby enhancing deterrence.

Base Hardening

The Coalition cannot assume it will be able to disperse its forward-based aircraft prior to an attack. Moreover, countries located along the first island chain (especially Japan and Taiwan) must, out of necessity, position their strike forces within range of China's A2/AD capabilities. As for the United States, since long-range strike systems cost substantially more than short-range systems, there is a limit to the proportion of long-range systems the Americans can include in their strike force mix without significantly diminishing its overall striking power. Finally, forward-deployed U.S. forces, including combat aircraft located at bases like Kadena on Okinawa, are important indicators of American resolve and thus an important means of assuring its allies and security partners in the WPTO. Given these considerations, the question arises: How best to protect these expensive assets against PLA missile and air attacks? One way is through base hardening.

During the Cold War, the United States made substantial investments in hardened shelters for fighter aircraft, as well as in buried fuel and weapons storage facilities aimed at enhancing the resilience of its main operating bases in Western Europe and Japan.²⁰² While hardening bases could enhance aircraft survivability, hardening alone would not be a panacea. For example, following an initial surprise Chinese attack, while the PLA conducts BDA operations, it could continue to pin Alliance aircraft in place by employing submunitions in a follow-on attack. While the submunitions would not damage sheltered aircraft, they would prevent the aircraft from leaving their shelters until runways were cleared of blast fragments, an activity that could take hours to complete. This would allow time for the PLA to complete its BDA to identify targets that survived the initial assault. This would enhance follow-on PLA attacks against residual targets, employing missiles and fighter-bombers armed with precision-guided munitions.²⁰³

The picture is not entirely bleak. If the Coalition were able to degrade the PLA's scouting ability, particularly its BDA, then hardened bases could complicate PLA targeting and drive up

Strike & Surveillance Aircraft (UCLASS), in favor of a non-stealthy UAV—the Carrier-Based Aerial Refueling System (CBARS). As its name suggests, CBARS will be used primarily to extend the range of the manned non-stealthy F-18E/F carrier strike aircraft, and the F-35C, which is in development. Sydney J. Friedberg Jr., “Good-Bye, UCLASS; Hello, Unmanned Tanker, More F-35Cs in 2017 Budget,” *Breaking Defense*, February 1, 2016, <http://breakingdefense.com/2016/02/good-bye-uclass-hello-unmanned-tanker-more-f-35cs-in-2017-budget/>. Also, Robert C. Martinage, “The Future of the Carrier Air Wing” (briefing, Telemus Group, April 4, 2017).

²⁰² See Christopher J. Bowie, *The Anti-Access Threat and Theater Air Bases* (Washington DC: CSBA, 2002), 6–9. See also John Stillion and David T. Orletsky, *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks: Technology, Scenarios, and U.S. Air Force Responses* (Santa Monica CA: RAND, 1999), 30.

²⁰³ Roger Cliff, et al., *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States* (Santa Monica CA: RAND, 2007), 34.

its operating costs. This is because, without knowledge of which shelters and other hardened assets had been destroyed, the PLA would have to re-strike all of them to ensure a comparable level of success. This, combined with base dispersion and employing preferential air and missile defenses, can tip the balance even further in the Coalition's favor.

Base Dispersion

Expanding the number of bases from which they operate can enhance Japanese and American aircraft survivability. Fortunately, the potential to exploit base proliferation is significant. The Japan Air Self-Defense Force (JASDF) combat aircraft are currently concentrated at just seven bases.²⁰⁴ The U.S. military has but three air bases in Japan hosting combat aircraft.²⁰⁵ All ten of these airfields except the U.S. base at Andersen on Guam are within range of substantial numbers of PLA ballistic and cruise missiles, as well as PLA fighter-bombers.²⁰⁶ These concentrated Alliance air assets should be dispersed to reduce their vulnerability. Japan alone has over 50 existing runways suitable for fighter operations.²⁰⁷ Dispersing Alliance military air assets across these airfields could force the PLA to spread its attacks over a far greater number of air bases than is currently the case. Of course, the Alliance and its Coalition partners could construct austere air bases to complicate PLA targeting even further. Iwo Jima, Palau, Saipan, and Tinian along the second island chain offer potential locations for such bases. The U.S. Marine Corps is also exploring deploying their F-35B STOVL (short takeoff and vertical landing) strike aircraft to various austere air bases as a means of complicating Chinese air base targeting.²⁰⁸

There would be significant costs incurred in dispersing aircraft bases and in hardening some as well. Such an effort would lose current economy of scale benefits gained by concentrating aircraft at a few bases. Moreover, base hardening is expensive. As with short-range and long-range strike aircraft, it will be important for the Coalition to identify an optimum mix between concentrating assets at major bases and dispersing them. As noted above, among the factors that should be considered in such an assessment is the risk of Coalition forces being subjected to an unwarned attack, and its ability to suppress the PLA's strike forces and degrade its scouting capability. To this should be added the Coalition's ability to conduct effective preferential air and missile defense operations.

²⁰⁴ The JASDF operates combat units at Chitose, Hayakuri, Komatsu, Misawa, Naha, Nyutabaru, and Tsuiki. "Armed Forces Overviews," Scramble, <http://www.scramble.nl/orbats/japan/airforce>. See also "JASDF Base Histories," J-HangarSpace, <http://www.j-hangarspace.jp/jasdf-base-histories>. The base at Misawa also hosts U.S. combat air units.

²⁰⁵ These bases are at Kadena on Okinawa, Iwakuni in southern Honshu, and Misawa Air Base located in northern Honshu. The United States has three additional airfields at Yokota Air Base, Marine Corps Air Station Futenma, and Naval Air Facility Astugi. The U.S. military also maintains air bases at other points along the first and second island chains, including at Kunsan and Osan in South Korea and at Andersen Air Force Base in Guam.

²⁰⁶ OSD, *China's Military Power, 2017*, 32, 49, 54–55.

²⁰⁷ Japan has 51 runways over 8,000 feet long, while the Philippines has 12, South Korea 23, and Taiwan 15. Central Intelligence Agency, *The World Factbook*, <https://www.cia.gov/library/publications/the-world-factbook/geos/ja.html>.

²⁰⁸ See U.S. Marine Corps, *Marine Corps Operating Concept* (September 2016), <http://www.mccdc.marines.mil/MOC/>, 1–3, 20.

Preferential Air and Missile Defense

Base dispersion becomes a significantly more attractive option if the PLA's scouting forces can be degraded, especially their capacity to scout over wide areas and perform BDA.

Should the PLA's ability to conduct either or both of these scouting missions be significantly degraded, it would likely have to increase—perhaps substantially—the number of strikes necessary to achieve comparable results. For example, if all Alliance aircraft can be dispersed to 45 airbases in Japan instead of the 9 bases currently in use, and if the PLA lacked the ability to identify those bases currently hosting aircraft and those that did not, it would have to strike five times as many bases (45 versus 9) to ensure all Alliance aircraft are targeted.²⁰⁹ Continuing the example, if the PLA lacked the ability to conduct effective BDA to determine if it had achieved the desired level of Alliance aircraft attrition, the attacks might have to be repeated.

The PLA's problem can be further complicated by the Alliance employing preferential missile defenses.²¹⁰ As the term suggests, it calls for Alliance and Coalition partner air and missile defense forces to defend only those bases under PLA attack that currently host Coalition aircraft, not those that do not. This further drives up Chinese strike force requirements as, absent effective scouting capabilities, the PLA must assume that any base it chooses to attack is supported by air and missile defense forces.

The PLA's strike effectiveness can be eroded still further if the Alliance (primarily the U.S. military) is successful in its suppression attacks against Chinese long-range strike forces. To the extent these forces need to divert time and energy avoiding attacks from Alliance forces, the PLA may not be able to launch them in optimum strike packages. Instead of a “downpour” of Chinese missiles and precision-guided munitions, Coalition air and missile defenses could find themselves coping with a “drizzle,” greatly reducing the attacks' effectiveness. Confronted with such a problem, the PLA may be faced with a Catch-22 situation. If it disperses its strike packages over too many targets, they will prove easier for Coalition defense systems to intercept. On the other hand, if the PLA concentrates its forces for attacks on fewer bases, the Coalition—thanks to preferential defense—can win the “concentration competition” by focusing its forces only on those bases under attack that are currently hosting combat aircraft.

With regard to preferential defense, the mobility of air and missile defense forces may prove important. According to some sources, the PLA seems to exhibit significant concerns over Japanese and U.S. Aegis defense systems, in terms of their ability both to attrite the PLA's scouting forces and to intercept its extended-range strike elements. When the U.S. Navy

²⁰⁹ The Alliance's ability to neutralize Fifth Column efforts may represent an important factor in enabling effective preferential air and missile defenses. In theory, Chinese agents posing as civilians and living near allied air and naval bases could employ binoculars, consumer drones, cell phones, and Internet access to scout these locations and report their findings in near real-time to the PLA. I am indebted to Karl Hasslinger for this observation. The Coalition will likely need to establish “keep-out” zones around bases in populated areas, or emphasize the use of bases in remote, unpopulated areas. Efforts should also be made to identify how the Chinese view the problem and how they anticipate addressing it.

²¹⁰ Given that the military competition between China and the Coalition is open-ended, enhancements in air and missile defense, such as might be achieved by leveraging advances in directed energy and so-called powder guns may over time provide new sources of advantage for Japanese and U.S. forces—and the PLA as well.

employed an Aegis interceptor to destroy a U.S. satellite in February 2008, it triggered speculation in Chinese military circles over American anti-satellite capabilities and concern that the United States would share its technology and know-how with Japan, South Korea, and perhaps India as well. Chinese analysts have also expressed alarm over the Aegis system's potential to intercept cruise and ballistic missiles, as well as aircraft. Some Chinese military leaders see Washington as determined to create an "anti-ballistic missile net" over the two island chains.²¹¹ Interestingly, in a manner quite consistent with Archipelagic Defense, some Chinese analysts view Aegis-equipped Alliance maritime forces as an operational reserve, maneuvering between the second and third island chains, creating an American defensive multilayered "sea wall."²¹²

Three important points can be derived from the preceding discussion with respect to the defense of forward bases along the first island chain. First, Alliance and Coalition defense planners must think holistically about the problem of base defense. Second, there are opportunities to impose significant costs on the PLA. They must be identified and exploited wherever possible. Finally, the costs associated with this basing posture are likely to be substantial, to include base hardening, dispersal and the logistics force needed to move necessary supplies to sustain these bases. Alliance planners should undertake an analysis of these issues and their cost-effectiveness relative to Chinese efforts to offset the value of this basing posture.

Sea Denial

Overview

As noted earlier in this assessment, PLA theorists have written of "using the land to control the sea" along the first island chain, and are fielding A2/AD capabilities to enable them to accomplish this objective.²¹³ Archipelagic Defense leverages this potential for the Alliance and its Coalition partners in the WPTO as well—not to control the seas (although this would be ideal), but rather to deny their use to the PLA. In this regard, the Coalition's task is less demanding than the objective the Chinese have set for themselves. Since neither Japan nor the United States has aggressive intentions, they do not need to establish sea control to enable offensive actions but seek only to deny the PLA what it considers necessary to wage an offensive war.²¹⁴ The same is true for their Coalition partners.

For example, Japanese and American ground forces, through their ability to conduct cross-domain operations, can make a major contribution to Coalition efforts to achieve and sustain sea denial around the two island chains. As noted above, ground forces have relative advantages over air and maritime forces in their ability to harden themselves, to exploit terrain for

²¹¹ Yoshihara and Holmes, *Red Star*, 109–10

²¹² *Ibid.*, 110.

²¹³ The concept of employing land-based forces to deny an adversary control of the sea, or to sustain sea control, has its origins in the Japanese military's planning during the period leading up to the Pacific War. In early 1941, Vice Admiral Inoue Shigeyoshi presented a memorandum titled "Shin gunbi keikaku ron" [On modern weapons procurement planning]. In it, Inoue argued that rapid advances in aviation made it possible to establish air superiority at sea by employing by land-based aircraft. David C. Evans and Mark R. Peattie, *Kaigun* (Annapolis MD: U.S. Naval Institute Press, 1997), 482–86.

²¹⁴ As will be addressed below, the Coalition does need to maintain sea control for the purpose of commerce defense and to defeat PLA efforts to blockade states along the first island chain.

concealment, and to disperse. Ground forces also can sustain operations over long periods of time thanks to their ability to create deep and hardened munitions magazines²¹⁵ and to stockpile other key supplies (such as water, rations, and fuel). And unlike warships and aircraft, which must periodically return to large bases to replenish their supplies, ground forces can more readily disperse their logistic support.²¹⁶

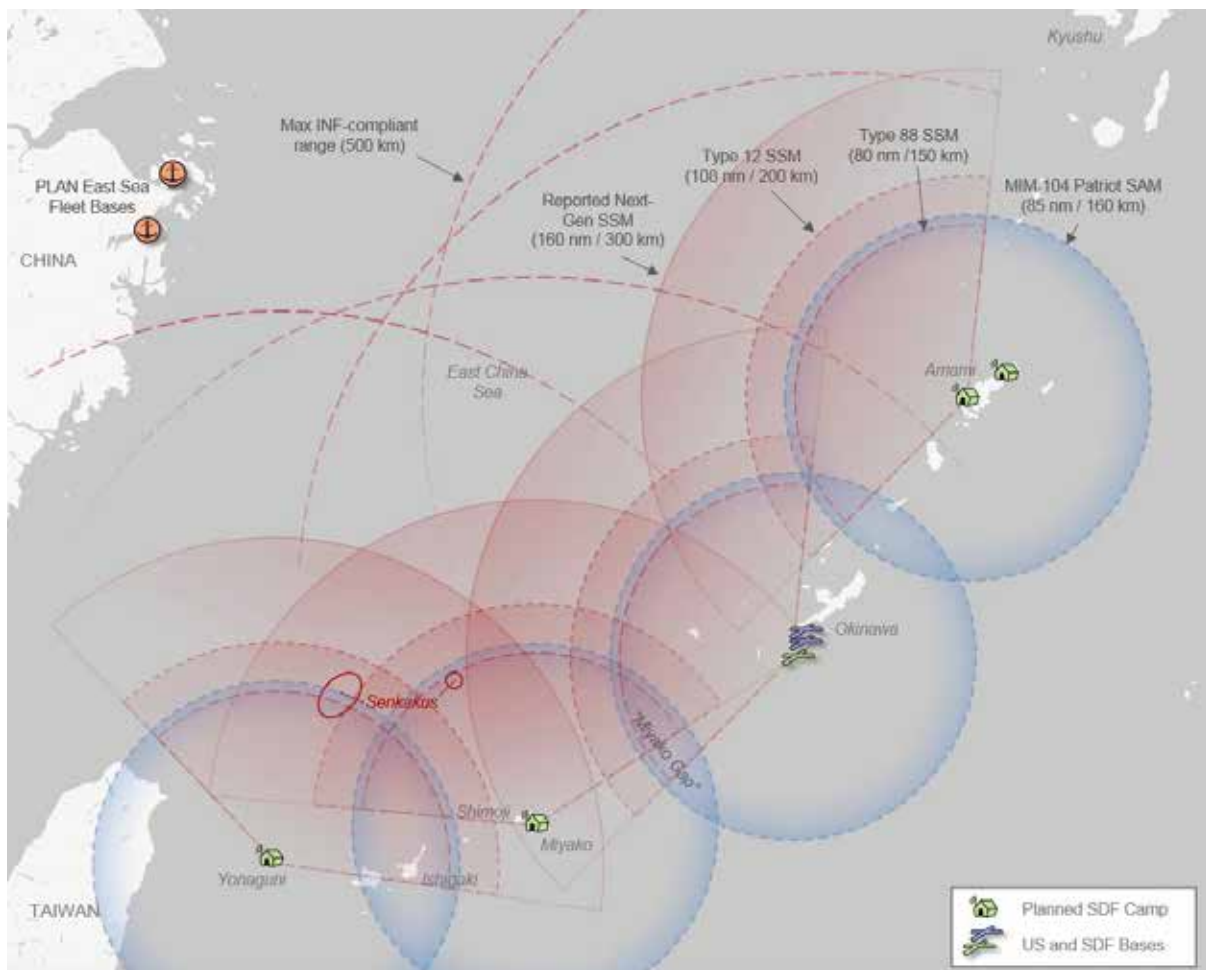
By leveraging the potential of ground forces to engage in air, sea, and information denial operations, Archipelagic Defense liberates air and maritime forces to operate in a less-threatening environment behind the first island chain. It also frees more of these forces to serve as a mobile operational reserve, an important factor in the context of the concentration/counter-concentration competition between Chinese and Coalition forces.²¹⁷

²¹⁵ The United States' use of the MOAB (Massive Ordnance Air Burst) weapon in April 2017 in Afghanistan reflects the active competition going on between those seeking to harden fixed-point targets against destruction by precision-guided munitions and those working to produce munitions effective against such targets.

²¹⁶ For an example of how a ground force element's logistics might be structured, see U.S. Marine Corps, *Marine Corps Operating Concept*, 24–25.

²¹⁷ For a discussion of the role of ground forces in cross-domain operations, with emphasis on their role in defense of the first island chain, see Krepinevich, "The Case for Archipelagic Defense." See also Jim Thomas, "Why the U.S. Army Needs Missiles," *Foreign Affairs* 92, no. 3 (May–June 2013), <https://www.foreignaffairs.com/articles/united-states/2013-04-03/why-us-army-needs-missiles>.

Figure 6. Selected East China Sea denial capabilities



Source: “MIM-104 Patriot,” Jane’s Land Warfare Platforms: Artillery & Air Defence, Jane’s IHS Markit, 2016; “SSM-1B (Type 90/96),” Jane’s Weapons: Naval, Jane’s IHS Markit, 2017; and Leo Lewis and Kana Inagaki, “Japan plans missile to test Chinese strategy in East China Sea,” *Financial Times*, August 17, 2016.

The range of the Type 88 and Type 12 presented in the figure are rough approximations of open source estimates. Japan’s Ministry of Defense has classified the Type 12 and Type 88 ASCM ranges. Open source documents suggest the Type 12’s range is roughly 200 kilometers, with the Type 88’s range at approximately 180 kilometers. The Japanese military is reportedly working on a new ASCM with a range of 300 kilometers, scheduled for deployment in 2023. Franz-Stefan Gady, “Deterring China: Japan to Develop New Anti-Ship Missile for Defense of Senkakus,” *Diplomat*, August 15, 2016, <http://thediplomat.com/2016/08/deterring-china-japan-to-develop-new-anti-ship-missile-for-defense-of-senkakus/>; and Global Security, “Type 88 SSM,” <http://www.globalsecurity.org/military/world/japan/type-88-specs.htm>. The Type 90 ship-to-ship missile is based on the Type 88 and has been reported to have an unclassified range around 150–180 kilometers. Eric Wertheim, *The Naval Institute Guide to Combat Fleets of the World: Their Ships, Aircraft, and Systems* (Annapolis MD: U.S. Naval Institute Press, 2007), 374.

The Japanese Ground Self-Defense Forces are already moving to exploit these advantages on selected islands in the Ryukyus.²¹⁸ Equipped with sensors and weapons systems that exist today (such as the U.S. Patriot air and missile defense system), those that are currently in development (such as Japan’s Type 12 land-based surface-to-ship missile, or surface-to-surface missile²¹⁹), or those that could be fielded relatively easily (such as a containerized, truck-transported variant of the Evolved Sea Sparrow SAM that might prove especially effective when employed by irregular

²¹⁸ Japan Ground Self-Defense Forces, Western Army Headquarters, “Welcome to Camp Kengun,” (briefing presented on May 18, 2015); and “Situation Surrounding Japan” (briefing presented on May 18, 2015).

²¹⁹ These surface-to-ship missiles are also referred to as within the class of weaponry known as anti-ship cruise missiles.

warfare forces in the Philippines, Taiwan, and Vietnam), ground forces can field mutually supporting defenses along the entire length of the Ryukyus. If similarly equipped ground forces were deployed along the rest of the first island chain—i.e., in Taiwan and the Philippines—a continuous barrier could be created. Moreover, were Vietnam to field comparable forces, it would transform China’s aggressive actions in the South China Sea into a highly vulnerable salient. By developing longer-ranged SSMs and SAMs (comparable to Russia’s BrahMos ASCM and SA-20B SAM), Coalition ground forces could expand the contested air and sea zones significantly, while establishing overlapping (and hence mutually supporting) fields of fire.

Ground forces can further enhance their sea denial capabilities by employing smart anti-ship mines and UUVs along the first island chain to slow PLAN ship movements, making them easier to target and engage. Land-based sea denial forces employed in this manner can also provide overwatch for the minefields, making PLA efforts to clear the fields difficult and costly.

Scouting and Sea Denial

Identifying those PLA forces engaged in attempting to establish sea control in the waters to the west and east of the first island chain requires effective scouting. This assessment has already discussed the Alliance’s scouting capabilities and ways to degrade the PLA’s scouting forces. The discussion here will thus focus on ground forces deployed along the first island chain and their prospective contributions. Archipelagic Defense calls for Alliance ground forces and those of capable Coalition partners to provide targeting information to joint and combined forces from air and missile defense radars, unmanned aerial vehicles, surface-wave OTH radars, and elevated aerostat sensors, such as the U.S. Army’s Joint Land Attack Cruise Missile Elevated Netted Sensor System (also known as JLENS).²²⁰ Positioned along the Ryukyu chain and, ideally, in the Philippines eventually (and perhaps in Vietnam and Taiwan), these systems or systems like them could provide scouting and targeting data to Coalition forces engaged in cross-domain (air, missile, and coastal defense) sea-denial operations. Militaries whose material and technical resources are more modest could benefit from data fed to them by these Coalition scouting systems.

Striking the Source

As noted earlier, rocket artillery ground forces positioned along the first island chain could hold a significant number of PLA air and naval bases at risk of attack. In the southern sector, similar forces positioned in the Philippines (for example, on Palawan Island) could also strike the PLA’s newly created South China Sea military bases. The threat of such strikes could also find the PLA compelled to divert resources to defend these assets and would likely cost the PLA far more than it would for the Alliance to field a rocket artillery capability.

²²⁰ For a description of JLENS, see Joakim Kasper Oestergaard Balle, “About the JLENS System,” January 5, 2015, Aerospace & Defense Intelligence Report website, <http://www.fi-aeroweb.com/Defense/JLENS.html>.

Choke Point Control

Archipelagic Defense emphasizes employing Alliance and allied air and maritime forces as a mobile reserve to contest PLA efforts to breach the first island chain at its various choke points. Ground forces can support these forces by providing a steady-state defense of key choke points by seeding them with smart mines and deploying UUVs. Sea mines are relatively cheap and highly lethal. They can be arranged into minefields to interdict naval movements. Advanced “smart” UUVs could prove ideal for operating along the Chinese coast where the risks would be unacceptably high for using submarines. These UUVs could probe Chinese defensive networks or deliver mines or other munitions. As noted above, ground forces employing scouting and organic coastal defense strike assets, such as ASCMs, can maintain an overwatch of these systems, frustrating PLA efforts to conduct minesweeping and counter-UUV operations.

Coastal Defense

Archipelagic Defense emphasizes creating a land-based scouting and strike force positioned along the first island chain to execute sea denial operations against PLAN surface warships. This is not to say that air and maritime forces would not play an important role. Submarines or surface combatants armed with anti-ship missiles, as well as strike aircraft, can place PLAN ships at risk. That said, these relatively scarce and expensive assets are needed to accomplish other high-priority missions where they enjoy a pronounced advantage over ground forces.

The ground force’s principle sea-denial strike element is the anti-ship cruise missile. Ground force ASCM batteries should be hardened or road-mobile. With respect to the latter, ASCM batteries could employ trucks (or combat vehicles capable of some modest cross-country movement) to facilitate their dispersion, as well as to position them to exploit opportunities to employ camouflage, cover, and concealment to reduce their vulnerability to PLA attack. While neither the U.S. Army nor the U.S. Marine Corps has invested significantly in coastal defenses, both Japan and Taiwan are enhancing their ASCM capabilities. Japan’s Type 12 (an enhancement of its Type 88) ASCM and Taiwan’s supersonic Hsiung Feng III (HF-3) ASCM are both road-mobile systems with ranges of roughly 100 and 150 miles respectively.²²¹ If the U.S. military were willing to leverage Japan’s experience in coastal defense (and perhaps Taiwan’s as well) it could field a coastal defense force of Type 12 ASCMs relatively quickly.²²² As noted above,

²²¹ Travis Okulski, “Japan Plans to Deploy Missiles to Strategic Island Near Taiwan,” *Jalopnik*, May 19, 2015, <http://foxtrotalpha.jalopnik.com/come-watch-three-kings-and-drink-tonight-in-brooklyn-1705458424/1705477031>; and Sam LaGrone, “China Reacts to Japanese Anti-Ship Missile Positioning,” *USNI News*, June 18, 2014, <https://news.usni.org/2014/06/18/china-reacts-japanese-anti-ship-missile-positioning>. The systems are based on Kyushu and Miyakojima. Russell Hsiao, “Taiwan Reportedly Plans to Upgrade Supersonic Hsiung Feng III Missiles,” *National Interest*, October 20, 2016, <http://nationalinterest.org/blog/the-buzz/taiwan-reportedly-plans-upgrade-supersonic-hsiung-feng-iii-18120>.

²²² Japan might transfer ASCM batteries with its older Type 88 missiles to other like-minded nations in the WPTO, such as the Philippines and Vietnam. Should it do so, Japan could coordinate its efforts with the United States to provide recipients with (or access to) the necessary scouting and command-and-control systems needed for their effective operation. Vietnam is set to deploy the BrahMos ASCM, which it plans to purchase from India. Sam LaGrone, “India Set to Sell Super Sonic Anti-Ship Cruise Missile to Vietnam,” *USNI News*, June 1, 2016, <https://news.usni.org/2016/06/01/india-set-sell-super-sonic-anti-ship-cruise-missile-vietnam-china-upset>. Vietnam is apparently moving to produce, either in part (e.g., final assembly of components) or perhaps in whole, a missile based on the Russian Zvezda-Strela 3M24 Uran (SS-N-25 Switchblade) ASCM. Douglas Barrie and Tom Waldwyn, “Vietnam

American ground-based ASCM batteries would require access to joint and, over time, Japanese scouting systems.²²³

Were the Alliance and U.S. allies to invest in fielding ASCM batteries with missile ranges similar to those deployed by Japan and Taiwan, they could pose significant problems for PLA efforts to establish sea control in the waters around the first island chain. Such forces, if deployed along both the northern and southern sectors of the chain, could provide coverage for all the choke points PLAN warships might transit to reach the high seas, including the Miyako and Luzon Straits. Longer-range ASCMs²²⁴ would enable ground forces to thicken their defenses by creating and extending areas of overlapping coverage, or to reduce force levels, or both. They could also place PLAN ships at risk of missile attack over extended periods of time.

Blockade and Commerce Defense

Both the PLA's *Science of Campaigns* and *The Science of Military Strategy* emphasize repeatedly that the "three dominances"—of the air, information and maritime domains—must be established before conducting an offensive campaign. Importantly, however, the dominances must also be constantly maintained throughout the duration of the conflict. Yet both deterrence and defense can be enhanced if Beijing is convinced that, even if a successful offensive campaign is possible, it cannot prevail in a *protracted* conflict.²²⁵

The Coalition's ability to win a long war—one that extends beyond six months—with China would depend on many factors, including its ability to mobilize resources for war, retain (and attract) key allies, and preserve national will. Coalition blockade and counter-blockade operations can exert a significant influence on these factors. The Coalition's ability to impose a successful blockade could also increase Beijing's anxiety over its ability to sustain arms production and operations, as well as maintain internal stability in the wake of shortages created by a Coalition blockade.

Paddles its Own Kayak," *Shangri-La Voices* (blog), International Institute for Strategic Studies, June 5, 2016, <https://www.iiss.org/en/shangri-la%20voices/blogsections/2016-588c/vietnam-paddles-its-own-kayak-46c1>.

²²³ Terrence K. Kelly, Anthony Atler, Todd Nichols and Lloyd Thrall, *Employing Land-Based Anti-Ship Missiles in the Western Pacific* (Santa Monica CA: RAND, 2013), 15.

²²⁴ Perhaps the most formidable ASCM, at least on paper, is the BrahMos PJ-10, developed jointly by India and Russia. The enhanced BrahMos has a projected range of over 350 miles and travels at supersonic speeds. "With a Wink and a Handshake, India-Russia Agree to Double BrahMos Range on Existing Inventory," Indian Defence Research Wing, <http://idrw.org/wink-handshake-india-russia-agrees-double-brahmos-range-existing-inventory/>. Both Norway's Naval Strike Missile and Sweden's RBS-15 Mk III ASCMs are capable of engaging targets at up to roughly 125 miles. Kelly, *Missiles in the Western Pacific*, 9.

²²⁵ The CCP leadership must also concern itself with the problem of terminating a conflict that finds China losing. It may face a difficult choice between accepting an unfavorable peace, loss of face, and a large increase in internal discontent that threatens the party's control, or escalating the war in ways that could lead to a far greater level of destruction in the region and beyond.

The following discussion is limited to an overview of the military aspects of a maritime blockade.²²⁶ Other important factors that would likely determine the effectiveness of blockade and counter-blockade operations are left for further analysis, as are military operations aimed at conducting interdiction operations against overland trade into China and commerce raiding operations against its seabed economic infrastructure.²²⁷

Blockade

A large portion of China's seaborne commerce, including much of its energy and food imports, passes through three choke points in the Malay barrier: the Malacca, Sunda, and Lombok Straits. The interdiction of shipping through choke points such as these has traditionally been assigned to naval forces. Archipelagic Defense, however, calls for Coalition naval forces to emphasize high-priority missions for which they have a clear advantage over ground forces (such as executing deep strikes, conducting extended-range scouting, providing command and control ASW, and serving as an operational reserve). This is possible because, as in the case of air- and sea-denial operations, ground forces can assume much (if not all)²²⁸ of the responsibility for implementing a blockade against China, as well as in countering PLA blockade operations.

Given the PLA's increasingly imposing A2/AD capabilities, the Coalition would likely need to impose a distant blockade. Ships sailing to China could be intercepted by land-based forces conducting maritime interdiction operations at the Malacca, Sunda, and Lombok Straits.²²⁹

Ships approaching these choke points could be held at risk by shore-based, ground force anti-ship missiles and attack helicopters. Merchant ships would be directed to wait in a "sorting area" for inspection by boarding parties deployed by helicopter or small boat to ascertain their true destination and cargo. The boarding parties would comprise inspectors along with combat forces capable of seizing control of the ship if necessary. The boarding parties would, of course,

²²⁶ Japan has Cold War era experience with planning and exercising blockade operations. During the 1980s, Japan assumed the Alliance lead for blockading the Soya, Tsugaru, and Tsushima straits in the event of war. Toward this end, Japan's Maritime Self-Defense Force improved its anti-submarine and mine warfare capabilities, along with introducing an ASCM capability. Narushige Michishita, Peter M. Swartz, and David F. Winkler, *Lessons of the Cold War in the Pacific: U.S. Maritime Strategy, Crisis Prevention, and Japan's Role* (Washington DC: Wilson Center, 2015), 7.

²²⁷ For an informative case study on the challenges of waging economic warfare against a great power in a protracted conflict, see Nicholas A. Lambert, *Planning Armageddon: British Economic Warfare and the First World War* (Cambridge MA: Harvard University Press, 2012).

²²⁸ For example, Coalition undersea forces (submarines and UUV's) could prove crucial in establishing an "information blockade" by cutting the undersea fiber-optic cables emanating from China. These forces might also be essential in preventing Beijing from accessing raw materials in its undersea economic infrastructure (such as from offshore oil and natural gas fields).

²²⁹ Clearly Indonesia could prove a valuable ally in imposing a distant blockade; however, forces operating from Singapore might provide an adequate substitute. In extremis, all ships could be directed through the Malacca Strait with the blockading force operating primarily from Singapore. The other straits could be monitored by allied navies and scouting forces (such as UAVs). Were India to emerge as an ally, the distant blockade might be supported from the Andaman and Nicobar Islands. That being said, unless merchant ships "self-police" themselves by not approaching the blockade points with contraband cargo, the demand for the forces described above would be significant. Over 200 ships pass through the Malacca Strait each day. Sorting, stopping, and inspecting roughly ten ships each hour would also require well-trained forces. The same may be said for inspection at other choke points. "Malacca Straits Transits Hit All Time High in 2013, Pass 2008 Peak," *Seatrade Maritime News*, February 10, 2014, <http://www.seatrade-maritime.com/news/asia/malacca-straits-transits-hit-all-time-high-in-2013-pass-2008-peak.html>.

be supported by shore-based forces, including infantry units trained in forcible ship-boarding operations, Special Forces, and in extremis, ASCM batteries.

Ships identified as bound for China would be detained, while ships heading for friendly ports would be permitted to continue on their journeys. If a merchant ship were to proceed from the inspection point and attempt to divert to China, it could be engaged by shore-based ASCMs along the first island chain or by Coalition strike aircraft, surface ships, or submarines.

As noted earlier in this assessment, Alliance forces in the Ryukyus and those on Taiwan (and perhaps Vietnam, should it emerge as an ally) could impose a blockade on Chinese coastal shipping. Land-based ASCM ground force units could expand their operations beyond targeting PLAN warships to strike merchantmen transiting between Chinese ports. Should Japan and the United States develop longer-range ASCMs, over time the coastal blockade engagement envelope could be greatly expanded.

Counter-Blockade

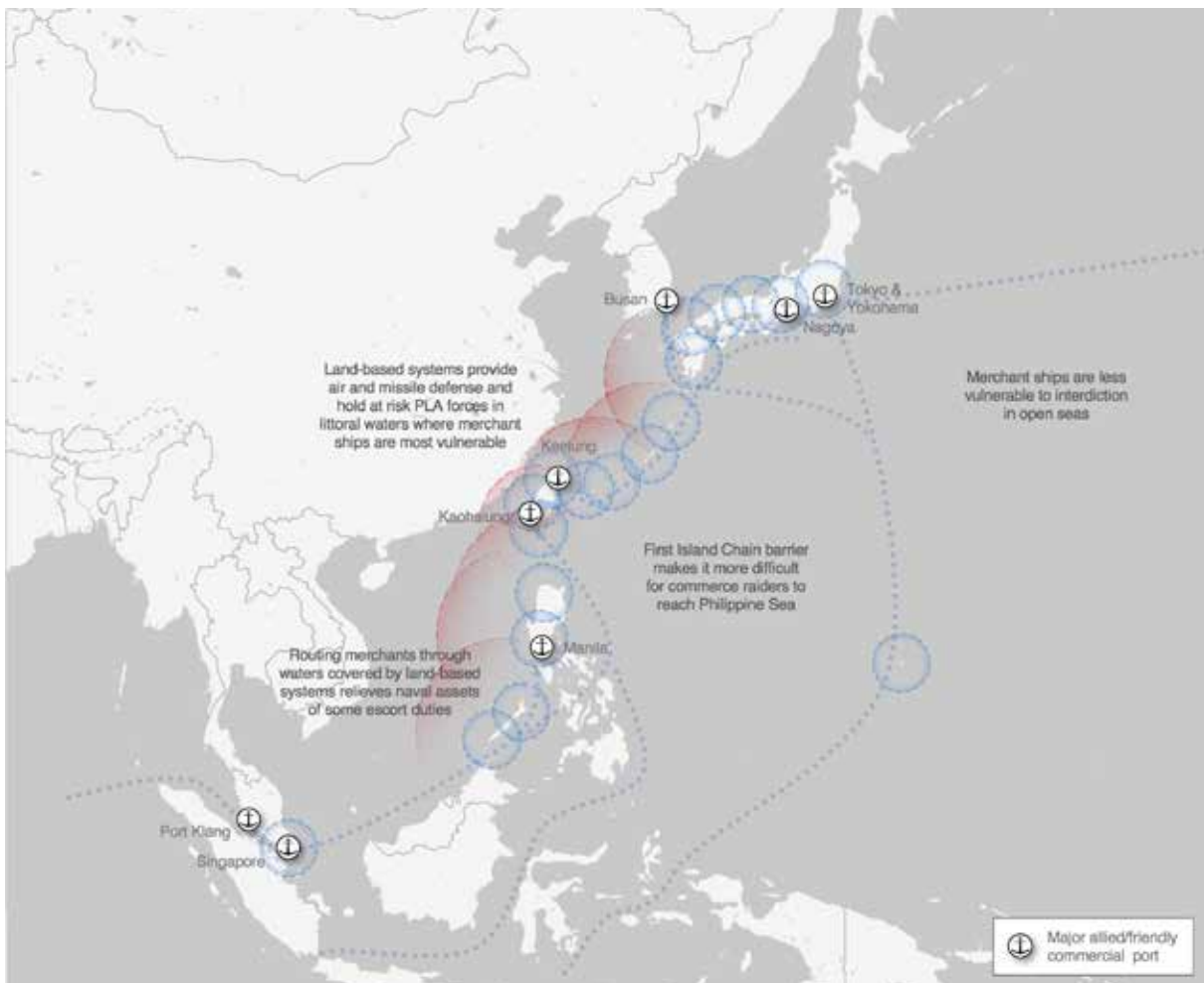
The PLA is seeking the means to establish a blockade with “Chinese characteristics,” particularly against Taiwan, but also eventually against other countries along the first island chain. A PLA blockade would emphasize submarines, mines, a land-based air and missile “firepower blockade,” and perhaps surface warships as well.²³⁰ According to PLA doctrine, a firepower blockade involves imposing

firepower control with conventional guided missiles and other remote warfare [systems] directed at enemy ports and shipping lines, deterrence of the enemy fleet from entering or exiting the port, annihilation of enemy transport ships and anti-blockade force-strengths, and a method to seal off enemy ports and sever the navigational routes close by.²³¹

²³⁰ Ron Christman, “Conventional Missions for China’s Second Artillery Corps,” in Erickson and Goldstein, *Chinese Aerospace Power*, 318.

²³¹ Zhang, *The Science of Joint Campaign Command*, 347. Beijing has stated that it could blockade or close off the two major Taiwan ports by using IRBMs. James C. Bussert, “Chinese Mines Pose Taiwan Blockade Threat,” *Signal*, June 2005, <http://www.afcea.org/content/?q=chinese-mines-pose-taiwan-blockade-threat>. See also James C. Bussert and Bruce A. Elleman, *People’s Liberation Army Navy: Combat Systems Technology, 1949–2010* (Annapolis MD: Naval Institute Press, 2011).

Figure 7. Counter-blockade operations



Source: The World Factbook, Central Intelligence Agency, 2017, available online at: <https://www.cia.gov/library/publications/the-world-factbook/docs/refmaps.html> ; and Asia Maritime Transparency Institute, “Island Features of the South China Sea,” Center for Strategic and International Studies, 2017, available online at: <https://amti.csis.org/scs-features-map/> .

If the Coalition adopts the posture called for in Archipelagic Defense, especially if the Philippines is an active participant and Taiwan is a de facto participant, they can do much to defeat China’s efforts to impose a blockade against countries along the first island chain. Specifically, if the first island chain can be preserved as a strong barrier through which PLA air, sea, and undersea scouting and strike forces could penetrate only by incurring high rates of attrition, Coalition forces could create a semi-bastion zone in the Philippine Sea through which friendly merchant shipping might move at acceptable levels of risk.

The danger to merchant shipping would likely increase for ships in port or those approaching port. This risk can be mitigated in several ways. First, by exploiting its advantage in ASW, the Alliance and capable Coalition partners can reduce the danger posed by PLAN submarines while also engaging in counter-mine and counter-UUV operations. The same tactics and capabilities employed to reduce the risk of PLA attacks on forward air and naval bases described above might also prove sufficient to sustain port operations at minimum essential levels.

To supplement maritime escort forces, ground-based air, missile, and coastal defense units can provide a convoy escort of sorts to merchant ships as they approach their destinations along the first island chain. A combination of anti-ship missiles, undersea active acoustic arrays, and long-range ASW weapons could raise the costs for PLA ships and submarines engaged in blockade operations. Combined, these air, sea, and undersea denial capabilities could provide merchant ships with a “virtual escort” as they move from ground force coverage in one area to an adjacent area protected by similar forces. The counter-blockade effort could benefit from ground forces’ relative advantage over escort ships in persistence, survivability, and magazine depth. These forces could either augment the protection provided by escort ships or free them for higher priority missions, such as escorting combat logistics ships.

Even if these counter-blockade efforts are successful, however, merchant losses are likely to be substantial, especially early in the conflict. Shipping losses could be inflicted at levels approaching or even exceeding those experienced in World War II. The movement toward ever-larger container ships that concentrate more cargo in fewer hulls could exacerbate the problem. One obvious way to offset the potential loss of critical imports is through strategic stockpiling, particularly by Japan and Taiwan, of essentials such as food and oil. Still another important element of a counter-blockade strategy involves hardening key port functions to enable their effective operation. Procuring spares of key equipment (such as gantry cranes and fuel offloading pumps) and conducting exercises geared toward rapid repair of damaged port facilities can do much toward sustaining the flow of cargo.

Concentration and Counteroffensive

The Concentration/Counter-Concentration Competition

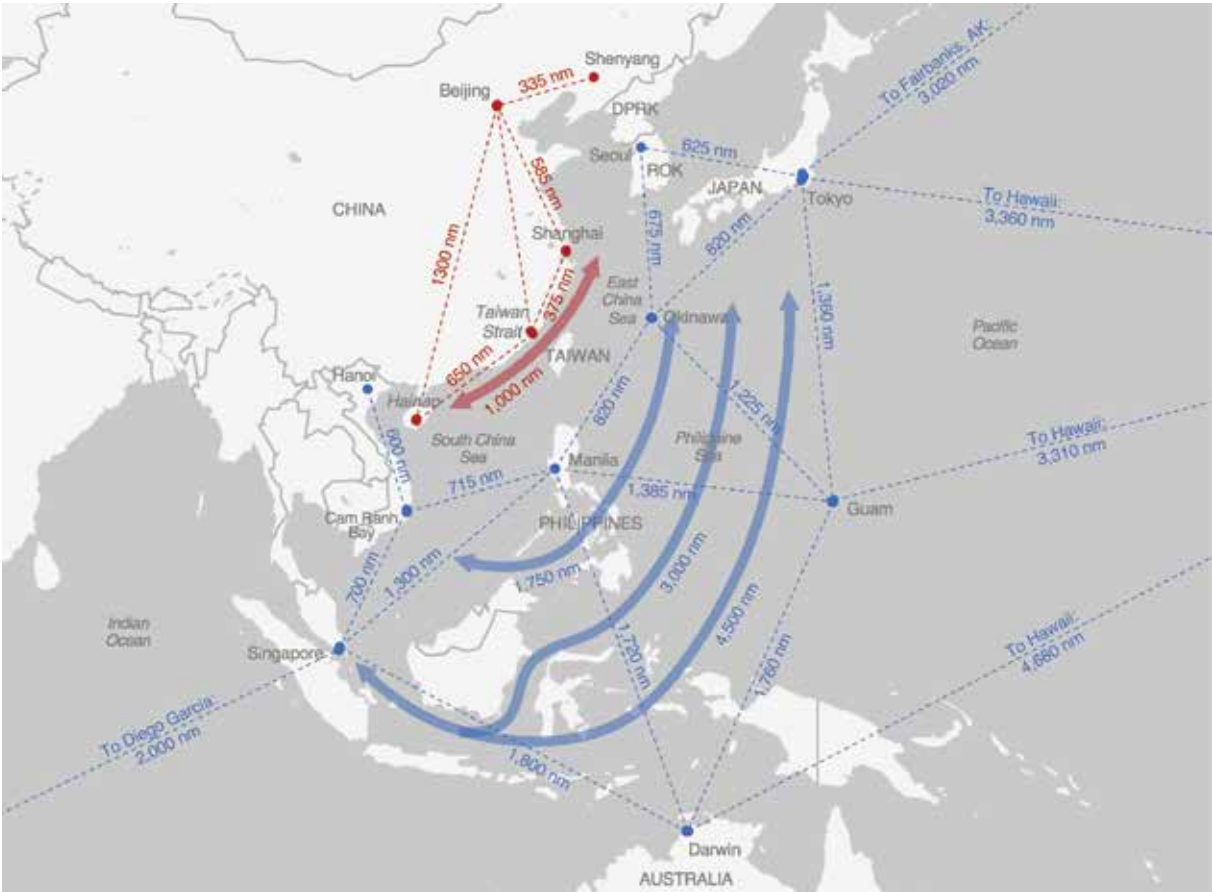
The concentration of combat potential, or “mass,” at the decisive point is one of the principles of war. Archipelagic Defense views the Coalition’s ability to maintain a favorable military balance of power along the first island chain as essential to accomplishing its purpose. The PLA’s efforts to concentrate forces for offensive operations and corresponding Coalition attempts to offset these efforts produce a “concentration/counter-concentration” competition between the two sides. Simply put, if the Chinese can concentrate sufficient forces to obtain an advantage in combat potential along a sector of the first island chain, deterrence may fail, hence creating a need for the Coalition to counter-concentrate forces to preserve a favorable military balance at the PLA’s planned point of attack.

Unfortunately for the Coalition, the Chinese enjoy three important advantages in this competition. As noted earlier, all other factors being equal, the PLA’s interior lines of communication enable it to shift—and therefore concentrate—combat power more rapidly than can the Alliance. China also benefits from having the strategic initiative. Neither Japan nor the United States seeks to achieve its aims through war. Thus, China can determine the time and place to attack and can be expected to do so when the military balance is most favorable. Finally, unlike the Coalition, China does not have to contend with issues related to unity of command,

another principle of war. Japanese and American forces are not under a unified command structure; rather they are under independent commands. History shows that a splintered command structure can hobble efforts to employ forces in an optimal manner to maximize their effectiveness. From the Alliance’s point of view, and viewed from the narrow perspective of unity of command, the problem only gets worse as other states join the Coalition.

Given this situation, Japan and the United States, along with their Coalition partners, need to develop capabilities and adopt a posture that enables them to offset the PLA’s advantages in the concentration/counter-concentration competition. Archipelagic Defense accounts for this by leveraging ground forces to free air and maritime forces to serve as a mobile operational reserve.

Figure 8. Interior and exterior lines of communication



The distances presented in the figure are approximate, and were measured using Google Earth.

Physically maneuvering ground forces deployed along the first island chain in the face of China’s A2/AD forces is likely to prove exceedingly difficult, especially along the Ryukyu Islands and Taiwan. This limits their ability to function as an operational reserve. It is possible, however, for these forward-deployed forces to maneuver extended-range fires, concentrating them at the point of greatest danger. As noted above, this requires Alliance and Taiwanese ground forces, in particular, to invest in rocket artillery and, over time, long-range cruise missiles. In the U.S. case, this also means missiles with ranges up to the INF Treaty limits. Should Russian violations

lead to the treaty's abrogation, the United States should take the lead in fielding conventional ballistic missile forces sufficient to offset the decisive advantage the PLA currently enjoys in this important area of the military competition.

Serving as the WPTO's strategic reserve, the U.S. long-range precision-strike bomber force can help the Coalition even the odds further in the concentration/counter-concentration competition. The B-2 bomber and, in time, the B-21 bomber can counter-concentrate a significant amount of striking power at the point of greatest danger along the first island chain. Moreover, the bomber force can also approach China along multiple axes. The PLA is thus presented with a difficult choice. It can divert forces to defend these threatened assets, both at their location ("point defense") and along the new axes of advance (for example, along routes in South and/or Southeast Asia), thereby reducing its ability to concentrate forces for offensive operations, or it can risk these assets' destruction.

The Coalition can also exploit opportunities to expand its ranks by attracting like-minded states that oppose China's revisionist aims, thereby compelling Beijing to account for a wider range of potential adversaries. Under such conditions, the PLA could find itself having to spread its forces more thinly to account for these states' forces. For example, if India emerges as a de facto Coalition partner, Beijing might need to deploy substantial forces along its border with India and, perhaps, in the Indian Ocean as well. This could preclude these PLA forces from concentrating along the first island chain.

There are other military capabilities, current and prospective, that could exert a significant influence on the concentration/counter-concentration competition. Cyber munitions are one obvious capability. Owing to their ability to act almost instantaneously, cyber payloads could play a key role. Unfortunately, there is little in the way of detail regarding the cyber arsenals of either China or the Alliance. Consequently, the most that can be suggested here is for Japan and the United States to accord priority to developing their offensive and defensive capabilities in this relatively new form of warfare.

As noted above, establishing an advantage in cryptography can provide a significant source of advantage in attempts to counter-concentrate one's forces at the decisive point. Again, however, as in the case of cyber, both China's cryptanalysis capabilities as well as those of the Alliance are closely guarded secrets, making this aspect of the competition impervious to open, informed, detailed analysis.

Counteroffensive Operations

China's assessment of the relative costs, benefits, and risks involved in undertaking acts of aggression also could be influenced significantly by its calculations of the Alliance's ability to regain any territory that it has lost. Counteroffensive operations to recover lost ground in an archipelago are likely to be both difficult and costly, especially if the PLA is able to extend its A2/AD umbrella quickly, before Coalition forces are able to mount a counterattack. In particular, if current trends in military competition persist, while Japan's defenses on its four major

islands, from Hokkaido through Kyushu, are almost certainly too formidable for the PLA to overcome, all other points along the first island chain—including the Ryukyus, Taiwan, and the Philippines—along with the Korean Peninsula and Vietnam could be vulnerable to attack and occupation over the next decade or so. Should the Ryukyus and Taiwan become targets of Chinese aggression, liberating them may prove prohibitively costly. The same might also be true regarding the Republic of Korea.

The situation with respect to the Philippines and Vietnam appears less dire. In both cases, their geography finds them positioned perpendicular to China's borders as opposed to running roughly parallel to it. This provides both Manila and Hanoi with some strategic depth. Take the Philippines as an example. Assuming the U.S. military has positioned the forces called for in Archipelagic Defense along the first island chain's southern sector, liberating occupied areas of the Philippines and rolling back PLA forces in the South China Sea seems a feasible objective. The Philippines geography places its southern islands beyond the range of most PLA scouting and strike capabilities. This could enable U.S. and allied forces to regroup and reinforce on more distant islands (such as Mindanao) to conduct prompt counteroffensive operations.

Continuing our example, Coalition forces assembling for counteroffensive operations on Mindanao could be defended by local U.S. A2/AD units to facilitate their deployment, staging, projection, and sustainment. Local Philippine forces trained and equipped to wage modern irregular warfare could slow and complicate PLA offensive operations as well as Chinese efforts to secure their gains.

These Philippine forces could be armed with U.S.-supplied weapons—including precision-guided rockets and mortars—while employing U.S. communications equipment and being supported by U.S. advisors (including Special Operations Forces) with access to extended-range fires provided by U.S. operational and strategic reserve forces. If successful, these efforts would buy time for Coalition forces to regroup and concentrate for counteroffensive operations. Similar irregular warfare forces could—and should—be established in other countries along the first island chain, particularly Taiwan, as well as with prospective partners such as Vietnam.

Coalition counteroffensive operations following a Chinese offensive, especially one whose objective is the Philippines, would also benefit from the PLA being compelled to operate along extended lines of communication. On the other hand, Coalition forces would benefit from relatively shortened lines of communication, at least until the PLA secures its gains and establishes forward supply points. The resulting constraints on PLA logistics would likely place significant limits on the forces it can sustain forward. This could greatly advantage Alliance and allied counteroffensive forces, which are likely to be relatively limited in number but of high quality. In addition to forces indigenous to the country under attack, Coalition counteroffensive forces are most likely to come from the United States and Australia, and perhaps Japan. The Americans have the world's most capable Marine Corps and Special Operations Forces. The U.S. Army's Air Assault division and Ranger regiment could also play significant roles in a counteroffensive, and perhaps its Airborne division as well. Cross-domain ground forces

(such as air, missile, and coastal defense units) and extended-range rocket artillery could establish an A2/AD defensive “bubble” for these forces while providing fire support. On an encouraging note, Japan’s Ground Self-Defense Forces currently have a rapid reaction force as part of its Central Readiness Force. The reaction force is comprised of an infantry regiment, with an airborne brigade and helicopter brigade forming a strategic reserve. Japan’s Western Army also has an infantry regiment that serves as its own rapid reaction force. The regiment is being reorganized as an amphibious rapid deployment force with capabilities generally similar to those of the U.S. Marine Corps.²³² Support might also come from the Australian Army, which although small, has traditionally punched well above its weight. Additional scouting and strike capabilities could be drawn from Coalition air and naval forces operating as a mobile operational reserve between the two island chains.

Concluding our example, once the counteroffensive forces achieve their objectives and PLA forces in the Philippines are neutralized, ground cross-domain denial forces could be redeployed forward to deny the eastern South China Sea and its airspace to the PLA. In concert with U.S. and Coalition air and naval forces, they could compel the garrisons on the occupied islands to surrender or face eventual destruction for lack of supplies.²³³

The kinds of counteroffensive capabilities described in this section, like many other aspects of Archipelagic Defense, cannot be established overnight. They would require time, training, and resources (including prepositioned stocks of equipment), as well as a significantly higher level of cooperation among the United States and its allies and security partners in the WPTO.

Gray Zone Aggression

Archipelagic Defense is concerned primarily with deterring and, if necessary, defeating *overt* Chinese aggression, particularly against those states comprising the first island chain. Yet, consistent with its strategic culture, China is pursuing more ambiguous forms of aggression, such as economic warfare²³⁴ and what is known as “gray zone” or “gray area” aggression. An assessment of how the Coalition might best counter this form of aggression is beyond the framework of this study. It is, however, possible to provide some thoughts on this aspect of the security competition within the context of Archipelagic Defense.

As Beijing has become more confrontational in pursuing its revisionist agenda, particularly over areas in the East and South China Seas, it has increased its reliance on its Coast Guard and civilian maritime law enforcement agencies.²³⁵ As described earlier in this assessment, China

²³² Japan Ground Self-Defense Force, “Welcome to Camp Kengun” and “Situation Surrounding Japan.” I am indebted to Lt. Gen. (Ret.) Noboru Yamaguchi for this observation.

²³³ Were Vietnam to emerge as a Coalition security partner and deploy cross-domain ground forces similar to those called for in Archipelagic Defense for American and Japanese forces, PLA forces in the South China Sea could be threatened from both the east and west, finding themselves in a highly vulnerable salient.

²³⁴ For an overview of China’s approach to economic warfare, see Robert D. Blackwill and Jennifer M. Harris, *War by Other Means* (Cambridge MA: Belknap Press, 2016), 93–151.

²³⁵ Dan Parsons, “South China Sea Dispute Shaping Up as Coast Guard Showdown,” *National Defense*, <http://>

has employed fishing and Coast Guard vessels to maintain an almost continuous presence in these seas to enhance its sovereignty claims over them. This has led to incidents between Chinese vessels and those of other states in the region. Further escalating tensions, a PLAN warship often maintains a presence in “the immediate vicinity of the contested waters.”²³⁶

Beijing uses its maritime paramilitary forces to project an image of enforcing domestic laws rather than encroaching on foreign (or disputed) territories. By employing its paramilitary forces in this form of gray zone aggression, China confronts states seeking to preserve the rule of law with the difficult choice of either vertically escalating by employing their own military forces, thereby risking Chinese escalation, or incurring substantial expense in building up their own paramilitary forces to respond symmetrically. In both cases, the Alliance’s ability to maintain escalation dominance at the conventional levels of war and above represents an important trump card.

The Japanese government is countering China’s gray zone aggression through its concept of Dynamic Joint Defense, employing forces designed to deter low-level threats, react quickly to Beijing’s provocations, and contain crises to prevent them from escalating out of control.²³⁷

That being said, from a cost-imposition perspective, Japan is at a disadvantage in its gray zone competition with China. This is because Japan exercises sovereignty over the Senkaku Islands and therefore bears the costs of maintaining continuous control over them. China, on the other hand, can choose the time and place when it contests control of the islands. Simply put, while China can periodically challenge Japan for control at a specific point in the Senkakus, Japan must maintain continuous control at all points. Thus, Japan’s Coast Guard and Self-Defense Forces must persistently patrol the Senkakus. This produces disproportionate wear-and-tear on Japanese equipment and personnel, along with the financial, material, and human costs required to maintain these forces at necessary readiness levels.

How might Japan avoid being the victim of China’s cost-imposing gray zone aggression? Broadly speaking, and within the context of Archipelagic Defense, several courses of action are possible. One option is to expand the deployment of ground forces positioned along the Ryukyu Islands to include the Senkakus, perhaps on Uotsuri Island and Kuba Island. Given these islands’ modest size,²³⁸ ground forces might be significantly limited in the capabilities they can bring to bear; however, their mere presence could make it difficult for the Chinese to

www.nationaldefensemagazine.org/articles/2014/6/1/2014june-south-china-sea-dispute-shaping-up-as-coast-guard-showdown.

²³⁶ OSD, *China’s Military Power, 2014*, 38.

²³⁷ Michael D. Swaine et al., *China’s Military and the U.S.-Japan Alliance in 2030* (Washington DC: Carnegie Endowment for International Peace, 2013), 116. The Japanese Ministry of Defense defines gray zone situations as “neither pure peacetime nor contingencies over territory, sovereignty and maritime economic interests.” This somewhat vague description refers to the use of military air and naval platforms, paramilitary forces, and even non-governmental ships such as fishing vessels to intrude into Japan’s sovereign territory. Japan Ministry of Defense, *National Defense Program Guidelines for FY2014 and Beyond* (provisional translation), December 17, 2013, 1, http://www.mod.go.jp/j/approach/agenda/guideline/2014/pdf/20131217_e2.pdf; and Japan Ministry of Defense, *Defense of Japan 2014*, 144–58.

²³⁸ These two islands, although the largest of the Senkakus, are exceedingly modest in size, with Uotsuri having an area of roughly 4.32 square kilometers and Kuba barely 1 square kilometer.

occupy islands without risking a direct clash with Japan. A more robust option would find some American troops deployed on the islands along with their Japanese allies. A still more muscular option would have ground forces armed with ASCMs and SAMs positioned on several islands to provide overwatch on anti-ship mines deployed around the Senkakus in Japan's territorial waters. The situation also suggests that unmanned systems—air, surface, and subsurface systems—could prove useful in patrolling the waters surrounding these islands.

Ultimately, defending the Senkakus, as with other points along the first island chain and beyond, may depend on the Alliance's ability to establish and maintain vertical and horizontal escalation dominance²³⁹ over China and the willingness to exercise it in the face of Beijing's provocations. Following the Cold War, the U.S. military enjoyed such a large preponderance of power that there seemed little need for American defense planners to concern themselves with escalation dominance. This is no longer the case. Moreover, as the geopolitical and military-technical environment is substantially different than at the time the Cold War ended, both the vertical and horizontal escalation dominance "ladders" need to be updated. Moreover, the Alliance needs to understand how the CCP's leadership perceives its own escalation ladders and where they seek to gain advantage.

²³⁹ As used in this study, vertical escalation refers to escalating the intensity of the use (or threat to use) military force. An example of vertical escalation would be a threat (or decision) to introduce weapons of mass destruction into a conflict that had been limited to conventional military capabilities. Horizontal escalation refers to escalating the geographic scope of a conflict. An example of horizontal escalation would be one in which a confrontation between China and the Alliance in the Senkakus led to the Alliance threatening (or undertaking) actions to isolate PLA forces on natural and artificial islands in the South China Sea.

Chapter 5

Implementing Archipelagic Defense

Chapter 5: Implementing Archipelagic Defense

This chapter provides an overview of *selected* actions to be taken to implement Archipelagic Defense. This set of actions is meant to be *illustrative*, not exhaustive. Moreover, as the military competition is dynamic, aspects of Archipelagic Defense will inevitably need to be modified over time to account for changes in the strategic environment and the insights that emerge from Alliance initiatives. These insights should inform efforts aimed at identifying and developing new sources of competitive advantage, and sustaining existing sources of advantage, where practicable. Given both Tokyo and Washington's worsening fiscal posture, a persuasive case must be made to the people of both countries to make the sacrifices necessary to preserve the peace and stability that has enabled their prosperity. At the same time, those Alliance and Coalition military capabilities that are declining in value must be divested.

Strategy

Tokyo and Washington must develop an Alliance strategy to deter acts of Chinese aggression or coercion against its neighbors and to defeat aggression should deterrence fail. The strategy needs to fit within a more comprehensive Coalition strategy developed with U.S. allies and Alliance security partners.

Understanding China

Toward this end, the Alliance needs to substantially improve its understanding of how the Chinese are approaching the competition, to include Beijing's revisionist objectives and the CCP's strategy for achieving them. With respect to Archipelagic Defense, American and Japanese leaders and planners need to understand, among other things, how the Chinese calculate the military balance; the metrics they use to assess the balance; the conflict scenarios they plan against; their existing doctrine and prospective operational concepts; and how they calculate cost, benefit, and risk. The better Alliance leaders and planners understand how the Chinese view the competition, the easier it will be to craft an effective defense strategy and its associated military posture.

The Strategic Planning Process

Alliance strategy should be informed (and, as necessary, revised) through persistent analysis (such as in the form of net assessments of the military balance). These assessments should include a representative set of planning scenarios, which should be updated as necessary to incorporate significant shifts in the competitive environment, such as the introduction of significant new military capabilities or the addition of new Coalition members. These scenarios might be grouped into sets, with each focusing on one particular aspect of the competition. This form of scenario-based war planning is similar to the successful "Color Plans" developed by the U.S. military between the world wars.²⁴⁰

²⁴⁰ For detailed treatments of the American Color Plans, see Henry G. Cole, *The Road to Rainbow* (Annapolis MD: Naval Institute Press, 2003); and Edward S. Miller, *War Plan Orange* (Annapolis MD: Naval Institute Press, 1991).

These scenarios should be the focus of war games designed to identify potential sources of Alliance and Coalition member strengths and weaknesses. The results should be refined further by testing them in joint and combined field and fleet exercises. The process should be iterative. Insights derived from each activity should be shared with those engaged in pursuing the others. Thus, the findings of war games should help inform the conduct of field and fleet exercises and also aid in the crafting of new net assessments. The insights derived from this process should inform a range of actions, to include strategy, force planning, investment strategies, joint and combined concepts of operations, and doctrine.

Some planning scenarios should assess the mobilization balance—the extent to which mobilization efforts confer a pronounced Chinese advantage (or weakness) at points along the mobilization process. This can assist Alliance and Coalition planners (and Coalition partners) in identifying unfavorable points or “gaps” along the force buildup timeline, as well as ways to close them.

Given its potential importance in deterring war or, should deterrence fail, waging it to a successful resolution, Alliance and Coalition planners should undertake an assessment of economic warfare operations (such as a blockade of China and a Chinese counter-blockade of selected Coalition states). This assessment should account for how economic warfare operations would play out in a protracted war, to include their second- and third-order effects.

The Alliance would prefer to deter a war rather than fight one. Moreover, even during the course of a war, deterring Chinese escalation would be desirable. Therefore, Alliance strategy must account for intra-war deterrence. This requires identifying and assessing Chinese options to engage in horizontal and vertical escalation, their ability to do so, and the Alliance’s ability to achieve and maintain “escalation dominance.”²⁴¹

The Social Dimension of Strategy

If Archipelagic Defense is to be implemented successfully, the Alliance and its Coalition partners cannot ignore the social dimension of strategy. Absent popular support, the governments of any Coalition will find it difficult, and perhaps impossible, to secure from their people the sacrifices necessary to preserve the peace and their freedom to pursue an independent course in world affairs. The CCP recognizes this and is working hard to promote its own strategic narrative, designed to create a favorable image of China, not only to the Chinese people but also to the Alliance publics and other people as well.

Japan and the United States, along with other like-minded states in the Asia-Pacific region, have a better story to convey to their people, and to the Chinese people as well. Senior national security leaders in these countries, but especially in Tokyo and Washington, must communicate to their people the threat being posed by China, the need to counter it while there is still time,

²⁴¹ The Alliance would enjoy escalation dominance if it possesses a military advantage at every level (horizontal or vertical) of escalation or if it retains the ability to escalate the conflict further to a level where it would enjoy an advantage. Put another way, if the Alliance enjoys escalation dominance, Beijing would have no incentive to escalate the conflict.

and the sacrifices that will be required to sustain the peace and prosperity that have benefitted all Asia-Pacific states.

The Alliance's strategic narrative should highlight the differences between the individual liberties, quality of life, and standard of living the American and Japanese systems have created for their people and the system the CCP has imposed on the Chinese people. This strategic narrative should include a persuasive case on the need to confront the formidable fiscal challenges confronting Japan and the United States, and address them in a way that puts both countries on a more solid financial foundation. The case must be presented in a way that convinces the American and Japanese peoples that the sacrifices being made are being distributed equitably throughout their societies.

Institutionalize Alliance/Coalition Planning

No one can say if or when China might abandon its revisionist ambitions. This suggests that Alliance and Coalition planning will need to be sustained over time. This will require a combined staff effort by the Japanese and U.S. militaries, as well as those of key Coalition partners.

Given the open-ended character of the competition, the planning effort will need to look beyond near-term issues to address how the Alliance and Coalition can enhance their position in both the near term and over the longer term. This will require an assessment of how best to make trade-offs between current and future capabilities and readiness. The planning effort should also assess the Coalition's ability to mobilize and surge manpower and materiel. The Coalition cannot discount the possibility that Beijing could seek to achieve its objectives by waging an extended campaign, one in which it would prevail if it could mobilize greater forces over time than could the Coalition.

Developing a phased, adaptive approach toward implementing Archipelagic Defense is an important planning priority. The defense posture described in this study will take considerable time to execute, in part due to limitations on resources and the lead times involved in fielding certain capabilities, but also owing to the need to win over allies and partners to the project, identify how they might best contribute, and field the necessary capabilities. Simply put, Archipelagic Defense will not occur overnight. On a more positive note, the extended time-frame involved will enable the cost to be spread out, thus avoiding the need for a major spike in defense spending for Coalition members. Finally, as the security environment changes, aspects of Archipelagic Defense will need to change along with it. The Alliance and its Coalition partners must therefore account for the need to adapt their defense posture over time.²⁴²

²⁴² The NATO alliance experience is instructive in this regard. Early in its history, it relied heavily on the U.S. nuclear deterrent. By the 1960s, its defense posture had shifted to emphasize conventional forces in the context of the flexible response concept. Toward the end of the Cold War, the Soviet Union deployed theater nuclear weapons and the alliance followed suit as a counterbalance. NATO also developed the alliance concept of Follow-on Forces Attack and the U.S. concept of AirLand Battle. These changes over time reflected shifts in the geopolitical and military-technical environment. The objective of these efforts, however, remained constant: to deter Soviet aggression against NATO members and, should deterrence fail, to defeat it through a forward-defense posture implemented by a coalition of states.

Just as planning must be done to deter war and to wage it successfully should deterrence fail, it must be extended to address war termination. Any war will likely end with a negotiated settlement with a Chinese government that may continue to harbor revisionist designs. Thus, there is a need to explore strategies for war termination and to address possible strategic moves in an enduring post-war rivalry.²⁴³

Geopolitics

The success of Archipelagic Defense will depend on the Alliance's ability to form a Coalition with other states in the region and beyond. Several of these states (Australia, the Philippines, and the Republic of Korea) are U.S. allies. Others have shown a willingness to support efforts to maintain a favorable military balance in the region, assuming the United States displays the leadership necessary to enable it. Still other states could provide a significant source of military advantage should they become part of the Coalition, even if only in a de facto capacity.

The Coalition's Core

In addition to Japan and the United States, both the Philippines and Taiwan must stand as active participants in the Coalition, for the simple reason that they constitute the first island chain's southern sector. Importantly, the United States has an alliance with the Philippines, while Taiwan's people have increasingly distanced themselves from a Chinese identity and expressed a growing desire to remain independent of Beijing. Short of war, Japanese and U.S. military support for Taiwan is almost certain to be limited to military equipment. Nevertheless, Taipei can do much within Archipelagic Defense to enhance its ability to resist Chinese coercion and aggression. The defense of the Philippines should be accomplished primarily by American forces—but they must be given access to facilities in that country. These U.S. forces need not be forward based, but they must be forward deployed.

While relatively small, Australia's military is of high quality and has extensive experience deploying far from its homeland. Australia is also one of the United States' most reliable allies. Canberra's armed forces could prove vital in counteroffensive operations along the first island chain's southern sector, in distant blockade operations in Southeast Asia, and in providing basing support for U.S. air and naval forces deploying into the WPTO.

Guarding the Flanks

South Korea and Vietnam occupy flanking positions along the first island chain. Their participation—particularly in Vietnam's case—would greatly enhance the Coalition's positional advantage relative to China. American and South Korean forces based on the Korean Peninsula could pose a significant challenge to any PLA attempt to seize islands along the Ryukyu

²⁴³ An example of how this was done well is found in the British negotiations at the end of the Napoleonic Wars, which helped avoid another great-power war for nearly a century. Correspondingly, a "poor" peace following the Franco-Prussian War and the First World War led to a strong desire for revenge on the part of France and Germany, respectively, leading eventually to another war at great cost to both parties.

chain. Properly armed with land-based cross-domain forces, the Vietnamese, along with U.S. forces deployed on Palawan and Luzon, would greatly complicate Chinese efforts to wage war employing forces based on the illegally seized South China Sea islands.

A Great Power

By its mere presence as a major rival to China, India arguably stands as a de facto Coalition member (albeit a highly aloof one). China cannot ignore India's rise as a major military power. To the extent that Beijing addresses what it sees as a challenge presented by India along its southern front, it serves to divert PLA resources that might otherwise be focused on the Western Pacific.

That being said, India is far from being a security partner of Japan or the United States, let alone an ally. If, over time, however, New Delhi were to become a security partner, the Coalition could realize substantial benefits that would impose disproportionate costs on the PLA. First, it could provide U.S. long-range strike forces with another avenue by which to enter Chinese airspace and hold key targets at risk. The PLA would either have to accept this vulnerability or divert resources to enhance its air and missile defenses along its southern front. This would reduce the resources available to threaten countries in the Western Pacific or expand the PLAN's operations in the Indian Ocean. Second, India's strategically located Andaman and Nicobar Islands could prove highly useful in distant blockade operations, especially if Indonesia, Malaysia, or Singapore are unavailable.

Southeast Asian States

Should they choose to partner with the Alliance, Indonesia, Malaysia, and Singapore can provide significant military capability as well as positional advantage. Particularly in the case of a distant blockade of China, base access in these countries would facilitate land-based Coalition interdiction operations at the Malacca, Sunda, and Lombok Straits. Moreover, they could also serve as a staging and support area for counteroffensive operations in the Philippines.

Selected Cost Imposition Capabilities

Cross-Domain Ground Forces

Coalition ground forces engaged in cross-domain missions, as called for in Archipelagic Defense, would significantly expand both the number and difficulty of targets confronting the PLA. Ground forces enjoy a relative advantage over air and maritime forces in their ability to disperse, harden, and/or exploit mobility through camouflage, cover, and concealment. Consequently, the cost to the PLA to destroy or neutralize ground forces could be substantially greater than the cost Chinese forces would incur to inflict comparable damage on Coalition air and naval forces. Employed in this manner, ground forces would not only complicate PLA targeting problems, they may also induce China to invest in greater reconnaissance and strike capacity to identify, track, and engage mobile ground forces (also referred to as critical time-sensitive targets), and in expensive capabilities required to strike hardened targets.

Advanced Irregular Ground Forces

Archipelagic Defense calls for deploying irregular warfare ground forces—especially in the Philippines and Taiwan—armed with advanced capabilities including guided rockets, artillery, mortars, and missiles (G-RAMM). The basic idea is to confront the PLA with a far more advanced adversary than, for example, the Israelis confronted (with great difficulty) in the Second Lebanon War against Hezbollah. These irregular forces could be supported by U.S. and allied Special Operations Forces, which could draw upon remote Coalition fires in much the same way the Northern Alliance in Afghanistan was supported by extended-range U.S. strikes in operations following the 9/11 attacks on the United States. These irregular forces could substantially increase the PLA’s costs should it attempt to occupy and secure Coalition territory. “Guerrilla air defenses” (such as mobile, concealable radars and surface-to-air missile launchers) could complicate PLA efforts to achieve air superiority, lengthen Chinese campaign timelines, and increase uncertainty regarding their prospects for waging a “short, sharp” campaign. Here the cost imposed would be one of time.

Long-Range Precision Strike

Dating back to World War II, the U.S. military has demonstrated an unmatched competence in long-range strike operations. In the First Gulf War, these operations incorporated intensive precision strikes.²⁴⁴ Long-range strike operations can impose substantial costs on China by reducing the value of its strategic depth. Vital assets deep in China’s interior that otherwise would be relatively immune from attacks must be defended or risk destruction. Moreover, long-range strike forces do not require access to increasingly vulnerable forward air bases and are able to approach China from multiple directions. This could compel the PLA to extend its air defense network further along China’s long border and to provide point defenses for high-value assets deep in the country’s interior. In this way, long-range strike forces impose costs on the PLA by exploiting China’s geography. As noted above, by incentivizing the PLA to invest more in defenses, fewer resources are available for more threatening systems, such as ballistic missiles and attack submarines. Finally, long-range precision strike forces can also make a significant contribution to efforts to win the “concentration/counter-concentration” competition with the PLA.

Despite its own history and the clear advantages offered by forces capable of executing long-range precision strikes, in recent decades the U.S. military has accorded these forces relatively low priority. Fortunately, the U.S. Air Force has started work on a stealthy long-range bomber, the B-21. These aircraft need to be fielded as soon as practicable, and in large numbers.

The U.S. Navy’s situation is far less encouraging. The strike aircraft comprising the Navy’s current carrier air wing, as well as the F-35C aircraft slated to replace many of them, have significantly *less* range than the Navy’s A-6 carrier aircraft, retired over 20 years ago. The

²⁴⁴ The U.S. military first employed large numbers of precision weapons during the Vietnam War; however, their use occurred over a period of many months, as opposed to a few weeks, as was the case during the First Gulf War.

Navy should accord priority to getting a long-range penetrating strike aircraft onto its carrier decks. The aircraft must be capable of operating effectively against the anticipated PLA threat over the next several decades. The Navy also faces the retirement of its SSGN force—its principal undersea strike arm—over the next several decades, with no clear replacement in sight. Assuming a follow-on class to the Navy’s Trident fleet ballistic missile submarines (SSBNs) can be modified to function as an SSGN, the shortfall may be manageable. Another possible option calls for U.S. attack submarines to deploy with towed payload modules to increase their striking power. Simply stated, the U.S. Navy needs to expand its long-range precision strike capabilities significantly, and soon.

Thanks in part to the INF Treaty, U.S. ground forces lack the ability to conduct long-range precision strikes. The U.S. Army has not even fielded missiles with ranges within the treaty’s limit of 500 kilometers (or slightly over 300 miles). The PLA has exploited this situation by fielding hundreds of ballistic missiles capable of executing prompt strikes with high accuracy over extended ranges. These missiles are a key element of the Chinese A2/AD forces. As noted earlier in this study, the challenges posed by the PLA rocket forces to Coalition forces are considerable.

Given the value provided by a long-range precision-strike capability, as described above, at a minimum the United States should be developing ground-launched missile systems up to INF Treaty limits. Given Russia’s treaty violations, Washington should also explore terminating the agreement. Toward this end, the United States should take steps to identify how it might most expeditiously field capabilities comparable to the Pershing II medium-range ballistic missile and Gryphon ground-launched cruise missiles (or similar systems) as a hedge against the INF Treaty’s termination.

Economic and Protracted Warfare

China is the world’s largest importer of raw materials, including oil. Most of its imports come via the sea, but the PLAN does not control the open seas, the U.S. Navy does. The Alliance should accord priority to sustaining this advantage. As long as it does so, the Alliance and its coalition partners can leverage their favorable geographic position (the barrier to the sea created by the first island chain) to exploit China’s dependence on overseas trade. This can be accomplished through a distant maritime blockade, a key element of Archipelagic Defense as described earlier in this study.

The ability to blockade China does not guarantee it will be deterred from war or defeated if deterrence fails. The CCP is stockpiling key raw materials to offset the effects of a blockade, while its “One Belt, One Road” initiative could enable it to use land routes to offset some of the losses sustained from a blockade. But Beijing also fears a long war, preferring a “short, sharp” conflict. A protracted conflict could both weaken the CCP’s standing with the Chinese people, especially if linked to domestic privation. Based on the substantial resources Beijing

devotes to internal security in peacetime, it seems reasonable to conclude that these concerns would extend, and likely be heightened, if the CCP failed to win a short, sharp war and faced an open-ended conflict. Should this situation occur, Beijing could be compelled to divert considerable resources away from its military effort to its internal security forces. Consequently, the Coalition's ability to wage economic warfare against China and to sustain its war effort in a protracted conflict represents a substantial competitive advantage. While the former advantage (distant blockade) exists today, ways should be found to extend it. An effort would need to be undertaken to enable the Alliance and its Coalition partners to wage a protracted conflict should it become necessary. Ironically, this would likely be the best way to avoid such a war.

Infrastructure

The Battle Network

To counter PLA efforts to take down their battle networks, the Alliance and Coalition will need to make those networks more robust while also reducing their dependence on them. As the U.S. military has far and away the most capable battle network, it should form the basis for Alliance and Coalition operations. America's allies, in particular, should work to ensure their military systems can be integrated into the U.S. network. For its part, the United States should take the lead in enhancing the network's resilience. For example, advances in artificial intelligence and robotics may enable a range of missions to be executed autonomously and at acceptable levels of effectiveness even when units or systems have lost access to the battle network. Training that emphasizes commander's intent and mission-type orders may enable forces to perform at acceptable levels of effectiveness even when access to the network is lost.

The PLA poses a growing threat to the U.S. space architecture, which American forces rely upon for precision navigation and timing; communications; command and control; meteorology; and intelligence, surveillance, and reconnaissance. The problem is accentuated by the U.S. military's tendency to place many of its eggs in ever fewer baskets—launching smaller numbers of more capable space systems. The risk to the U.S. space architecture might be mitigated by shifting over time to a satellite architecture based on clusters of small satellites²⁴⁵ (as described earlier in this study) and by employing terrestrial-based backup systems, such as aerostats and unmanned aircraft.

Along these lines, a time-phased deployment of the land-based, buried fiber-optic communications network should be an early Alliance priority, starting in Japan. Japanese and U.S. forces should test the system as it is emplaced, using field exercises oriented toward validating Archipelagic Defense operational concepts. If the results are promising, additional fiber-optic cable networks should be emplaced with “gateways” linking them via radio to space, air, and sea platforms to

²⁴⁵ See “A Sudden Light,” Technology Quarterly, *Economist*, August 27, 2016, <http://www.economist.com/technology-quarterly/2016-25-08/space-2016>. Small satellites might prove more survivable against PLA anti-satellite forces while providing the precision navigation and timing necessary to effectively guide a range of precision-guided weapons to their targets.

increase the resiliency of joint and combined force communications. Simultaneously, efforts should be made to extend the network, which has other uses (such as providing robust communications in the event of a natural disaster) to Taiwan and the Philippines.

Tokyo and (especially Washington) should engage U.S. allies and prospective Coalition partners to enhance their defense infrastructure in line with Archipelagic Defense. Particular emphasis should be placed on expanding (and selectively hardening) air and sea port facilities, building and/or adapting road infrastructure to accommodate ground force movement, hardening key supply points, and pursuing related steps to establish the infrastructure necessary to enable the forward-defense posture described in this study.

Military

Close the “Munitions Gap”

The Alliance suffers from a profound shortfall in a wide array of munitions. In the U.S. case, this is true even when measured against requirements for an extended conflict against a minor power. Failing to address this shortfall could find the Alliance confronted with abandoning key strategic positions (owing to a shortage of munitions to defend them) or escalating the conflict (and risk moving to total war).

Flexible Cross-Domain Ground Firing Platforms

Alliance ground forces (and, where possible, those of Coalition partners) should adapt or field systems capable of employing interchangeable payloads on a common firing platform. This will enable these systems to shift rapidly between cross-domain missions (e.g., air and missile defense; coastal defense; and extended-range surface-to-surface strike). In so doing, they can maximize the appropriate types of firepower, enhancing both their overall effectiveness and the Coalition’s ability to counter-concentrate military power at the decisive point against the PLA.

Exploiting The “Next Big Thing”

Rapid advances are occurring across a range of military-related technologies, including artificial intelligence, the biosciences, big data, directed energy, nanotechnology, novel forms of propulsion and energy storage, and robotics. The Alliance must accord high priority to identifying how these technologies can be leveraged to enhance their militaries’ effectiveness within the context of Archipelagic Defense. Current technology trends also suggest the potential for one or more new “big things” to emerge that will substantially change the character of warfare. History suggests that those militaries that identify these new forms of warfare will enjoy a major advantage over their rivals. Thus, there is great incentive to be the first, or among the first, to identify and exploit the “next big thing” (or things) in warfare.²⁴⁶

²⁴⁶ For an overview of how military organizations over the past century have sought to identify and exploit discontinuities in warfare, see Andrew F. Krepinevich, *Lighting the Path Ahead: Field Exercises and Transformation* (Washington DC: CSBA, 2002). See also Andrew F. Krepinevich, *7 Deadly Scenarios* (New York: Bantam Books, 2009), 1–29, 285–319.

It seems likely that advances in one technology will affect the value of advances in other technologies. For example, advances in solid-state lasers (SSLs) could alter the military balance by significantly enhancing defense against cruise missile attacks. Advances in battery technology that led to greater energy storage or more efficient generation of electrical power could provide an extra boost to SSL defenses. Going one additional step, if these advances allowed for the production of compact batteries, SSL cruise missile defense systems could be deployed on mobile platforms, reducing substantially their vulnerability to missile attack.

Summary

This chapter has presented a number of initiatives designed to implement Archipelagic Defense. Many are capable of being exercised in the near term. Others, particularly those involving cooperation from prospective members of a Coalition, may take longer to pursue if they can be pursued at all.

The list of initiatives outlined above is not exhaustive. There will be many details associated with Archipelagic Defense that will only become apparent after further research and analysis. In a sense, what is described in this study might be termed “Archipelagic Defense, Version 1.0.” History and the dynamic character of the military competition in the Western Pacific in particular, and the Indo-Pacific in general, guarantee that the Archipelagic Defense posture will need to be modified over time; hence the need for persistent planning. One thing is certain: given the above assessment of the situation, planning needs to begin now, and it should begin with Japan and the United States.

Conclusion

Conclusion

As with any major shift in defense posture and associated operational concepts, establishing a defense posture centered on the Archipelagic Defense concept will require time, resources, and political commitment. Just as it took NATO well over a decade after its formation to establish a formidable conventional deterrent to the Warsaw Pact, the Alliance and like-minded states cannot implement the Archipelagic Defense concept overnight. Thus, it becomes critically important for Japan and the United States to take action now, before the military balance becomes unfavorable and unstable.

The willingness of states in the WPTO—and particularly those along the first island chain—to cooperate, is critical. Fortunately, in the face of an increasingly belligerent China, both Tokyo and Washington are aware of the need to take steps to discourage Beijing from overt actions of aggression and coercion. Other states in the region appear willing to contribute to these efforts, if they are supported by credible leadership backed by serious efforts to maintain a stable military balance.²⁴⁷

Implementing Archipelagic Defense will require a significant increase in the resources devoted to defense by Japan and the United States, as well as by like-minded states in the region. The burden can be mitigated in several ways. First, since Archipelagic Defense cannot be done overnight, the cost of doing so will, by necessity, be spread over time.

Second, both Japan and the United States can reduce or eliminate lower priority deployments and capabilities to better align their overall military postures to meet the challenge posed by China. Japan, for example, should continue reorienting its defense posture toward Kyushu and the Ryukyu Islands. As for the United States, the Pentagon still assigns significant ground forces to defend South Korea from a North Korean attack. Yet a large-scale invasion by conventional North Korean forces is unlikely. A greater and more likely danger comes in the form of Pyongyang launching a strike with missiles armed with nuclear or chemical warheads, and artillery strikes supported by infiltrated Special Forces and cyberattacks. In any event, South Korea has a population that is twice as large as the North's and a per capita income that is more than 15 times as large. In time, it should be possible for Seoul to assume a greater share of the U.S.–South Korean alliance's ground force requirements, freeing up some U.S. ground forces for other priority missions, such as Archipelagic Defense.

Third, orienting Alliance military capabilities to support Archipelagic Defense would create more effective American and Japanese forces, as resources would be shifted to those capabilities that are most useful and away from those that could be reduced at relatively little risk.

²⁴⁷ Many states in the region, including South Korea and Vietnam, appear anxious for U.S. leadership in counterbalancing China's growing power and aggressive behavior. Even the peripatetic leader of the Philippines, President Rodrigo Duterte, has distanced himself from his earlier attempts to establish a relationship with China based on mutual respect. Jake Maxwell Watts, "Rodrigo Duterte Orders Fortification of All Philippine-Held South China Sea Islands," *Wall Street Journal*, April 6, 2017, <https://www.wsj.com/articles/rodrigo-duterte-orders-fortification-of-all-philippine-held-south-china-sea-islands-1491477485>.

Fourth, the Alliance's decision to take forceful action to deal with China's belligerent behavior can do much to convince other like-minded states in the Indo-Pacific region to join in counterbalancing China rather than yielding to its acts of coercion. Support from other states, such as Australia, India, Indonesia, the Philippines, South Korea, Taiwan, and Vietnam, can significantly reduce the stress on American and Japanese forces, and on budgets.

The hard fact remains, however, that both Japan and the United States will need to increase their defense budgets significantly. During the Cold War, the United States allocated an average of over 6 percent of its GDP to defense to create the shield behind which its prosperity, and those of its allies, grew to unprecedented heights. Today, the United States allocates less than 4 percent of its GDP to defense, while Japan remains tethered to investments in defense at or below 1 percent of its GDP. To the extent both countries are experiencing financial difficulties, they stem not from overspending on defense, but on a willingness to accumulate ever greater amounts of debt and an unwillingness to adequately fund their entitlement programs and increase revenues.²⁴⁸ Both countries could increase investments in their defenses by 15–20 percent—to between 4 and 4.5 percent of GDP for the Americans, and between 1.15 to 1.20 percent of GDP for the Japanese—without imposing substantial additional fiscal weakness which, as noted, stems primarily from other causes. Again, this would not be accomplished overnight, but should be more digestible if implemented gradually, for example as part of a five-year program.

Even with adequate resources, dealing with a welter of regional allies and partners will undoubtedly prove challenging. American forces would have to address different mission priorities depending on the ally or partner in question. Japan, possessing formidable capabilities of its own, could bolster its defenses without much U.S. support. By contrast, U.S. forces would probably need to take on a larger role in the Philippines. The Alliance, perhaps in concert with Australia, would likely have to provide the bulk of a larger coalition's operational reserve and counteroffensive forces.

Finally, Archipelagic Defense is not a panacea for all forms of Chinese aggression, any more than NATO's conventional deterrent solved the problems once posed by Moscow's wars of national liberation and nuclear buildup. But establishing such a posture would represent an essential—and long-overdue—first step in counterbalancing China's revisionist ambitions.

²⁴⁸ For an overview of the U.S. financial competitive position relative to China, as well as that of key U.S. allies, see Krepinevich, *Preserving the Balance*, 38–44, 59–70.

List of Acronyms

A2/AD	Anti-access/area-denial
ADIZ	Air defense identification zone
AESA	Active electronically scanned array
ASBM	Anti-ship ballistic missile
ASCM	Anti-ship cruise missile
ASW	Anti-submarine warfare
BDA	Battle damage assessment
C4ISR	Command, control, communications, intelligence, surveillance, and reconnaissance
CCP	Chinese Communist Party
CONUS	Continental United States
DRFM	Digital radio frequency memory
EMP	Electromagnetic pulse
GDP	Gross domestic product
HALE	High altitude, long endurance
INF	Intermediate-range nuclear forces
ISR	Intelligence, surveillance, and reconnaissance
JASDF	Japan Air Self-Defense Force
JLENS	Joint Land Attack Cruise Missile Elevated Netted Sensor System
LACM	Land-attack cruise missile
MRBM	Medium-range ballistic missile
NIPRNet	Non-secure Internet protocol router
OTH	Over-the-horizon
PLA	People's Liberation Army
PLAA	PLA Army
PLAAF	PLA Air Force

PLAN	PLA Navy
POL	Petroleum, oil, and lubricants
PPP	Purchasing power parity
RF	Radio frequency
SAM	Surface-to-air missile
SCADA	Supervisory control and data acquisition
SRBM	Short-range ballistic missile
SS	Attack submarine
SSBN	Nuclear ballistic missile submarine
SSGN	Cruise-missile nuclear submarines
SSL	Solid-state lasers
SSN	Nuclear-powered attack submarine
UAV	Unmanned aerial vehicle
UUV	Unmanned underwater vehicle
WPTO	Western Pacific theater of operations

Archipelagic Defense:

The Japan-U.S. Alliance and Preserving Peace and Stability in the Western Pacific

笹川平和財団への特別寄稿論文

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発行：2017年8月

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Published in August 2017

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