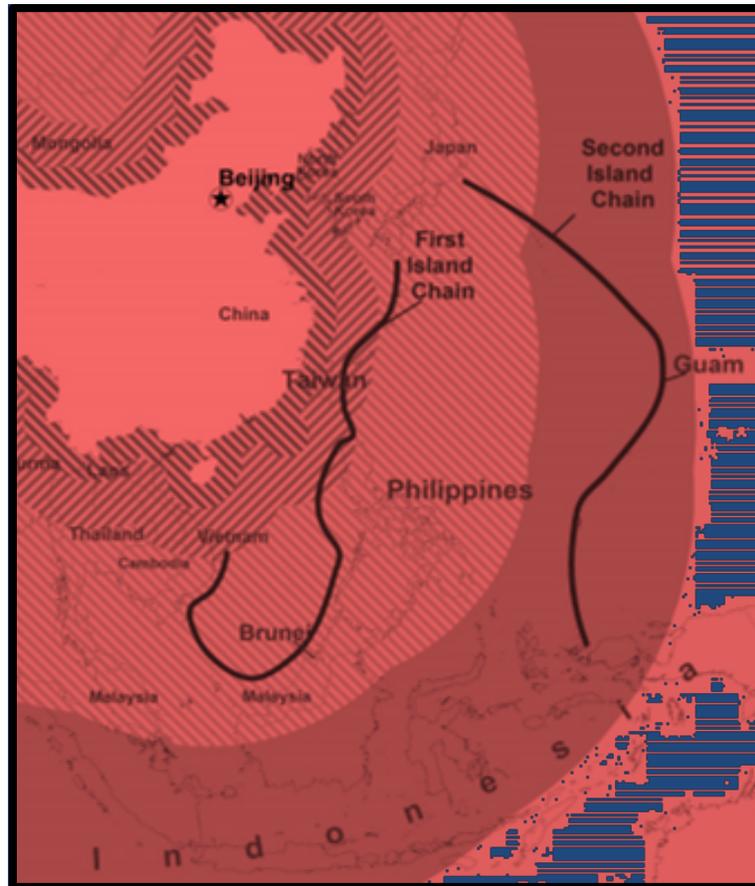


CHINA'S MILITARY STRATEGY IN THE ASIA-PACIFIC:

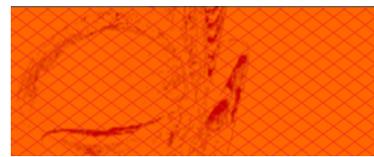
Implications for Regional Stability



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2049
INSTITUTE

Ian Easton

September 26, 2013



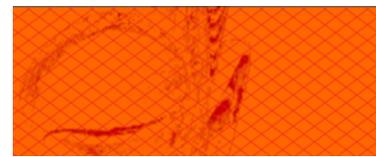
Ian Easton is a Research Fellow at the Project 2049 Institute. He also recently served concurrently as a visiting fellow at the Japan Institute of International Affairs (JIJA) in Tokyo. Before his current fellowship at the Project 2049 Institute, he spent some two years at the Center for Naval Analyses (CNA) as a China analyst, where he collected, translated and analyzed primary source Chinese language materials on behalf of U.S. Navy, Department of Defense and other government sponsors. Mr. Easton spent a total of five years in Taiwan (the Republic of China) and the People's Republic of China. During his time in the region he worked as a research intern for the Asia Bureau Chief of Defense News. He also consulted at a Taiwanese think tank, the Foundation on Asia-Pacific Peace Studies, and Island Technologies Inc., a software company. Mr. Easton holds an M.A. in China studies from National Chengchi University in Taipei, a B.A. in international studies from the University of Illinois at Urbana-Champaign, and a certification in advanced Mandarin Chinese. He received his formal language training at National Taiwan Normal University's Mandarin Training Center in Taipei, and Fudan University in Shanghai.

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About the Project 2049 Institute

The Project 2049 Institute seeks to guide decision makers toward a more secure Asia by the century's mid-point. The organization fills a gap in the public policy realm through forward-looking, region-specific research on alternative security and policy solutions. Its interdisciplinary approach draws on rigorous analysis of socioeconomic, governance, military, environmental, technological and political trends, and input from key players in the region, with an eye toward educating the public and informing policy debate.

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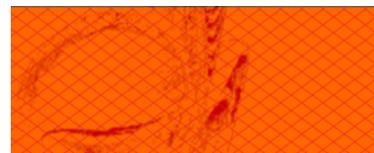


Introduction

The military modernization program being undertaken by the People's Republic of China (PRC) is changing the security environment in the Asia-Pacific. Driven by a strategy to achieve the Chinese Communist Party (CCP) leadership's goals through the exploitation of advantageous conditions, the People's Liberation Army (PLA) is investing in capabilities that are aimed at eroding the conventional military superiority of the United States and its allies in the region. Should the PLA's modernization campaign succeed the likelihood of conflict and regional instability can be expected to increase as China's authoritarian leadership is empowered with greater coercive leverage over its neighbors.

The PLA's military build-up, while comprehensive in nature, is principally anchored on a projectile-centric strategy that seeks to exploit theater geography, financial asymmetries, and gaps in international law to China's favor. This strategy relies upon the land-based deployment of large numbers of nuclear capable delivery vehicles (ballistic missiles, cruise missiles, and unmanned aerial vehicles) for long-range precision strike missions. While this approach risks regional instability and international approbation, China's inability to produce aircraft and ship platforms with effective power projection capabilities leaves the PLA with no incentive to alter the nature of its strategy. Further compounding the problem, the Chinese definition of victory—which is to keep the United States from intervening in “its” conflicts and, failing that, to assure the U.S. cannot gain air superiority and effectively project power into the region—means that the factors encouraging the PLA to continue its force modernization program are highly durable.

This study will explore China's strategic goals and describe the military measures that the PLA is implementing to achieve these goals. It will argue that theater geography, financial asymmetries, and gaps in international law encourage the PLA to engage in a projectile-centric strategy that is destabilizing in nature, yet unlikely to change because it is the most effective means available for assuring that the Chinese threshold for victory could conceivably be reached in a conflict. This study will then examine the response options of American and allied forces, and explore the looming implications for regional security. It will conclude with recommendations for American, Japanese, and Taiwanese policymakers and defense planners.



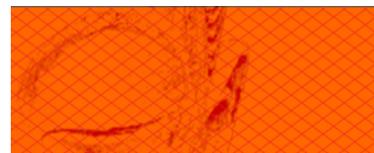
Drivers of China's Military Strategy

For the purposes of this paper, strategy will be defined as *an executive plan for achieving specific goals under conditions of uncertainty through the utilization of limited resources over time*. This definition emphasizes the fundamental importance of goals as the drivers of strategy. Therefore, it is important to understand what China's most important goals are, and to do that we must know what executive authority defines its goals. Indeed, if we fail to first establish these two basic points, the “who” and the “what” of Chinese military strategy, our understanding is likely to be flawed.

The Chinese Communist Party (CCP) is the executive authority that defines China's strategy. It rules the PRC under a one party authoritarian model that centers on the requirement for political control over every facet of national life, especially national defense. Unlike in other countries where there are distinct and carefully guarded barriers between civilian political power and the uniformed military, in China the CCP and the PLA are deeply intertwined. The PLA serves not as a professional national military, but rather as an armed wing of the CCP. All career officers in the PLA are members of the CCP and all units at the company level and above have political officers assigned to enforce party control.¹ Likewise, all important decisions in the PLA are made by communist party committees that are dominated by political officers.² This system assures that the interests of the party's civilian and military leaders are merged, and for this reason new Chinese soldiers entering into the PLA swear their allegiance to the CCP, not to the PRC constitution or the people of China. It is therefore essential to view Chinese military strategy through the conceptual lens of CCP goals.

Naturally, the principle goal driving the CCP is to assure its continued monopoly on political power in China. For this reason, protecting the political legitimacy of the unelected CCP (a challenging endeavor at the best of times) takes a special place in Chinese military strategy. And because the CCP bases its legitimacy on upholding disputed territorial sovereignty claims, the most important goal driving PLA strategy in the Asia-Pacific is to defend against the possibility that China might lose on these “core interests.”³ In an effort to retain legitimacy amid its increasing ideological contradictions, the CCP and the PLA further promote a racial-civilizational conception of China as a nation state that further enhances the perceived indivisibility of claimed national territories, whatever their nature or actual susceptibility to direct PRC control.⁴

There are two major external threats to the CCP's “core interests” that the PLA must be prepared to defend against. A Taiwan contingency is the primary threat, and a Japan contingency is the secondary threat. Taiwan is a threat because its government, under its Republic of China (ROC) constitution, does not recognize the legitimacy of the CCP, and rejects Beijing's sovereignty claims to Taiwan's territory.⁵ Compounding the problem it represents to the CCP, Taiwan has demonstrated that an ethnically Chinese,

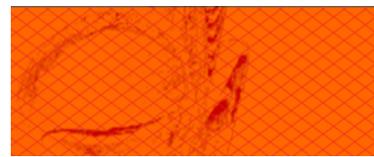


one-party Leninist state can successfully transition to a multi-party democracy while maintaining social stability and high rates of economic growth.⁶ Taiwan's model of governance is therefore anathema to the CCP's narrative, which holds that ethnically Chinese people can only be ruled by an authoritarian system. As a result, the PLA views Taiwan as an entity that must be subjugated or "re-unified" by coercion or even war if necessary. For this reason, the PLA continues to focus on a conflict with Taiwan as the principle driver of its defense planning.⁷

Japan represents a more indirect, but still serious, threat to the CCP's legitimacy. Unlike the case with Taiwan, the Japanese government does not present the CCP with a direct challenge to its narrowly defined "core interests" because it does not dispute the sovereignty of the CCP government in Beijing.⁸ However, Japan offers a useful foil for the CCP's manipulation of domestic nationalism, and both Japan and China are deeply distrustful of the others intentions due to a long list of historical grievances. More recently, Tokyo and Beijing have seen a sharp downturn in their relationship due to a territorial dispute in the East China Sea that Chinese leaders claim "involves" China's core interests.⁹

The U.S. alliance with Japan is also key factor in understanding Beijing's strategic animus toward Tokyo. China's civilian and military leaders are keenly aware that the security treaty that binds the U.S.-Japan alliance explicitly allows American forces to use bases on Japan for responding to regional contingencies, including Chinese aggression against Taiwan.¹⁰ Moreover, the Japanese Self Defense Force (JSDF) intends to assist the U.S. military in any cross-strait conflagration.¹¹ The U.S. military presence on Japan therefore represents a serious barrier to the CCP's efforts to gain leverage over the government of Taiwan. As such, even in the absence of territorial disputes in the East China Sea, the PLA would likely focus on challenging the credibility of the U.S.-Japan alliance as a means of achieving its strategic goals related to Taiwan.¹²

There are also many other secondary and tertiary level goals the PLA is responsible for achieving in support of its strategy to secure the CCP's political legitimacy on territorial issues. Perhaps the most notable of these is the safeguarding (or capturing) of "Chinese" territory in the South China Sea¹³ that is also claimed by Brunei, Malaysia, the Philippines, Taiwan, and Vietnam.¹⁴ Another goal is to maintain the capacity to intervene in a war or instability on the Korean Peninsula to assure that the outcome of any such events would be strategically favorable (or at least acceptable) to Beijing.¹⁵ However, assuming that the CCP's executive plan for achieving specific goals under conditions of uncertainty is limited by finite resources, as by definition it must be, gaining coercive leverage over Taiwan and Japan will likely remain the PLA's only two top-tier priorities. Other issues will generally not rank high for the PLA in terms of defense planning because they represent indirect political threats to the CCP.



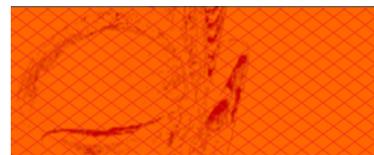
Having briefly described the primary goals that are driving China's military strategy in the Asia-Pacific, we now turn to the nature of the capabilities and capacities that the PLA is developing and deploying in its attempt to seek their realization.

The PLA's Projectile-Centric Strategy

The PLA's modernization program, while allowing for comprehensive improvements across the force, is concentrated on developing and deploying guided missiles and other unmanned projectiles for power projection missions. In the context of PLA strategy, a projectile is any single-use ordinance delivery weapon, such as a ballistic missile, cruise missile or unmanned aerial vehicle (UAV) that is launched into the atmosphere. Chinese projectiles stand in contrast with aircraft and ship platforms – which are generally manned by onboard human pilots and designed for delivering effects and then returning safely to base to rearm for the next mission – because they are designed not to survive contact with the enemy. And while UAVs occupy a definitional grey-zone because they can be employed as a platform, Chinese military-technical writings suggest that the PLA is strongly focused on “suicide” or “kamikaze” type UAVs that are not expected to survive combat missions.¹⁶ Therefore, it is reasonable to characterize most Chinese UAVs as projectiles, not platforms, even though they can be operated in either fashion.¹⁷

The PLA has been investing considerable resources into its reconnaissance infrastructure to achieve the ability to find, track and target its adversaries at stand-off ranges with projectiles.¹⁸ This evolving “reconnaissance-strike complex” is based on using conventionally armed projectiles as weapons capable of achieving strategic effects previously only available to China through the use of nuclear weapons.¹⁹ The PLA's ability to use these nuclear capable, but conventionally armed, delivery vehicles for strategic missions has been enabled by advancements in positioning, guidance and sensor technologies that allow for great precision against land and sea surface targets, potentially even including mobile aircraft carriers.²⁰ Nonetheless, China's military strategy represents an aberration from how nations have typically sought to project power.

Traditionally, modern armed forces, such as the U.S. military, have based their power projection strategies on platforms instead on projectiles because platforms are more versatile. For example, a typical fighter aircraft might be outfitted to escort bombers, patrol air space, deliver ordinance (missiles or bombs) against surface targets, engage in air-to-air combat, conduct intelligence gathering, and/or suppress enemy radars with electronic warfare suites. Meanwhile, a projectile such as a ballistic missile is only capable of delivering ordinance. And while a single fighter aircraft might typically deliver many tons of ordinance over its lifetime (and conduct a wide range of other missions along the way), a ballistic missile is only able to deliver one relatively small



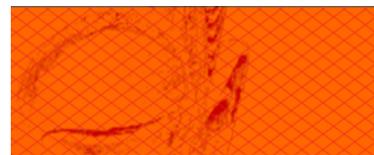
payload before its “retirement.” However, as we will see there are a number of compelling reasons for China’s projectile-centric strategy.²¹

Platform Inferiority

Perhaps the most important reason that the PLA has chosen a projectile-centric strategy that revolves around ballistic missiles, cruise missiles and UAVs is because it has few other viable options for matching and countering the power projection capabilities of the United States and its allies. The Chinese defense industry has long struggled to produce competitive aircraft and ship platforms. And while recent years have seen China advertise some well publicized improvements, with China testing two different stealth fighters and a refurbished aircraft carrier, the PLA still lags far behind the U.S. and its allies in platform development because its state-run defense industrial sector has not mastered the art of innovation.²² Likewise, the PLA’s status as a party army discourages the cultivation of a highly professional cadre of pilots and naval operators.²³

China’s defense industry does increasingly produce tactically sufficient weapons systems, and the PLA’s Air Force and Navy do produce some excellent pilots and surface warfare operators. However, the imperative of continual, career-long political indoctrination eats away at the valuable time of engineers and operators. The command by party-committee consensus model in place across the defense industry and PLA also strongly discourages innovation by bureaucratically enforcing risk adverse behavior. This stifles opportunities for technological break-through and diminishes the likelihood that training will be intense and realistic. And while the PLA General Staff Department (GSD) has begun instituting military training and doctrine reform,²⁴ the PLA’s air force and navy will arguably remain condemned to “second best” after the U.S. and its regional allies for the foreseeable future due to the political imperatives inherent in a Leninist authoritarian system.²⁵

Recognizing that its air force and navy cannot compete directly with superior U.S. forces to gain air superiority and sea control, the PLA has turned to areas where it has asymmetric advantages. The most notable “pockets of excellence” in the PLA, the Second Artillery Force and elements of the GSD, tend to have capitalized upon China’s successful space and missile industries.²⁶ Unlike the case with aircraft and ship building, where results have been uneven at best, China has had remarkable success in producing missiles propelled by rocket motors and small turbofan engines.²⁷ The PLA has been able to harness this expertise to produce the world’s largest inventory of theater missile systems.²⁸ The result has been for the PLA to present the U.S. and its allies with a growing threat to their air bases and surface fleets.²⁹ This trend is effectively undercutting the American and allied militaries’ asymmetrical advantages in air and naval power, and challenging traditional concepts of military superiority.³⁰

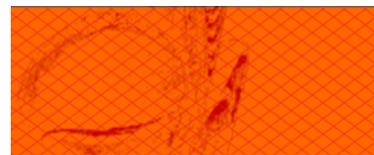


Advantageous Conditions³¹

The second reason the PLA has chosen a projectile-centric strategy is because it recognizes that such a strategy is able to best exploit at least three conditions in the Asia-Pacific region that are more favorable to Chinese projectiles than American platforms. These include conditions related to theater geography, financial asymmetries, and gaps in international law. When taken together, they represent a significant driver of PLA strategy and a powerful portfolio of asymmetrical advantages.

Condition One: Theater geography. The Asia-Pacific is defined by a vast maritime expanse unlike that found anywhere else on earth. Military operations in this environment require the delivery of rapid effects over great distances. Such effects can only be delivered through the exploitation of aerospace power.³² As a maritime power, the United States is poised to deliver its power projection effects from a small number of forward deployed air bases and aircraft carrier groups.³³ However, the land territory available to the U.S. both for projecting power and dispersing its assets defensively in the Western Pacific is limited,³⁴ and the advent of China's long-range anti-ship missiles makes carrier groups vulnerable at the outset of combat operations.³⁵ In the event of a war, the U.S. would have little in terms of strategic depth and be forced to bring in reinforcements located far away from the battle space, thereby creating a long, vulnerable logistical "tail." In contrast, China, as a continental power, is poised to deliver its power projection effects from a large number of dispersed, land-based missile launch sites. In any conflict, it would enjoy abundant strategic depth, and operate close to the battle space, with less vulnerable internal lines of logistics.

Recognizing the geographic advantage it would have over the U.S. military in any Taiwan or Japan scenario, the PLA has prioritized the development of long-range missiles and UAVs in order to be able to strike American ships and air bases before they would be able to project power into the theater. To achieve this goal, the PLA has deployed a large number of land-based, road-mobile missile and UAV launch vehicles. In concert with its launch vehicles, the PLA has also deployed truck-mounted radars, communications vehicles, and command and control trailers that would be highly survivable in a conflict. China has also constructed the world's largest network of integrated air defense systems (IADS) and advanced underground facilities (UGF). In any conflict, the PLA's launch units would have the luxury of operating under the umbrella provided by IADS units, and from the shelter of vast tunnel and bunker complexes.³⁶ These capabilities are intended to allow the PLA's launch units to safely fire, relocate, reload and fire again while maintaining communications links with theater command centers that would choreograph operations from redundant, deeply-buried facilities.

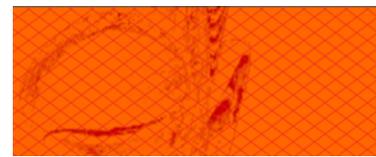


This exploitation of favorable geography is intended to undermine the U.S. ability to gain regional air superiority and optimize the use of its combat platforms in the Western Pacific. While otherwise superior, American fighter planes are slower and shorter-ranged than Chinese missiles. And because air force and naval aviation sortie rates are drastically reduced when operating at long distances from the battle space, it would give the PLA a tremendous advantage to force the U.S. to operate from rear area locations. Further compounding the problem, the U.S. military has a poor track record when it comes to being able to effectively locate and engage mobile launchers, even when it is operating in non-threatening air environments and has access to the full range of its intelligence, surveillance and reconnaissance (ISR) assets.³⁷ In any conflict with China, the U.S. could expect to lose many of its most essential ISR assets at the onset of hostilities, and have difficulty operating many of its remaining capabilities.³⁸

Condition Two: Financial asymmetries. The PLA's projectile-centric strategy is also driven by a number of financial advantages it has over the U.S. and allied militaries. These advantages include the PLA's ability to procure significantly cheaper weapons systems, its low manpower costs, and its high rates of defense budget growth. In many ways these financial advantages reflect asymmetries in China's broader economic relationships with the U.S. and its allies. However, they represent a particularly acute problem in the military realm because the stakes are so high, both in terms of external strategic stability and in domestic budget battles.

One of the most expensive segments of any nation's defense portfolio is procurement. It is therefore of no little importance that the PLA is able to acquire goods and services at a far lower cost than other militaries. The largest and most obvious element of defense procurement is weapons. Modern weapons systems are extremely complex and require extensive design, R&D, production, and maintenance costs. The PLA's strategy has been to invest in projectiles and other weapons that are cheaper to acquire and maintain than comparable platforms in the U.S. and allied countries. This strategy benefits from at least six factors:

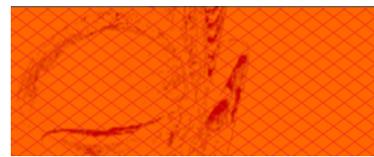
- 1) The Chinese defense industrial community is able to compensate its employees with a small fraction of what workers with similar skill sets would earn in the West. Further helping to keep costs down, Chinese defense conglomerates generally do not face the possibility of their workers suing them for abusive management practices or unsafe working conditions.³⁹
- 2) The Chinese intelligence community has been remarkably successful in its efforts to steal classified foreign technology in support of advanced weapons development.⁴⁰ This has possibly saved the PLA as much as several tens of billions of dollars over the last decade.⁴¹



- 3) China's weapons designers enjoy nearly unfettered access to the U.S. academic community, non-classified U.S. military and industrial technical writings, and other "open source" resources that allow them to essentially free ride on American investments in dual-use technology.⁴²
- 4) China's state-owned defense industries are not driven by the need to make a profit, nor are they accountable to legislative oversight, labor unions, the media or any other form of public scrutiny. This allows them to operate without many of the constraints faced by other defense industries.⁴³
- 5) China's state-owned defense industries are able to leverage vast amounts of state financing and other national resources unavailable to other defense industries.⁴⁴
- 6) China's defense conglomerates are able to profitably export weapons systems to a number of countries, such as Iran and North Korea, despite United Nations sanctions which ban exporting such systems to these pariah states.⁴⁵

Further exacerbating the financial asymmetries that the PLA has been able to exploit, China's military strategy relies on the use of large numbers of projectiles that cost a mere fraction of the highly expensive weapons platforms and missile interceptors required to defend against them.⁴⁶ Unmanned projectiles also have the added advantage of not requiring large investments in pilot training. There is also no need to build expensive onboard life support systems in a missile or drone, and there is no chance that a pilot could be killed—something that might compel the PLA to provide their dependents with compensation and long-term support.⁴⁷ These and a number of other factors beyond the scope of this study (including generally lower quality of life expectations in China) provide the PLA with immense savings in manpower costs.

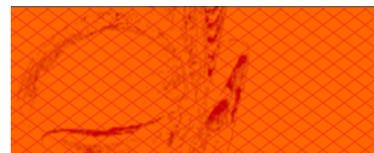
Finally, the PLA enjoys a financial advantage over the U.S. and allied militaries simply because its budget is increasing.⁴⁸ While the U.S. military is suffering from drastic budgetary cuts, and the military budgets of Japan, Taiwan, and other regional democracies are more or less stagnant, the PLA has seen its budget increase rapidly over the past two decades. And unlike the situation in Washington, Tokyo and Taipei, where military spending is fiercely debated and closely scrutinized by national legislatures and the media, there are no mechanisms in place to check Beijing's authorization of year-on-year defense budget increases that exceed national GDP growth. Over the past decade this has allowed the PLA to consume an increasingly large portion of the national budget, even as Chinese society has evinced an ever greater need for increased spending on social programs. This phenomenon would suggest that the PLA's budget could continue to increase in the coming years at rates that are not reflective of slowing national GDP growth.⁴⁹



Condition Three: Gaps in international law. The PLA's projectile-centric strategy has also stemmed from recognition that gaps exist in international law that can be exploited to China's favor. China's is not constrained by many of the international legal norms and treaties that limit the U.S. and its allies, and in some cases Beijing has sought to exploit this advantageous condition to limit its adversaries' freedom of action. Perhaps the most notable gap in international law that the PLA has exploited to its advantage is China's exclusion from the Intermediate Nuclear Forces (INF) Treaty.⁵⁰ The INF Treaty bans all land-based nuclear capable delivery vehicles with ranges from 500-5,500 kilometers. It also bans launch vehicles and other supporting infrastructures. In December 1987, the INF treaty signatories, the United States and the former Soviet Union, agreed to dismantle all of their applicable ballistic and cruise missiles and adhere to intrusive verification procedures. Over the two and a half decades that have followed, the U.S. has also successfully sought to keep its allies from developing INF missiles.⁵¹ Likewise, Russia and three other former Soviet republics (out of the 12 treaty successor nations) have been active participants in implementing the treaty.⁵²

Meanwhile, the PLA has exploited China's exclusion from the INF treaty framework to develop and deploy the world's largest inventory of land-based nuclear capable delivery vehicles with strike ranges from 500 to 5,500 kilometers. This development has considerably improved the PLA's strategic and tactical posture in the Asia-Pacific region against Taiwan, Japan, the United States and other potential Chinese adversaries. For reasons related to the elements of theater geography and financial asymmetries touched upon above, these nuclear capable delivery systems have proven to be the optimal solution to the PLA's deficiencies in air and naval platforms. Further adding to China's advantage, its neighbors have generally been restricted from responding to the PLA's projectile-centric strategy by developing and deploying their own missile systems for retaliatory strikes.⁵³ This has contributed to further tilting regional security dynamics in China's favor.

This international legal dynamic, whereby China acts as an unconstrained actor while its adversaries submit to self-limiting international "norms" of good behavior, can also be found in areas related to the military application of the global commons of outer space, cyberspace, international airspace and international waters.⁵⁴ It can also be found in China's exploitation of international legal frameworks regarding cluster munitions and anti-personnel mining.⁵⁵ However, it is China's exclusion from the INF treaty that has had the most profound impact on the PLA's military strategy in the Asia-Pacific. And, for reasons that will be discussed, it is this gap in international law that is likely to have the most troubling effect on regional security in the years ahead.

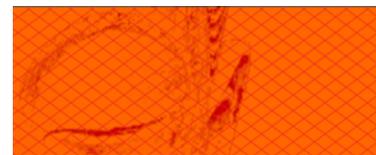


Threshold for Victory

Underpinning China's military strategy in the Asia-Pacific is its definition of what would constitute victory. As previously discussed, the principal goal driving the PLA's strategy is to maintain the CCP's monopoly on political power. This requires the upholding of the CCP's disputed legitimacy and territorial sovereignty claims vis-à-vis Taiwan. It also includes the possibility of a conflict with Japan in the East China Sea. The CCP's strategic objectives are therefore limited to attaining primacy in its immediate regional sphere of action. CCP goals do not include, for example, any stated desire to become a global superpower. They also do not require that the PLA maintain a presence far from Chinese controlled territory. Rather, the political drivers of the CCP's strategic objectives demand that the PLA be able to disrupt operations in specific areas beyond China's coasts without having to concurrently operate in those same areas.⁵⁶

In light of this, the PLA's strategy to use projectiles is well suited to the political mission assigned to it. Missiles and other unmanned strike weapons have powerful disruptive effects, both physically and psychological. The latter is important because the definition of victory for China does not necessarily require that Taiwan and Japan are *physically* dominated and the U.S. military is *physically* kept out of the Western Pacific. Ideally, victory for the PLA would be keeping the U.S. from upholding its legal obligations to defend Taiwan and Japan, either through a gradual weakening of these bilateral relationships or by a sudden collapse of national will (for example, a White House decision to reinterpret or ignore the Taiwan Relations Act). The psychological pressure induced by the threat of the PLA's growing offensive missile force is intended to aid the CCP in achieving such effects through coercion.⁵⁷

Should efforts at intimidation prior to or during a crisis fail, the PLA would define victory as keeping Washington from being able to effectively intervene in a Taiwan or Japan scenario. It would do this by seeking to assure that the American military could not gain air superiority and effectively project power into the region. And, because the ultimate aim of the CCP's strategy in most foreseeable situations would be to change the decision-making calculus of the President of Taiwan or the Prime Minister of Japan, it could be sufficient to make them *think* the U.S. was unable or unwilling to support them during a crisis, thereby gaining psychological leverage over them. For this reason, the PLA's ability to credibly threaten the U.S. with potential military defeat or at least stalemate in the Western Pacific is critical to its success. Unless China's neighbors *believe* that the PLA has the wherewithal to present the U.S. the possibility of defeat, they are unlikely to feel pressured to grant Beijing whatever political concessions it is seeking. Tactical credibility aside, Chinese strategists are also well aware that the mere presence of destructive projectiles within range of an adversary can be a powerful force for affecting mindsets. This is arguably more important to the PLA than the value of missiles and UAVs as effectors of the physical realm of battle, and it helps explain why



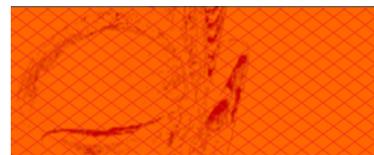
projectiles and not platforms have been chosen as China's primary means of projecting power.

Chinese Strategy and Regional Instability⁵⁸

China's projectile-centric strategy upsets regional stability in the Asia-Pacific for a number of reasons. Land-based missiles and UAVs are destabilizing by their very nature because they are first strike weapons with little defensive utility. Their value comes from their ability to be launched offensively from dispersed, interior sites in highly coordinated raids. Unlike manned air and naval platforms, which are more challenging to coordinate without electronic "leakage," ground based missiles in China are enabled by a redundant network of buried fiber optic communication cables which, aside from being difficult to jam, allow for tight emissions control. However, tight emissions control on one side will inherently keep the other side concerned that they could have limited early warning of an impending attack. This situation encourages forces to maintain high alert levels during crisis situations and to prepare for rapid escalation in the event of a surprise attack.

Escalation control is a problem made orders of magnitude more difficult by PLA missiles. This is the case because missiles are most effective when launched in a quick "shoot and scoot" mode that allows for rapid effects through well-timed raids. Such effects are unequaled by aircraft and naval vessels, which take considerably longer to reload and reengage enemy targets after first contact. For example, in the time a notional B-2 bomber could conduct a single sortie from Andersen Air Force Base on Guam, a Second Artillery Force launch unit could conduct multiple missile raids against forward deployed U.S. forces. The disparity in speed is even starker when B-2 bombers are operating from Diego Garcia or their home base in Missouri. The disparity in speed is greater still in the case of submarines and surface ships because they require extended transit times to safe port facilities for reloading. Whereas American aircraft and ships measure their inter-sortie lulls in the days and weeks, China's missile units can deliver attacks with lulls measured in minutes or hours. This has the effect of speeding up the pace of battle and limiting space for rational decision-making, let alone diplomatic negotiations.

China's projectile-centric strategy therefore risks miscalculation and rapid escalation. It also risks giving the aggressor a false sense of security, in that the PLA may convince itself that by taking the initiative at the outset of armed conflict through carefully timed raids it could control the flow and tempo of follow-on operations. Adding to the temptation to attack first, the PLA's relatively cheap and expendable missiles and UAVs could allow the Chinese to achieve strategic effects that until recently were only achievable through the use of nuclear weapons. For example, during the Cold War, both NATO and Warsaw Pact forces tasked nuclear missile units with the mission of

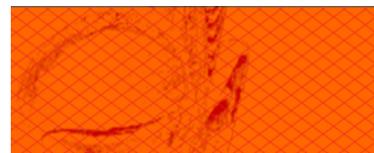


destroying the other's key air bases. The PLA plans to achieve the same effect with a relatively small number of ballistic missiles armed with conventional runway penetrating sub munitions.⁵⁹

The impact of the PLA being able to deliver rapid, strategic-level effects at the outset of a conflict could bring the bar down for initiating first strikes, without addressing the escalation dangers inherent in such a move. China's growing range of projectiles do make it easier for the PLA's defense planners to imagine a successful first strike against U.S. and allied air forces and naval groups operating in the Western Pacific; and the PLA's combination of mobile launchers, IADS, and UGFs add credibility to the notion that strike units could then survive and continue to launch rapid follow-on missile raids until the political goals of the campaign were reached. However, while success is perhaps conceivable at the tactical level, the PLA would not be able to factor out the U.S. and allied capacities for inflicting massive retaliatory punishment, albeit after a slower pace, from even its most optimistic plans.

China's projectile-centric strategy is also destabilizing because it focuses on undermining the U.S. commitment to its allies in order to gain political leverage over them. It fails to take into account the second order effects of such a campaign. Should the PLA military strategy show signs of success over the coming years and result in a gradual weakening of U.S. resolve, it is highly probable that Taiwan and Japan would respond not by surrendering on sovereignty issues as Beijing expects, but rather by developing and deploying their own land-based strike systems to defend themselves.⁶⁰ Indeed, there are already strong indications that Taiwan and Japan are seeking to allay their respective perceptions of a deteriorating security situation in the region by developing their own ballistic and cruise missile systems for deterring China.⁶¹ This emerging arms race in nuclear capable delivery systems could weaken regional stability.

Nor is it likely that this situation will ultimately support the PLA's realization of its strategic goals. Though Chinese strategist may sometimes be loath to admit it, the U.S. preponderance in the Asia-Pacific has tended to have a moderating effect on regional dynamics. If American influence wanes and Taiwan and Japan are forced to develop more independent and "self-strengthened" approaches toward their own security, the PLA could find itself ill-equipped to handle these new challenges, especially as China appears to have little prospect of fully correcting its own looming deficiencies in missile defense.⁶² Likewise, Chinese diplomats, accustomed to appealing to Washington to "rein-in" its allies, are likely to find themselves with fewer options and less influence in Taipei or Tokyo, especially when sensitive sovereignty issues are on the line. Nonetheless, the durability of factors involved in the PLA's projectile-centric strategy will make it exceedingly difficult to alter the course that China has set without some drastic political and military changes in the way the U.S. and its allies posture themselves.

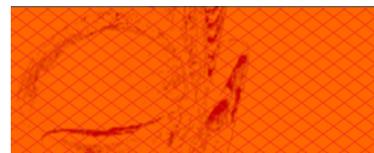


U.S. and Allied Countermoves

The U.S. military commonly refers to China's projectile-centric strategy for projecting power as an "anti-access/area denial" (A2/AD) threat. To counter this emerging threat the U.S. and its allies have begun investing in a number of improved capabilities including regional ballistic missile defenses (BMD), improved ISR, long-ranged conventional strike, and air base hardening and resiliency. In terms of BMD, the U.S. and Japan have steadily increased the number of their land- and sea-based missile interceptors, while improving their joint early-warning network of radars and satellite sensors for detecting missile launches.⁶³ The U.S. military has also begun to develop advanced electronic-warfare capabilities for defeating the unique targeting and guidance features on Chinese warheads.⁶⁴ Meanwhile, Taiwan has invested in the world's most comprehensive capacity for resisting missile attacks. This includes an integrated network of sophisticated U.S.-developed radars, missile interceptors, and hardened underground bunker facilities.

To gain a better picture of the battle space, the U.S. and Japan are improving their respective ISR capabilities for military space, along with their signals intelligence (SIGINT) infrastructures. They are also investing in a greater number of submarines, aircraft, and UAVs capable of conducting offshore intelligence gathering missions. Both the U.S. and Japanese militaries are also investing more into cyber warfare capabilities that will allow them to study (and perhaps counter) the networks supporting China's reconnaissance and strike systems. For its part, Taiwan is acquiring a number of improved ISR platforms from the United States, such as long-ranged maritime patrol aircraft and advanced radars. It also appears to be continuing investments into a robust on-the-ground network of human intelligence collectors in China.⁶⁵

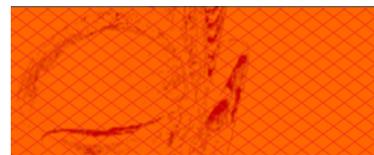
Recognizing that the best defense against missiles is a good counterstrike capability, the U.S. and its allies are also responding to China's build-up with their own long-range strike capabilities. The U.S. Air Force is placing its F-22 fighter and B-2 bomber aircraft on "familiarization" rotations through forward operating locations in the Western Pacific, while also investing in extended range air-launched cruise missiles. The Air Force is also upgrading its legacy bomber fleet, while investing in the development of a next generation bomber.⁶⁶ The U.S. Navy is upgrading its submarine presence, most notably its modified Ohio-class guided missile submarines that are capable of carrying over 150 tactical Tomahawk land-attack missiles.⁶⁷ The Navy is also gradually increasing the number of cruisers and destroyers it has in the region that are capable of launching land-attack cruise missiles with ranges exceeding 1000 nautical miles.⁶⁸ It is also developing a low observable (stealth) UAV for conducting long-range surveillance-strike missions from aircraft carriers.⁶⁹



Japan currently does not have any units dedicated to conventional strike missions against land targets. However, the Japanese Air Self Defense Force (JASDF) plans to acquire the F-35 Joint Strike Fighter, a move that would give it an inherent strike capability. Moreover, Japan is exploring options for a sea-based missile deterrent, and the long-term development of land-based missiles. Taiwan is also pursuing the development of ballistic missile technology, and the Republic of China (ROC) Army has begun the deployment of a fairly large number of land-attack cruise missiles and guided rockets capable of conducting retaliatory strikes against targets within China.⁷⁰ Likewise, the ROC Air Force is increasing the number of its fighter aircraft units capable of engaging in conventional strike missions.⁷¹

To undercut China's growing ability to attack U.S. airbases in the Western Pacific, the U.S. Air Force has begun to invest in the hardening of key installations in Guam and Okinawa, while increasing its dispersal and rapid-recovery capabilities.⁷² However, Japan has not yet begun to improve the resiliency at its air bases, although the large number of alternate runways available to it at dual-use airports provides the JASDF and the U.S. Air Force with an inherently robust capacity for dispersal.⁷³ In terms of resiliency, both the U.S. and Japan have much to learn from Taiwan, which has invested tremendous resources into constructing the world's most advanced network of aircraft shelters, rapid runway repair units, and hardened air bases.⁷⁴ Most notably, Taiwan has at least two large mountain facilities on its East Coast that are capable of protecting hundreds of fighter aircraft behind thick blast doors in the event of an attack.⁷⁵ In an emergency, Taiwan also can take-off and land a limited number of its fighter aircraft from sections of its national expressway system.⁷⁶

However, most of the countermeasures the U.S. and its allies are taking in reaction to China's projectile-centric strategy are not sufficient, and many are not going to be sustainable if budget pressures continue. There is much more that needs to be done to assure that the U.S. will remain capable of projecting power into the Western Pacific in the face of China's offensive strike capabilities. For example, the BMD interceptors currently being deployed are unable to engage China's advanced missile systems with acceptable probabilities of success.⁷⁷ They are also prohibitively expensive to purchase in large quantities, something that limits their role to serving less as a shield and more as a capability to "thin the herd" during missile raids.⁷⁸ Likewise, nearly all of the ISR assets being fielded are vulnerable to Chinese capabilities designed for kinetic attacks, jamming, and other forms of electro-magnetic interference.⁷⁹ And both budgetary and political obstacles will have to be overcome before the U.S. and its allies have acquired sufficient conventional strike capabilities to clearly tilt the power projection balance back into their favor. There are also significant hurdles that will have to be overcome before the American and Japanese air forces are able to meet the high standard set by



Taiwan in the area of base hardening and resiliency. In the interim, they will remain vulnerable to potentially devastating attacks.

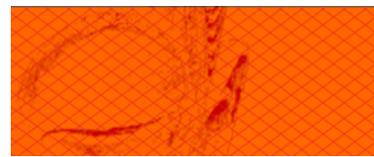
To be successful over the coming years the U.S., Japan and Taiwan will have to find innovative ways to undercut the advantages China has in terms of theater geography, financial asymmetries, and international law. This will require that they work together and individually to rethink geography, invest smartly, and fill gaps in international law through shrewd diplomacy. Many promising countermeasures are being explored, but more challenges remain. Ultimately, only by changing PLA cost-benefit analyses can the U.S. and its allies alter incentives for China to continue its destabilizing build-up.

Implications and Recommendations

If current trends continue, it is likely that U.S. and allied military superiority will erode and the Asia-Pacific region will become increasingly unstable as multiple security dilemmas currently simmering beneath the surface begin to boil over. The overall benign security environment that the Asia-Pacific region has enjoyed for the better part of sixty years has been foundational to its economic growth and rising levels of prosperity. This environment was directly enabled by American military superiority and its strong network of regional alliances and security partnerships. If the U.S. is going to continue serving as the guarantor of regional security, it will need to match its rhetorical “rebalance to Asia” with a large number of substantive actions and investments that have yet to be realized. Recognizing that the U.S. will require many more years to fully recover from the effects of two long wars and a great recession, America’s allies will also need to do more to contribute to security in their neighborhood.

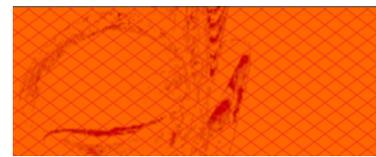
For its part, there is little evidence to suggest that China is an aspiring global military superpower. Indeed, China suffers from a large number of internal weaknesses that could limit its ability even to become a regional hegemon. Nonetheless, the military modernization program being undertaken by the PLA is changing the security dynamics in the Asia-Pacific. The choice of a projectile-centric strategy for projecting power makes the PLA an inherently offensive force, and one that risks causing an accidental war with rapid escalation and devastating effects in a crisis. Countermeasures must be taken by the U.S. and its allies to balance against the PLA’s modernization program to maintain conventional war fighting superiority. The other alternative could be to see region devolve into nuclear missile racing.

What follows is a list of recommendations for decision-makers to consider. These recommendations are not exhaustive, but are intended to provide a sample of the potential countermeasures the United States and its allies Japan and Taiwan, individually and jointly, can take to inject a new energy into their respective alliances and partnerships to improve the deteriorating regional security dynamic.



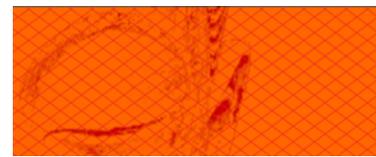
For National Policymakers:

- At the strategic level, national leaders in Washington, Tokyo and Taipei need to recognize the destabilizing nature of China's military strategy in the Asia-Pacific and seek a mix of political and military means to counter it.
- Politically, China should be condemned at the United Nations and other international forums for developing large numbers of nuclear capable delivery vehicles and other offensive weapons. The U.S., the E.U., Russia, Japan, India, Australia, South Korea, Israel and many other key U.N. members all have clear strategic imperatives for pushing China to join a global INF treaty.
- Until China verifiably dismantles its theater missiles and support infrastructures, the U.S. and Russia will have a strong case for suspending their INF Treaty obligations. As both the U.S. and Russia learned some three decades ago, arms control treaties are only possible when all sides have leverage.
- More broadly, Washington needs a long-term strategy for maintaining its leadership in the Asia-Pacific. Elevating the currently diminished role of regional allies and partners in the rhetorical rebalance to Asia is the single most powerful means available for achieving this goal. In particular, increased support for Taiwan and Japan would bolster American credibility with the many regional allies and partners who are eager to see a stronger U.S. commitment to the Asia-Pacific.
- In terms of national defense, policymakers should make clear that the number one priority of their militaries is to deter a conflict with China and, failing that, to be able to fight the PLA alongside allies and win a conventional war. Controlling escalation demands a powerful conventional deterrent.
- Moreover, national leaders must stop calibrating their actions according to China's definition of what is provocative. Balancing and hedging activities, including the implementation of AirSea Battle and theater BMD, will by definition be seen as provocative in Beijing. Deterrence is founded upon such defensive activities, and it is vital that they be fully implemented according to honest assessments of China's military threat.



For Military Leaders:

- The U.S. and Japan have an urgent need for hardened and resilient air bases, and would stand to benefit from cooperation with Taiwan in this area. Current investments favor the development of highly expensive missile interceptors over “passive” defenses such as aircraft shelters, rapid runway repair kits, decoys, and other such measures. This is not a financially sustainable policy, and the proper balance needs to be found between active and passive defenses.
- Long range counterstrike capabilities will be critical for deterring and defeating China’s projectile threat. The number of U.S. and allied fighter and bomber platforms capable of engaging the PLA’s launch vehicles should be bolstered by conventionally armed theater missiles. If deployed, American, Japanese and Taiwanese theater missiles would also give their respective political leaders greater leverage in future arms control negotiations with China.
- Manpower costs in the U.S. and declining population growth in Japan and Taiwan necessitate greater investments into military robotics. China’s IADS and UGF networks also argue for heavy investments into unmanned systems for ISR and strike missions against military targets within the PRC.
- In tandem with theater missiles and unmanned platforms, the U.S. and its allies should develop counter ISR capabilities, such as anti-satellite and cyber-attack weapons, for “blinding” the sensors and automated data processing systems that provide the PLA’s missiles with mission-critical targeting and guidance information.
- Looking ahead, submarines and stealth aircraft are the only currently deployed platforms that would be able to continuously operate in a Chinese A2AD environment. As such, they should be prioritized when service leaders in U.S. and allied navies and air forces are considering painful trade-offs resulting from constrained defense budgets.
- Likewise, allied army and marine corps leaders should promote the innovative use of vertical and/or short take-off and landing (V/STOL) platforms for operating in A2AD environments. They should also push for investments into surface-to-surface missiles and guided rockets to assure that they are able to contribute to future strike missions.



Notes

¹ *Military and Security Developments Involving the People's Republic of China 2013* (Arlington, VA: Office of the Secretary of Defense, 2013), p. 24, accessible online at http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf.

² Ibid; and for an illustrative example of how this system impacts upon China's nuclear weapons community, see Ian Easton and Mark Stokes, *Half Lives: A Preliminary Assessment of China's Nuclear Warhead Life Extension and Safety Program* (Arlington, VA: Project 2049 Institute, July 2013), pp. 12-16, at http://project2049.net/half_lives_china_nuclear_warhead_program.pdf.

³ For an excellent overview of how China's national interests are driving its military modernization see Andrew S. Erickson, "China's Modernization of Its Naval and Air Power Capabilities" in Ashley J. Tellis and Travis Tanner (ed.), *Strategic Asia 2012-13: China's Military Challenge* (Washington D.C.: National Bureau of Asian Research, 2012), pp. 63-66.

⁴ The author is indebted to Andrew Erickson for this point.

⁵ According to the statements of multiple Taiwan government officials, Taipei will not change its positions on sovereignty as a result of the warming in cross-strait relations. In a rare showing of cross party unity, opposition party leaders have made statements to the same effect. As such, Taiwan should be expected to remain the CCP's top strategic priority for the foreseeable future. Discussions with Taiwan government officials and opposition party leaders in Arlington, VA, April and June 2013.

⁶ For excellent coverage of Taiwan's political development and cross-strait relations, see Richard Bush, *Untying the Knot: Making Peace in the Taiwan Strait* (Washington D.C.: Brookings Institution, 2005); and Denny Roy, *Taiwan: A Political History* (Ithaca, New York: Cornell University Press, 2003).

⁷ *Military and Security Developments Involving the People's Republic of China 2013* (Arlington, VA: Office of the Secretary of Defense, 2013), p. i, accessible online at http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf.

⁸ Interviews with Japanese Ministry of Foreign Affairs officials in Tokyo, July 2013.

⁹ China's patriotic education and propaganda systems also assure that any diplomatic problem Beijing has with Japan can become highly emotive and readily evoke visceral responses from all levels of society. This militates against Beijing's long-term maintenance of peace with Tokyo, and increases the risk that China will escalate crises, for example over the status of the uninhabited Senkaku/Diaoyu Islands, which also directly involves Taiwan. Author's interview with Japanese Ministry of Foreign Affairs officials in Tokyo, February and August 2013; and Ministry of Defense officials in Arlington, September 2013.

¹⁰ Interviews with Japanese defense officials and China analysts in Tokyo, July and August 2013.

¹¹ Such assistance would be based on the severity of the situation and would range from rear area logistics support (in most likely scenarios) to joint strikes on mainland Chinese targets (in extreme situations). Interviews with Japanese defense officials, naval officers, and scholars in Tokyo and Yokosuka, July and August 2013.

¹² However, China's assertive behavior in the East China Sea vis-à-vis Japan may be linked to Taiwan in other ways. According to one assessment, China only felt free to push on its sovereignty claims over the Japanese controlled Senkaku Islands because cross-strait relations had been stable since 2008. Should cross-strait relations deteriorate in the future, China's campaign to gain a measure of control over the Senkakus would likely cease. Author's interview with Japanese defense analyst in Tokyo, August 2013.

¹³ The South China Sea is also referred to as the East Sea in Vietnam and the West Philippine Sea in the Philippines.

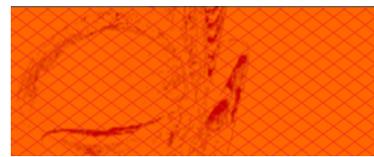
¹⁴ For more on the issue, see Patrick M. Cronin (ed.), *Cooperation from Strength: The United States, China and the South China Sea* (Washington D.C.: Center for New American Security, January 2012), accessible online at

http://www.cnas.org/files/documents/publications/CNAS_CooperationFromStrength_Cronin_1.pdf.

¹⁵ For a fascinating (and sobering) look at the strategic considerations that would shape China's potential reactions to a crisis in North Korea, see Ferial Ara Saeed and James J. Przystup, *Korean Futures: Challenges to Diplomacy of North Korean Regime Collapse* (Washington D.C.: National Defense University Press, September 2011), accessible online at

http://www.ndu.edu/inss/docuploaded/Strategic%20Perspectives7_Saeed-Przystup.pdf.

¹⁶ For an excellent introduction to China's unmanned aerial vehicle force see: Richard D. Fisher Jr., "Maritime Employment of PLA Unmanned Aerial Vehicles," in Andrew S. Erickson and Lyle J. Goldstein



(ed.), *Chinese Aerospace Power: Evolving Maritime Roles* (Annapolis, MD: Naval Institute Press, 2011), p. 108; and Andrew S. Erickson, "China's Modernization of Its Naval and Air Power Capabilities" in Ashley J. Tellis and Travis Tanner (ed.), *Strategic Asia 2012-13: China's Military Challenge* (Washington D.C.: National Bureau of Asian Research, 2012), pp. 121-125. See also Kimberly Hsu, et al., *China's Military Unmanned Aerial Vehicle Industry* (Washington D.C.: U.S.-China Economic and Review Commission, June 2013), accessible online at

http://origin.www.uscc.gov/sites/default/files/Research/China's%20Military%20UAV%20Industry_14%20June%202013.pdf; and Ian M. Easton and L.C. Russell Hsiao, *The Chinese People's Liberation Army's Unmanned Aerial Vehicle Project: Organizational Capacities and Operational Capabilities* (Arlington, VA: Project 2049 Institute, March 2013), at http://project2049.net/documents/uav_easton_hsiao.pdf.

¹⁷ The United States also has a history of treating UAVs as dual-use (platform/projectile) systems, and in some instances has sent them on "suicide" missions. For an example of one such mission in World War Two, see Peter W. Singer, *Wired for War: The Robotics Revolution and Conflict in the 21st Century* (New York: The Penguin Press, 2009), p. 48; for an example from the Cold War, see Thomas P. Ehrhard, *Air Force UAVs: The Secret History* (Arlington, VA: The Mitchell Institute for Airpower Studies, July 2010), pp. 8-9.

¹⁸ For a comprehensive and highly detailed discussion on China's evolving reconnaissance infrastructure for supporting strike missions, see Andrew S. Erickson, *Chinese Anti-Ship Ballistic Missile (ASBM) Development: Drivers, Trajectories and Strategic Implications* (Washington D.C.: Jamestown Foundation, May 2013), pp. 83-117.

¹⁹ For a discussion on how precision strike allows states to achieve strategic effects with conventional warheads, see Barry Watts, *The Evolution of Precision Strike* (Washington D.C.: Center for Strategic and Budgetary Analysis, August 6, 2013), pp. 6-7, accessible online at

<http://www.csbaonline.org/publications/2013/08/the-evolution-of-precision-strike/>.

²⁰ See Andrew S. Erickson, *Chinese Anti-Ship Ballistic Missile (ASBM) Development: Drivers, Trajectories and Strategic Implications* (Washington D.C.: Jamestown Foundation, May 2013).

²¹ For a highly insightful discussion on China's projectile-centric strategy, see Jordan Lee Greene, *An Assessment of the U.S.-Chinese Reconnaissance-Strike Competition* (Washington D.C.: Georgetown University Master's Thesis, submitted April 2010), accessible online at

<http://repository.library.georgetown.edu/bitstream/handle/10822/553503/greeneJordan.pdf?sequence=1>; and Vitaliy O. Pradun, "From Bottle Rockets to Lightning Bolts: China's Missile Revolution and PLA Strategy against U.S. Military Intervention," *U.S. Naval War College Review*, Spring 2011, pp. 7-38, accessible online at <https://www.usnwc.edu/getattachment/23a01071-5dac-433a-8452-09c542163ae8/From-Bottle-Rockets-to-Lightning-Bolts--China-s-Mi>.

For a discussion of Cold War reconnaissance-strike complexes, see Michael J. Sterling, *Soviet Reaction to NATO's Emerging Technologies for Deep Attack* (Santa Monica, CA: RAND Corporation, August 1985), accessible online at <http://www.rand.org/content/dam/rand/pubs/notes/2009/N2294.pdf>.

²² Interview with retired U.S. intelligence official and subject matter expert, Washington D.C., February 2013.

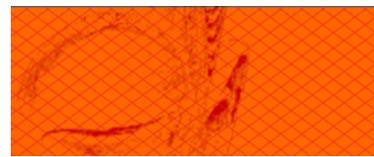
²³ For a fascinating series of discussions on CCP civil-military relationship dynamics, see Peter Mattis, "Another Lei Feng Revival Making Maoism Safe for China," *China Brief*, March 2, 2012, at http://www.jamestown.org/uploads/media/cb_03_02.pdf; Peter Mattis, "Is China Scared of a Coup?" *The Diplomat*, July 4, 2012, at <http://thediplomat.com/china-power/is-china-scared-of-a-coup/>; and Peter Mattis, "How Much Power Does China's People's Army Have?" *The Diplomat*, July 13, 2012, at <http://thediplomat.com/china-power/how-much-power-does-chinas-peoples-army-have/>.

²⁴ See *Military and Security Developments Involving the People's Republic of China 2013* (Arlington, VA: Office of the Secretary of Defense, 2013), p. 11, accessible online at http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf.

²⁵ Interview with British military attaché and subject matter expert in Arlington, VA, May 2013.

²⁶ See Mark A. Stokes and Dean Cheng, *China's Evolving Space Capabilities: Implications for U.S. Interests* (Arlington, VA: Project 2049 Institute, April 2012), accessible online at http://project2049.net/documents/uscc_china-space-program-report_april-2012.pdf.

²⁷ However, it should not be assumed that this has happened as the result of indigenous innovation. To the contrary, China's space and missile sectors have relied heavily upon foreign technology transfer and reserve engineering. See Dennis M. Gormley, *Missile Contagion: Cruise Missile Proliferation and the*



Threat to International Security (Westport, CT: Praeger Security International, 2008), pp. 74-76; and Ian Easton, *The Assassin Under the Radar: China's DH-10 Cruise Missile Program* (Arlington, VA: Project 2049 Institute, October 2009), p. 4, at

http://project2049.net/documents/assassin_under_radar_china_cruise_missile.pdf.

²⁸ Theater missiles are typically defined as land based ballistic and cruise missiles with ranges from 500 to 5,500 kilometers. Armed UAVs (sometimes referred to as combat drones) are also treated as theater missiles under arms control frameworks such as SALT II, the INF and the MTCR. Moreover, cruise missiles, by definition, represent a type of armed UAV. Ballistic missiles are not UAVs because they lack “air-breathing” propulsion systems. However, as technology evolves, the line between ballistic missiles and cruise missiles (and other UAVs) is becoming increasingly blurred.

²⁹ For example, see Mark Stokes and Ian Easton, *Evolving Aerospace Trends In the Asia-Pacific Region: Implications for Stability in the Taiwan Strait and Beyond* (Arlington, VA: Project 2049 Institute, May 2010), at

http://www.project2049.net/documents/aerospace_trends_asia_pacific_region_stokes_easton.pdf.

³⁰ See “Security Environment Surrounding Japan: China,” in *Defense of Japan 2012* (Tokyo: Ministry of Defense, 2012), at http://www.mod.go.jp/e/publ/w_paper/pdf/2012/07_Part1_Chapter1_Sec3.pdf; Jan Van Tol, *AirSea Battle: a Point of Departure Operational Concept* (Washington D.C.: Center for Strategic and Budgetary Analysis, May 2010), at <http://www.csbaonline.org/publications/2010/05/airsea-battle-concept/>; Ronald O'Rourke, *China's Naval Modernization: Implications for U.S. Navy Capabilities—Background Issues for Congress* (Washington D.C.: Congressional Research Service, March 2013), p. 11, at <http://www.fas.org/sgp/crs/row/RL33153.pdf>; and Andrew S. Erickson, “China's Modernization of its Naval and Air Power Capabilities,” in Ashley J. Tellis and Travis Tanner (eds.) *Strategic Asia 2012-13: China's Military Challenge* (Washington D.C., National Bureau of Asian Research, 2012), pp. 61-125.

³¹ Unless otherwise noted, this section draws from Jordan Lee Greene, *An Assessment of the U.S.-Chinese Reconnaissance-Strike Competition* (Washington D.C.: Georgetown University Master's Thesis, submitted April 2010), accessible online at

<http://repository.library.georgetown.edu/bitstream/handle/10822/553503/greeneJordan.pdf?sequence=1>;

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and Jan Van Tol et al., *AirSea Battle: a Point of Departure Operational Concept* (Washington D.C.: Center for Strategic and Budgetary Analysis, May 2010), at <http://www.csbaonline.org/publications/2010/05/airsea-battle-concept/>.

³² See Mark Stokes and Ian Easton, *Evolving Aerospace Trends In the Asia-Pacific Region: Implications for Stability in the Taiwan Strait and Beyond* (Arlington, VA: Project 2049 Institute, May 2010), at http://www.project2049.net/documents/aerospace_trends_asia_pacific_region_stokes_easton.pdf.

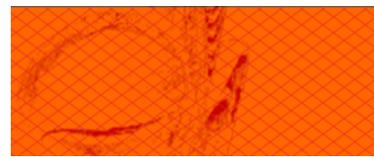
³³ The primary facilities that would be used by the U.S. military to project power in the Western Pacific against China include Kadena Air Force Base, Yokota Air Force Base, Iwakuni Marine Corps Air Station, Futenma Marine Corps Air Station, Misawa Air Base, and Andersen Air Force Base. The U.S. Navy has one forward deployed aircraft carrier group, centered on the USS George Washington. Typically, this carrier group would be reinforced by one to three other carrier groups during periods of high tension.

³⁴ Although while sometimes overlooked, the U.S.-Japan Alliance gives the American military the ability to use virtually all the civilian airports in Japan during contingency operations, providing a significant level of strategic mobility (if not strategic depth) to DoD planners. Interview with Japanese defense officials, in Arlington, VA, September 2013.

³⁵ However, it is unclear how long aircraft carriers would remain vulnerable once combat operations began. Presumably the U.S. would attempt to launch a campaign to disrupt or destroy the “kill-chain” supporting anti-ship missile attacks. Nonetheless, many of the capabilities required to wage such a campaign have yet to be demonstrated. See Jonathan F. Solomon, *Defending the Fleet from China's Anti-Ship Ballistic Missile: Naval Deception's Roles in Sea-Based Missile Defense* (Washington D.C.: Georgetown University Master's Thesis, April 2011), accessible online at

<http://repository.library.georgetown.edu/bitstream/handle/10822/553587/solomonJonathan.pdf>;

Wendell Minnick, “CRS: Breaking China's ASBM Kill-Chain,” *Defense News*, April 5, 2013, at <http://www.defensenews.com/article/20130405/DEFREG03/304050012/CRS-Breaking-China-8217-s-ASBM-Kill-Chain>; and Wendell Minnick, “China Pursues Systems To Keep U.S. Forces at Bay,” *Defense*



News, September 17, 2013, at

<http://www.defensenews.com/article/20130917/DEFREG03/309160021/China-Pursues-Systems-Keep-US-Forces-Bay>.

³⁶ See *Military and Security Developments Involving the People's Republic of China 2013* (Arlington, VA: Office of the Secretary of Defense, 2013), pp. 31 & 67, accessible online at

http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf.

³⁷ For example, during the 1991 Gulf War, the U.S. Air Force's large fleet of orbiting aircraft was only able to visually sight mobile Iraqi ballistic missile launchers on 42 occasions. Of these 42 occasions, the Air Force was only able to achieve sufficient target acquisition to release ordinance eight times. See William Rosenau, *Special Operations Forces and Elusive Enemy Ground Targets* (Washington D.C.: RAND Corporation, 2001), p.34, accessible online at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA400746>.

³⁸ For example, see Marc V. Schanz, "ISR After Afghanistan," *Air Force Magazine*, January 2013, at <http://www.airforcemag.com/MagazineArchive/Pages/2013/January%202013/0113ISR.aspx>; and John A. Tirpak, "Breaking the Space Status Quo," *Air Force Magazine*, January 2013, at <http://www.airforcemag.com/MagazineArchive/Pages/2013/January%202013/0113space.aspx>.

³⁹ For example, see Peter Navarro, "The Price of Made in China," *New York Times*, August 4, 2013, at <http://www.nytimes.com/2013/08/05/opinion/the-price-of-made-in-china.html>.

⁴⁰ For example, see *Military and Security Developments Involving the People's Republic of China 2013* (Arlington, VA: Office of the Secretary of Defense, 2013), pp. 11-13, accessible online at http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf.

⁴¹ While exact figures are unavailable, one credible estimate holds that the U.S. now loses some 300 billion dollars per year to China in intellectual property theft. A conservative assumption might hold that one percent of that total amount (or three billion) represents classified defense technology that benefits the PLA. See Dennis C. Blair and Jon M. Huntsman, Jr., *The Report of the Commission on the Theft of American Intellectual Property* (Washington D.C.: National Bureau of Asian Research, May 2013), accessible online at http://www.ipcommission.org/report/IP_Commission_Report_052213.pdf.

⁴² Discussions and correspondence with a Pentagon official and a counter intelligence expert in Arlington, VA, May and June 2013.

⁴³ For example, see Peter Navarro, "The Price of Made in China," *New York Times*, August 4, 2013, at <http://www.nytimes.com/2013/08/05/opinion/the-price-of-made-in-china.html>. Also, author's interviews with American experts on Chinese economics in Tokyo and Washington D.C., February and June 2013.

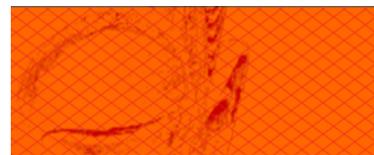
⁴⁴ Interviews with American experts on China's economy in Tokyo and Washington D.C., February and June 2013.

⁴⁵ For example, see Robert F. Worth and C.J. Chivers, "Seized Chinese Weapons Raise Concerns on Iran," *New York Times*, March 2, 2013, at <http://www.nytimes.com/2013/03/03/world/middleeast/seized-arms-off-yemen-raise-alarm-over-iran.html?pagewanted=all&r=0>; and Jay Solomon, "U.S. Voices Concern to China on Korean Arm Sales," *Wall Street Journal*, April 23, 2012, at <http://online.wsj.com/article/SB10001424052702303978104577362454032253814.html>.

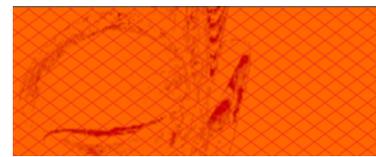
⁴⁶ For example, one Japanese produced Patriot PAC-3 missile costs an estimated \$4.75 million, and a Japanese Standard Missile-3 (SM-3) missile interceptor costs some \$19 million. Multiple PAC-3/SM-3 missiles would have to be fired at any incoming target to guarantee a high probability of intercept, which would exacerbate an already asymmetrical financial situation because while the cost of Chinese missiles is not clear, they are thought to cost far less than missile interceptors on a one-to-one basis. See Gormley, pp. 81-82.

⁴⁷ Numerous Chinese sources discuss the cost-savings benefits found in the operation of unmanned systems. For one illustrative example, see "Chinese UAVs to Attack U.S. Carriers? [中国无人机攻击美国航母]," *CCTV-4*, March 14, 2013, at <http://news.vl.cn/mil/2013-3-14/303822v-1.shtml>.

⁴⁸ For a detailed examination of Chinese defense spending, see Adam P. Liff and Andrew S. Erickson, "Demystifying China's Defense Spending: Less Mysterious in the Aggregate," *China Quarterly*, August 2013, pp. 1-26, at <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8874207>; and Andrew S. Erickson and Adam P. Liff, "China's Military Development, Beyond the Numbers," *The Diplomat*, March 12, 2013, at <http://thediplomat.com/2013/03/12/chinas-military-development-beyond-the-numbers/>.



- ⁴⁹ Trefor Moss, "Five Things the Pentagon Isn't Telling Us About the Chinese Military," *Foreign Policy*, May 23, 2013, at http://www.foreignpolicy.com/articles/2012/05/23/5_things_the_pentagon_isn_t_telling_us_about_the_chinese_military?wpisrc=obnetwork.
- ⁵⁰ See Mark A. Stokes and Ian Easton, *Evolving Aerospace Trends in the Asia-Pacific: Implications for Stability in the Taiwan Strait and Beyond* (Arlington, VA: Project 2049 Institute, May 2010), pp. 36-38, at http://project2049.net/documents/aerospace_trends_asia_pacific_region_stokes_easton.pdf.
- ⁵¹ To do this the U.S. has used the Missile Technology Control Regime (MTCR) as well as a number of other bilateral commitments that are non-binding. Despite the voluntary nature of these regimes and arrangements, the U.S. has in general been very successful at keeping its allies and security partners from developing and/or proliferating related technology. However, it has failed in constraining China's build-up (and proliferation) of INF missiles, launchers and other supporting infrastructure. See *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* (Washington D.C.: Department of State, July 2010), p. 85-90, accessible online at <http://www.state.gov/documents/organization/145181.pdf>.
- ⁵² The U.S. never recognized the legality of the former Soviet Union's claim to the Baltic states, and therefore does not consider them Soviet successor states. Of the twelve successor states it does recognize, only six (including Russia) had inspectable INF facilities on their territory. Four of the six, Belarus, Kazakhstan, Russia, and Ukraine actively participated the treaty after the dissolution of the Soviet Union. The other two, Turkmenistan and Uzbekistan, did not. See the U.S. Department of State's permanent electronic archive, "Treaty Between The United States Of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-range and Shorter Range Missiles," at <http://www.state.gov/www/global/arms/treaties/infl.html>. While the INF Treaty is unlimited in duration and technically continues to be in effect for the signatory states, on-site inspection activities ceased on May 31, 2001 at the 13 year mark of the treaty's entry into force, and the last Special Verification Commission meeting was held in October 2003. See *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* (Washington D.C.: Department of State, July 2010), p. 7, accessible online at <http://www.state.gov/documents/organization/145181.pdf>.
- ⁵³ For a description of how Taiwanese, South Korean and Japanese theater missile programs have been restricted by U.S. pressure, see Gromley, pp. 77-82.
- ⁵⁴ For a detailed discussion, see Scott Jasper (ed.), *Conflict and Cooperation in the Global Commons: A Comprehensive Approach for International Security* (Washington D.C.: Georgetown University Press, 2012).
- ⁵⁵ For example, in interviews, multiple Japanese defense analysts and officials suggested that Chinese diplomats maneuvered to get Japan to sign the Convention on Cluster Munitions (CCM) and the Ottawa Treaty to ban anti-personnel mines in order to undermine Japan's ability to defend itself from off-shore amphibious invasion. They also point out that China did not become party to either treaty. Interviews in Tokyo, August and September 2013. Reports suggest that China is working to pressure Taiwan to stop the development of cluster munitions as well. However, Taiwan has held its ground. See Taiwan: Cluster Muniton Ban Policy, *Landmine & Cluster Muniton Monitor*, December 17, 2012, at http://www.the-monitor.org/index.php/cp/display/region_profiles/theme/3078.
- ⁵⁶ The author is indebted to Oriana Mastro for this point.
- ⁵⁷ Indeed a surprising number of retired U.S. generals and diplomats are now aligning themselves with CCP sponsored initiatives aimed at undermining the U.S.-Taiwan relationship. In both published writings and private conversations, many of these individuals indicate that their positions are being driven by feelings of anxiety induced by the dangerous presence of Chinese missiles across the strait. For one recent example, see Piin-Fen Kok and David J. Firestein, "Threading the Needle: Proposals for U.S. and Chinese Actions on Arms Sales to Taiwan," *EastWest Institute Policy Report*, September 2013, at <http://www.ewi.info/report-taiwan-arms-sales>.
- ⁵⁸ This section draws largely from Ian Easton and Randall Schriver, *Assessing Japan's National Defense: Toward a New Security Paradigm in the Asia-Pacific* (Arlington, VA: Project 2049 Institute, June 2013), pp. 23-24, accessible online at http://project2049.net/documents/assessing_japan_national_defense_easton_schriver.pdf.



⁵⁹ For an example of related Second Artillery studies, see Xu Jiaqiang, et al., “Assessing Threats to Airports Based on Maximum Deviations (基于离差最大的机场威胁度评估),” *Xitong Gongcheng Yu Dianzi Jishu* (Systems Engineering and Electronics), August 2011, pp. 1816-1819; and Shi Xilin and Tan Junfeng, “Fires Operations Using Tactical Surface to Surface Missile Strikes against Complex Aircraft Runways (战术地导弹打击复杂飞机跑道的火力运用),” *Huoli Yu Zhihui Kongzhi* (Fire Control and Command Control), June 2001, pp. 38-40.

⁶⁰ It is at least equally probable that any Chinese success in deteriorating the American sense of security would backfire, and the initial shock created by the PLA achieving conventional military parity would be followed with a concerted U.S.-led effort to respond in an overwhelming fashion. The American reactions to the strategic surprises that arose with the attacks on Pearl Harbor, the launch of Sputnik, and the September 11th terrorist attacks may be illustrative examples of this tendency.

⁶¹ Both Taiwanese and Japanese defense officials have evinced concern over the apparent lack of a well-coordinated American strategy for effectively coping with China's military modernization program, especially PLA missiles and UAVs. These individuals also emphasized their respective countries' needs for ballistic and cruise missiles capable of delivering conventional strikes on the Chinese mainland. Interviews in Arlington, VA in November 2012 and September 2013; and in Tokyo, February, July and August 2013.

⁶² See Kevin Pollpeter, “China's Second Ballistic Missile Defense Test: A Search for Strategic Stability,” *SITC Bulletin Analysis*, February 2013, at <http://www-igcc.ucsd.edu/assets/001/504391.pdf>; Harry Kazianis, “China Conducts Anti-Missile Test,” *The Diplomat*, January 29, 2013, at <http://thediplomat.com/flashpoints-blog/2013/01/29/china-conducts-anti-missile-test/>; and A. Vinod Kumar, “Impressions on China's Second Missile Interceptor Test,” *ISDA Comment*, February 22, 2013, at http://idsa.in/idsacomments/ImpressiononChinasSecondMissileInterceptorTest_avkumar_220213.

⁶³ See Desmond Ball and Richard Tanter, “The Transformation of the JASDF's Intelligence and Surveillance Capabilities for Air and Missile Defense,” *Security Challenges*, Spring 2012, pp. 19-56, accessible online at <http://www.securitychallenges.org.au/ArticlePages/vol8no3BallandTanter.html>.

⁶⁴ Wendell Minnick, “China Pursues Systems to Keep US Forces at Bay,” *Defense News*, September 17, 2013, at http://www.defensenews.com/article/20130917/DEFREG03/309160021/China-Pursues-Systems-Keep-US-Forces-Bay?odyssey=mod_sectionstories.

⁶⁵ Interviews with former U.S. government intelligence official, March 2013. See also Wen Dongping, *The Spy War Now Underway* [正在进行的谍战] (New York: Mirror Books, 2009), pp. 405-561.

⁶⁶ John Reed, “Son of a Blackbird: The Pentagon Eyes New Stealth Spy Plane,” *Foreign Policy*, July 24, 2013, at http://killerapps.foreignpolicy.com/posts/2013/07/24/the_pentagon_finally_wants_a_new_stealth_spy_plane?wpisrc=obinsite.

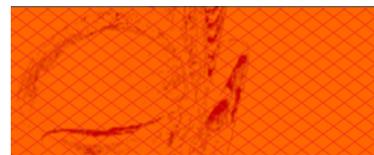
⁶⁷ Note that the first operational deployment of an SSGN (in late 2007) was to the Western Pacific. See “SSBN/SSGN Ohio Class Submarine, United States of America,” *Naval Technology*, undated, at <http://www.naval-technology.com/projects/ohio/>. See also Mark Thompson “U.S. Missiles Deployed Near China Send a Message,” *Time*, July 8, 2010, at <http://www.time.com/time/nation/article/0,8599,2002378,00.html?xid=rss-topstories#ixzz0tDI1t4R6>.

⁶⁸ Kris Osborn, “Pentagon Works to Expand Aegis BMD's Reach,” *Defense Tech*, May 31, 2013, at <http://defensetech.org/2013/05/31/pentagon-works-to-expand-aegis-bmd/>. Also, interviews with U.S. Naval officers in Yokosuka, Japan, August 2013.

⁶⁹ “Navy Docs Reveal UCLASS Minimum Ranges and Maximum Costs,” *U.S. Naval Institute News*, June 26, 2013, at <http://news.usni.org/2013/06/26/navy-docs-reveal-uclass-minimum-ranges-and-maximum-costs>.

⁷⁰ See Wendell Minnick, “Missiles, Launchers, Vessels, UAVs Unveiled at TADTE,” *Defense News*, August 17, 2013, at <http://www.defensenews.com/article/20130817/DEFREG03/308170006/Missile-Launchers-Vessels-UAVs-Unveiled-TADTE>; and J. Michael Cole, “Taiwan Military Flexes its Muscles,” *The Diplomat*, May 12, 2013, at <http://thediplomat.com/2013/05/12/taiwan-holds-han-kuang-29-live-fire-exercise/>.

⁷¹ Wu Ming-chie, “U.S. Suspected of pressuring Taiwan on guided bombs,” *Want China Times*, January 3, 2013, at <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20130103000115&cid=1101>.



- ⁷² See John Reed, "Surrounded: How the U.S. Is Encircling China with Military Bases," *Foreign Policy*, August 20, 2013, at http://killerapps.foreignpolicy.com/posts/2013/08/20/surrounded_how_the_us_is_encircling_china_with_military_bases; Kevin Kerrigan, "Air Force Planning to Bolster Andersen's Ability to Survive an Attack by Hardening Assets on Base," *Pacific News Center*, April 18, 2013, at http://www.pacificnewscenter.com/index.php?option=com_content&view=article&id=33373:navy-sustain&catid=45:guam-news&Itemid=156; <http://www.mvguam.com/local/news/29053-obama-triples-milcon-projects-for-andersen-naval-base.html>; Marc V. Schanz, "Air Force Bolstering Andersen's Survivability," *Air Force Magazine*, April 16, 2013, at <http://www.airforcemag.com/DRArchive/Pages/2013/April%202013/April%2016%202013/Air-Force-Bolstering-Andersen's-Survivability.aspx>; and Marc V. Schanz, "Resiliency Goes Beyond Hardening," *Air Force Magazine*, April 29, 2013, at <http://www.airforcemag.com/DRArchive/Pages/2013/April%202013/April%2029%202013/Resiliency-Goes-Beyond-Hardening.aspx>.
- ⁷³ Interviews with MoFA and MoD officials in Tokyo, February 2013 and August 2013.
- ⁷⁴ See Mark A. Stokes, *Revolutionizing Taiwan's Security: Leveraging C4ISR for traditional and non-traditional challenges* (Arlington V.A.: Project 2049 Institute, February 2010), p. 24, at http://project2049.net/documents/revolutionizing_taiwans_security_leveraging_c4ISR_for_traditional_and_non_traditional_challenges.pdf. See also *Taiwan Air Defense Status Assessment* (Washington D.C.: Defense Intelligence Agency, January 2010), accessible online at http://www.globalsecurity.org/military/library/report/2010/taiwan-air-defense_dia_100121.htm; Wendell Minnick, "Taiwan Missile Base Identified Near China," *Defense News*, February 22, 2010, at <http://minnickarticles.blogspot.jp/2010/02/taiwan-missile-base-identified-near.html>; and Wendell Minnick, "Taiwan BMD Coming Online," *Defense News*, March 22, 2010, at <http://www.defensenews.com/article/20100322/DEFFEAT06/3220319/Taiwan-s-BMD-Coming-Online>.
- ⁷⁵ Multiple interviews with current and former defense officials in Taipei and Washington.
- ⁷⁶ Johnson Lai, "Air drill highlights arms sale dilemma," *China Post*, April 13, 2011, at <https://www.chinapost.com.tw/taiwan/national/national-news/2011/04/13/298434/Air-drill.htm>.
- ⁷⁷ Various interviews with experts in Taipei, Tokyo, Yokosuka, and Washington D.C.
- ⁷⁸ Interviews with multiple U.S. military officials in Washington D.C.
- ⁷⁹ For example, see John A. Tirpak, "Breaking the Space Status Quo," *Air Force Magazine*, January 2013, at <http://www.airforcemag.com/MagazineArchive/Documents/2013/January%202013/0113space.pdf>.