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CHINA: PROSPERITY, WEALTH, AND IMPLICATIONS FOR THE U.S. NATIONAL MILITARY STRATEGY

BY

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During the past sixty years, the People's Republic of China has watched the pendulum of post-communist victory swing from a period marked by extreme hardship to a period marked by tremendous economic development, growth, and prosperity. Indeed, it is this prosperity over the past thirty years that has propelled China up the ladder of financial wealth while also funding a sustained and extensive military transformation and modernization program. The combination of these efforts has put China on a path to become a fully developed regional, if not global power. As a result, many nations view China's rise as a source of suspicion and concern primarily due to its lack of transparency. Against the backdrop of China's progress and its potential to "up end" the balance of power in East-Asia the issue is, how should the United States assess China's progress in order to determine the way ahead in alleviating any suspicions and concerns now and in the future? In answering this, this essay examines China's rise in global wealth, its need to fund a sustained and extensive military transformation and modernization program, and the implications of its military build-up for the United States National Military Strategy.

CHINA: PROSPERITY, WEALTH, AND IMPLICATIONS FOR THE U.S. NATIONAL MILITARY STRATEGY

In a nation with a recorded history of nearly 4,000 years, it should come as no surprise that its government would find cause to pause and celebrate. On October 1, 2009, China did and its national capital of Beijing planned and executed an hour-long performance showcasing it impressive soldiers outfitted with the most recent advances in military technology and weaponry. Parading for the nation and the world to see, Beijing rolled out its "newest solid-fuel intercontinental ballistic missiles, airborne warning and control systems, supersonic anti-ship missiles, and indigenous fighter jets."[1] The cause for celebration was not for something that happened hundreds or thousands of years ago but for something that happened much sooner. In this case, the cause for celebration was to mark the "sixtieth anniversary of the communist victory in China."[2]

During the past sixty years, the People's Republic of China (PRC) has watched the pendulum of post-communist victory swing from a period marked by extreme hardship and mass starvation which caused the deaths of an estimated 40 million people to a period marked by tremendous economic development, growth, and prosperity. Indeed, "for most of the population living standards have improved dramatically and the room for personal choice has [greatly] expanded." It is this prosperity over the past thirty years that has propelled China up the ladder of financial wealth to become the world's "second largest economy,"[3] after the United States. In achieving this status, China is also currently recognized as the "world's largest exporter,"[4] overtaking Germany and the "fourth largest importer of goods"[5]. As China's

economic success and wealth have increased during this time, the Chinese government also found itself in a unique position to fund a sustained and extensive military transformation and modernization program. The combination of these two parallel efforts has put China on a path to become a fully developed regional, if not global power. As a result, many nations view China's rise in economic wealth and military might as a source of suspicion and concern primarily due to its lack of transparency in clearly stating the goals and objectives of its "peaceful rise"[6] and the rationale and extent of its military build-up.

Against the backdrop of China's progress and its potential to "up end" the balance of power in East-Asia the issue is, how should the United States assess China's progress in order to determine the way ahead in alleviating any suspicions and/or concerns now and in the future? In answering this, this essay examines China's rise in global wealth, its need to fund a sustained and extensive military transformation and modernization program, and the implications of its military build-up for the United States National Military Strategy.

Economic Reform

As mentioned above, the past sixty-years of communist rule in China have been dynamic and contentious to say the least. However, it is the last thirty-years which marked the beginning of China's path to financial wealth, prosperity, and economic vitality. During this period, China broke tradition, in part, with the ideological norms of communist rule by transitioning from a centrally planned and controlled economy to a free market-oriented economy.

Since 1978, when this new initiative began, China's rapid and sustained economic growth of "nearly 10 percent annually"[7] has surprised many of its critics while

raising the concerns and suspicions among “Western countries, in particular, the United States and Japan.”[8] Indeed, “from 1980 to 2008, China’s economy grew 14 fold in real terms, and real per capita GDP grew over 11 fold.”[9] By some measurements, “China is now the second largest economy and some analysts predict it could become the largest within a few decades.”[10]

While pre-market reform “policies kept the Chinese economy relatively stagnant and inefficient,”[11] post-market reforms “initiated price and ownership incentives for farmers,”[12] and created “special economic zones along the coast for the purpose of attracting foreign investment, boosting exports, and importing high technology products into China.”[13] Furthermore, additional reforms sought to:

- “Decentralize economic policy making in several sectors, especially trade”[14]
- “Provide provincial and local governments’ economic control of various enterprises which were allowed to operate and compete on free market principles”[15]
- “Designate coastal regions and cities as open cities and development zones, which allowed them to experiment with free market reforms and offer tax and trade incentives attract foreign investment”[16]
- “Eliminate state price controls on a wide range of products”[17]

As a result, these “trade and investment reforms and incentives”[18] [have] played a crucial role in successfully accomplishing two key aspects of China’s strategy and that is sustaining its domestic and international economic growth.

With regards to domestic economic growth, China’s reforms have “led to a surge in foreign direct investment (FDI), which has been a major source of China’s capital

growth."[19] According to Chinese financial data, "foreign-direct investments in China grew from $636 million in 1983 to $92 billion in 2008."[20] It is essential to understand the importance of FDI as it directly relates to solving one of two critical issues facing the Chinese government and that is creating and "sustaining adequate jobs growth for tens of millions of migrants, new entrants to the work force, and workers laid off from state-owned enterprises deemed not worth saving."[21] China's population is currently estimated at 1.3 billion and "over the next quarter century, China's population will grow by 170 million"[22] people. With this in mind, "the Chinese government [estimated] that in 2007, there were 286, 200 foreign-invested companies in China"[23] that "employed more than 42 million people."[24] This is significant for a large nation such as China as it helps maintain unemployment at an impressive rate of "four percent and a ranking of 45 out of 200 countries."[25] In contrast, compare this to the United States, which was ranked 72 out of 200 countries when unemployment was 5.8 percent and now is currently at a much higher rate of "ten percent."[26] Additionally, it helps improve and level the standard of living for Chinese population.

With regards to international economic growth, China, in 2000, "initiated a new "go global" strategy, which sought to encourage firms (especially state-owned enterprises) to invest overseas"[27] in an effort referred to as "overseas direct investments."[28] Through overseas direct investments, China is better able to "seek more profitable ways of investing its massive accumulation of foreign exchange reserves,"[29] "gain access to foreign technology and management skills to help domestic firm become more efficient and internationally competitive,"[30] and most importantly the

"acquisition of energy and raw materials"[31], which directly relates to the second critical issue facing the Chinese government and that is resource demand.

As China continues to grow, so has its appetite for energy and raw materials. In their efforts to address and resolve this issue, the Chinese government has "sought to expand its trade with countries around the world [possessing the] energy and raw materials China needs to sustain its rapid economic growth,"[32] such as Myanmar, Australia, Sudan, North Korea, Iran, and Afghanistan, to name a few. Since the early 1990s, "China has imported energy and raw materials in large quantities"[33] ultimately "reshaping the supply-demand patterns of world resources [generating] considerable impacts on [the] global economy."[34]

In April 2009, "China's voracious appetite for commodities drove the second-biggest monthly haul of crude oil and tripled aluminum imports"[35] in the world. Additionally, "China imported record amounts of copper and iron ore as its mammoth stimulus program stoked its foundries and mills."[36] Indeed, "with large purchases of iron ore, copper, and oil, China has been taking full advantage of depressed commodities prices and excess production capacity"[37] to secure additional energy resources for the short-term while successfully brokering major deals for long-term. For example, China secured "an unprecedented $41 billion liquefied natural gas deal with Australia"[38] and a "$5.6 billion deal with a consortium of energy companies operating off the coast of Myanmar."[39] Furthermore, "China is the world's second-largest consumer of oil behind the United States, and the third largest net importer of oil after the U.S. and Japan."[40] "In fact, China's oil demand is expected to increase nearly 20% over the next six years,

and the country is already importing more than half of the eight million barrels used per day."[41]

However, despite its incredible consumption for strategic resources, China has created a synergistic relationship with the international community in which both have benefited greatly. "China's growth contributes to the world economy in that it:

- leads to the improvement of living standards of China's population,
- creates momentum for Asia's economic development, and in turn serves as a positive factor in global development,
- facilitates the optimal allocation of resources in the world market through its participation in the international division of labor, and
- helps China assume a constructive international role especially by linking developed countries with developing countries."[42]

As a nation with increasing prosperity and wealth, "China has captured the opportunity to rise as a major power"[43] and, in doing so, finds itself in a unique position to create and seize opportunities as discussed above, promote its values through the export of human capital, establish new friendships where they previously did not exist, exert greater influence in regional issues, and most importantly, provide the financial resources needed to transform and modernize a capable and adaptive military force in order to safeguard and secure its national interests.

Fortified Defense and Strong Military Forces

"Invincibility lies in the defense; the possibility of victory in the attack."[44] While China's pursuit of economic reforms has been on-going for thirty-years, "today's [military] build up has been underway for the better part of two decades."[45] However,

"the pace and scope of China's military transformation has increased in recent years, fueled by continued high rates of investment in its domestic defense and science and technology industries, acquisition of foreign weapons, and far reaching reforms of the armed forces."[46] "With the nation's economy expanding at near double digits rates, Beijing was able to increase defense budgets even faster without imposing noticeable burdens on [its] society."[47]

According to [US] Defense Department's latest figures, "between 1996 and 2008 China's officially disclosed (and likely underestimated) defense budget grew by an average of 12.9 percent per year."[48] As the chart indicates below, the U.S. remains the largest contributor of military spending by far; however, China is clearly allocating a significant portion of its national budget towards its military over time.

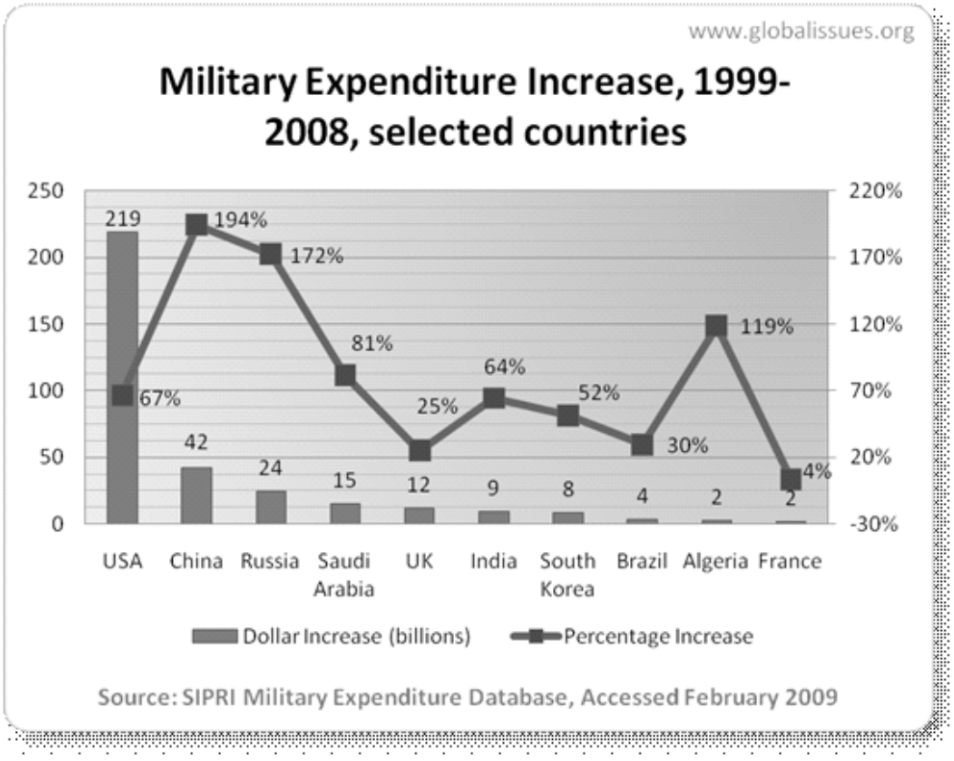

Figure 1. Military Expenditures. Source: SIPRI Military Expenditure Database.

While this serves to collectively heighten suspicions and concerns of many nations, some experts argue that “China is a rising power and, as such, it is doing what comes naturally: acquiring the capabilities to project its power, extend it influence and defend its increasingly far flung interests.”[49] “While this…may be true, it is also, from a strategic perspective utterly irrelevant.”[50] “The fact that Beijing regards its build up as fully justified and even essential to its future prosperity and survival does not make it any less of a concern; indeed, quite the contrary.”[51] “The expanding military capabilities of China’s armed forces are a major factor in changing East Asian military balances”[52] with strategic “ramifications far beyond the Asian Pacific region.”[53]

To this end, “the international community has limited knowledge of the motivations, decision-making, and key capabilities supporting China’s military modernization.”[54] Some analysts speculate that the motivation behind China’s military modernization program is tied to the 1995-1996 crises over Taiwan, a country China proclaims sovereignty over. Frustrated by the independence of Taiwan and its first ever presidential election in 1996, China responded with increased military posturing that included launching “ballistic missiles into waters not far off the northern and southern coast of Taiwan”[55], along with “small-scale naval and air exercises…that included a simulated amphibious invasion.”[56] In response to these military overtures, the U.S. responded “by sending two aircraft battle groups into the Taiwan Strait, warning China that the US might react to protect Taiwan in the event of any actual use of force against the island.”[57]

As a result of this crisis, one could argue that in light of the US response, China realized that in order to seize control of Taiwan it must first defeat or at best significantly

delay the ability of the United States to respond and that this is the basis for China's anti-access/area denial strategy and overall military transformation and modernization program. Since 1996, "there have been no further incidents of this type and China's relations with the US have improved."[58] However, "China's leaders have yet to explain in detail the purposes and objectives of the People's Liberation Army's (PLA) modernizing military capabilities."[59] Despite all the skepticism it receives for its lack of transparency in revealing the extent of its military expenditures and the ambiguity of its military strategy and security affairs, China proclaims that it is only pursuing "a national defense policy, which is purely defensive in nature."[60]

According to China's 2008 White Paper on National Defense, "China places the protection of national sovereignty, security, territorial integrity, safeguarding of the interests of national development, and the interests of the Chinese people above all else."[61] Furthermore, "China endeavors to build a fortified national defense and strong military forces compatible with national security and development interests, and enrich the country and strengthen the military while building a moderately prosperous society in all aspects."[62] Based on the "requirements of [strengthening its] national security and [improving] the level of economic and social development, China pursues a three-step development strategy to modernize it national defense and armed forces."[63] First, China seeks to "lay a solid foundation for its national defense and armed forces by 2010."[64] Second, China seeks to make "major progress in informationization by 2020,"[65] which emphasizes "operating environments characterized by communications jamming, electronic surveillance, and precision weaponry."[66] Third, China seeks the "goal of

[complete] modernization of national defense and armed forces by the mid-21st century."[67]

In developing this strategic framework for its national defense policy, "China implements a military strategic guideline of active defense"[68] for the 21st century. This marks a significant shift from preparations involved with a large-scale, nuclear-based strategy of war towards a new concept that emphasizes "local war under conditions of informatization."[69] It is at this point where one begins to see lessons learned from the 1990-1991 Gulf War emerging and influencing the transformation of China's military force. Under this concept for the new era, the PLA is "pursuing [a] comprehensive transformation from a mass army designed for protracted wars of attrition to one capable of fighting and winning short-duration, high intensity conflicts along its periphery against high-tech adversaries."[70] In this situation, "such a war would be fought for limited aims, using only conventional weapons in the sea and airspace off China's eastern coast"[71] because "it [is] from this direction that the greatest threats to the nation's security [are] expected to come."[72] In sum, China has used its White Paper as a means to identify and communicate what types of threats it may face, however, it does not identified "who" the greatest and most credible threat is as the basis for its need to fund a sustain and extensive military transformation and modernization program.

Transformation and Modernization

"China's long-term, comprehensive transformation of its military forces is improving its capacity for force projection and anti-access/area denial."[73] This strategy marks a new beginning for the PLA as it plans and manages the development of it armed forces with a focus on flexibility, agility, mobility, precision, and joint operations.

To assist the nation in gaining the efficiency and effectiveness it requires in accomplishing its goal of modernization, in light of the challenges posed by continuous conflict and uncertainty, the PLA has contributed years of study and research examining "America's remarkable success in defeating Saddam Hussein's army during the Gulf War of 1990-1991."[74] "During the Gulf War more than 500 kinds of new and advanced technology of the `80s ascended the stage…making the war simply [appear] like a demonstration site for new weaponry."[75] "However, the thing that left a profound impression on the people was not the new weaponry per se, but was rather the trend of systemization in the development and use of the weapons."[76] "The real-time coordination of numerous weapons over great distances created an unprecedented combat capability, and this was something that was unimaginable prior to the emergence of information technology."[77] As a result, the PLA essentially developed a set of strategic imperatives to serve as "guideposts" for its road-to-war.

The five strategic imperatives listed below take into "overall consideration the evolution of modern warfare and the major security threats facing China [as she] prepares for defensive operations under the most difficult and complex circumstances."[78]

- *Leader Training/Leader Development*. The goals and objectives established by the PLA in order to modernize its national defense armed forces requires military leaders, at all levels of command, who can operate in a dynamic, fluid, and complex environment while understanding and "furthering the comprehensive development of the military."[79] Recognizing the need to establish and inculcate a professional set of core competencies, in order to

enhance its combat readiness and effectiveness, the PLA has embarked on a process to promote the improvement of military training and leader development by 1) “increasing training tasks which emphasizes strategic and operational-level command post training, 2) deepening training reform through joint training of services, strategic thinking and analysis to better understand ways of fighting and the value of regional cooperation, and 3) training in complex electromagnetic environments in order to master and apply the basic theories of information warfare.”[80]

- *Precision Strike/Scalable Lethality*. In support of it anti-access/area denial strategy, the PLA has made considerable progress in developing an integrated network of sensors, systems, and munitions with scalable lethal and non-lethal options for commanders to employ. In recent years, the PLA has upgraded its artillery units with operational and tactical missiles. The PLA has deployed approximately 1,100 short-range ballistic missiles (SBRMs) at garrisons along China’s periphery and continues to do so “at a rate of more than 100 per year.”[81] The PLA has acquired large numbers of highly accurate land attack and anti-ship cruise missiles, while furthering its development of anti-ship ballistic missiles (ASBMs) “as a component of its anti-access strategy.”[82] When combined with enhanced command and control systems, over-the-horizon radars, and unmanned aerial vehicles (UAVs), the PLA is capable of delivering precision munitions at ranges in excess of 1,500 kilometers. Additionally, “China’s nuclear force modernization, as evidence by the fielding of the new [hard to detect, road-mobile] DF-31 and DF-31A

intercontinental-range missiles, is enhancing China's strategic strike capabilities."[83] Finally, the PLA has increased its investment and employment of advanced capabilities in cyberspace as a non-lethal option of national power.

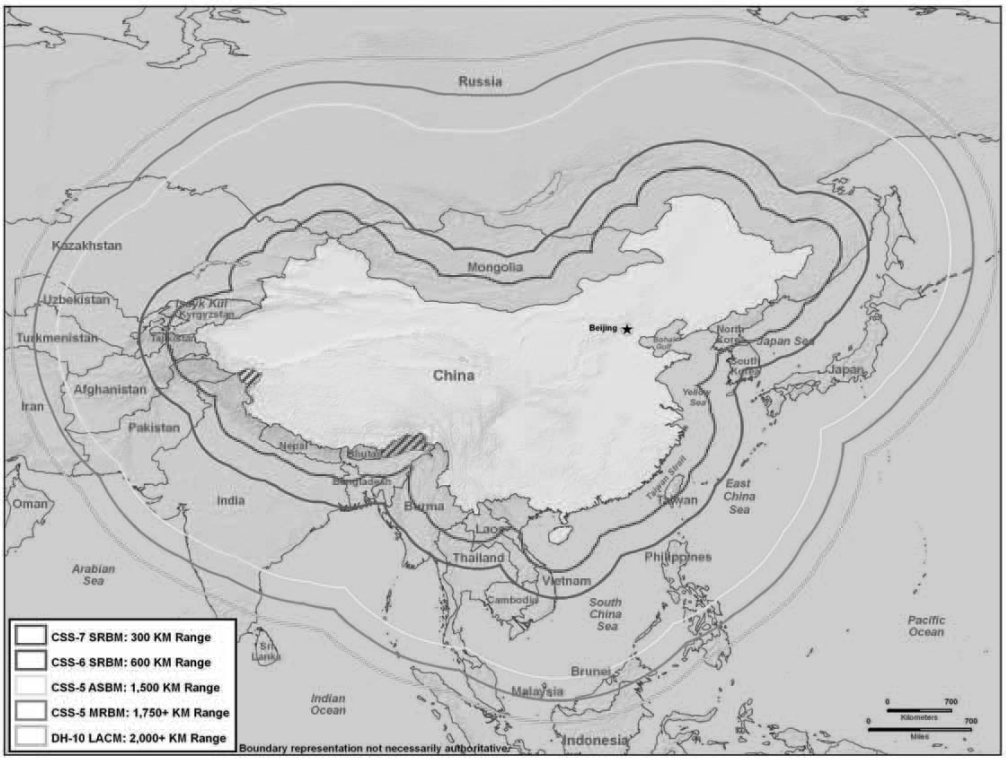

Figure 2. Regional Conventional Missiles. Currently, China is capable of employing land-based ballistic and cruise missile forces to support a variety of regional contingencies. Not represented in this map are the sea- and air-based missiles that also contribute to China's strategy. Source: Annual report to Congress Military Power of the People's Republic of China 2008.

- *Reach*. With emerging anti-access/area denial capabilities, "the PLA appears engaged in a sustained effort to develop the capability to interdict or attack, at long ranges, military forces – particularly air or maritime forces - that might deploy or operate within the Western Pacific."[84] As a result, "PLA planners are focused on targeting surface ships at long ranges from China's shores"[85] in order to "hold surface ships at risk through a layered capability reaching out

to the “second island chain” that extends south and east of Japan, to and beyond Quam in the western Pacific Ocean.”[86] In order to both defend against and attack adversaries, within such a vast area of operations, China’s concept of “reach” integrates the components of sea, air, space, and cyber-space to enhance its ability to “see first” and “strike first” in terms of spaced and time creating a synergy of force, which would allow them to influence or control key strategic areas and resources in the East-Asian region.

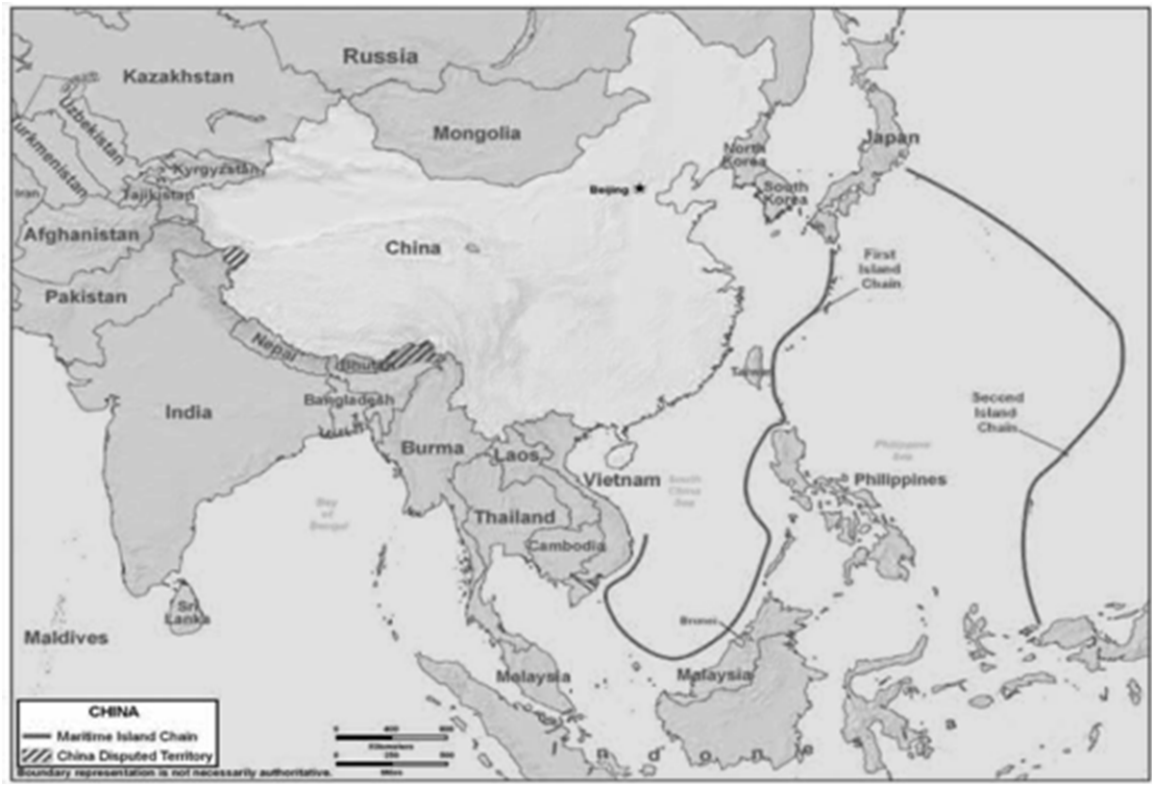

Figure 3. The First and Second Island Chains. PRC military theorists conceive of two island “chains” as forming a geographic basis for China’s maritime defensive perimeter. Source: Annual report to Congress Military Power of the People’s Republic of China 2008.

In furthering this imperative, the PLA has improved the “reach” of its Naval Forces with over-the-horizon targeting and radar capabilities. As mentioned earlier, when these systems are combined with anti-ship ballistic missiles, the PLA is able to

detect, track, and engage targets at ranges in excess of 1,500 kilometers. The PLA has also expanded its fleet with highly capable and difficult to detect diesel electric submarines designed with or modified to carry anti-ship cruise missiles. Additionally, "China has been planning the construction of an aircraft carrier since the mid-1980s, and it will soon begin building its first."[87] Finally, the PLA has outfitted several of its surface combatant ships with long-range surface-to-air missiles (SAMs) "reflecting the [PLA] leadership's priority on anti-air warfare capabilities."[88]

With the world's largest standing fighting force, the PLA has improved the "reach" of its Army with "new missile units outfitted with conventional theater-range missiles."[89] "Potential expeditionary units…are improving [their capabilities] with the introduction of new equipment, better unit-level tactics, and greater coordination of joint operations."[90] Collectively, these improvements enable the PLA to extend its lethal "reach" to support a variety of regional contingencies on land and sea at ranges in excess of 2,000 kilometers.

Regarding air and air defense forces, the PLA is actively modernizing its bomber fleet with upgrades to its older models or through the acquisition of newer and more advanced aircraft. "China's aviation industry is [also] developing several early warning and control aircraft [with additional capabilities to support] intelligence collection and maritime surveillance."[91] Additionally, China is actively pursuing the "acquisition and development of longer-range unmanned aerial vehicles and unmanned combat aerial vehicles [to expand its] options for long-range reconnaissance and strike."[92] The air defense component includes over 1,500 SAMs "such as the extended range SA-20 PMU2"[93] as an essential part of the PLA's anti-access/area denial strategy.

In space, “China is developing a multi-dimensional program”[94] to extend its “reach” beyond the boundaries of earth. In recent years, China has developed and successfully tested a direct ascent anti-satellite weapon in order to “limit or prevent the use of space-based assets by its potential adversaries during times of crisis or conflict.”[95] Additionally, China recently launched “the fifth in a class of Space Event Support Ships, the Yuanwang 5, an ocean-going space tracking and survey vessel”[96] capable of supporting space launch activities as China continues to deploy a “more sophisticated and diverse set of satellites into orbit.”[97]

Regarding cyberspace, “China is increasingly developing and fielding capabilities”[98] [in this domain] and focusing “not only on collecting sensitive information, but also achieving military effects capable of causing economic harm, damaging critical infrastructure, and influencing the outcome of conventional armed conflicts.”[99] In furthering this imperative, China’s adaptation of cyberspace, as an asymmetric weapon, has greatly extended its “reach” and in the process redefined the nature of warfare by going beyond the traditionally recognized boundaries of the modern battlefield. “According to a 2008 study by the Dartmouth College’s Institute for Security Technologies Studies, China alone among other potential U.S. competitors has developed the full spectrum of capabilities and practices for cyberspace dominance and cyberwarfare.”[100] Current “estimates indicated China has 50,000 Internet police and 50,000 military hackers in place or being trained who will populate over 250 cyber units.”[101]

- *Protection*. “The border and coastal defense of the Army…is the mainstay for safeguarding national sovereignty and territorial integrity, and maintaining the

security and stability in border and coastal areas."[102] In recent years, the PLA has consistently placed a higher priority on developing and instituting measures to improve overall combat readiness of its forces, enhance its reconnaissance and surveillance capabilities, and streamline the process from "sensor" to "shooter" through better technology and command and control functions in order to improve military responsiveness. In doing so, the PLA seeks to use these capabilities to deter and defend China's interests using both asymmetric and conventional means against emerging threats and future challenges.

- *Joint Operations*. As the PLA continues to make progress in the development of its leaders, units, and systems it also recognizes that the combination of these capabilities must be integrated in order to function with the agility, flexibility, and mobility to respond quickly, rapidly deploy, and operate as a cohesive force. For example, the Army is increasing its "capabilities for air-ground integrated operations [that include] long distance maneuvers, rapid assaults, and [integration with] special operations"[103] while the Air Force stresses "combined training of different arms and aircraft types…mission-oriented and confrontational training [scenarios]…and [joint] air-to-ground attacks."[104]

In sum, these imperatives address the PLA's institutional and modernization efforts to transform it military forces in a way that centers on technology and the ability to "build the weapons to fit the fight."[105] Much has been said about the state of China's military equipment with some analyst arguing that it is mostly too old and inadequate.

For example, the PLA Air Force is equipped with Russian SU-27s, which are based on 1970's technology. However, according to Colonels Qiao Liang and Wang Xiangsui, two prominent and senior PLA leaders, the future of China's security rest not on its ability to develop new weapon systems to support its tactics but rather the ability to optimize the "pairing up and use of new and old generation weapons…to eliminate the weakness of uniform weaponry…[and create] a "multiplier" to increase the weapon's effectiveness;"[106] thus, "building the weapons to fit the fight."[107] As an example, Colonels Liang and Xiangsui cite the B-52 bomber, which people have indicated on many occasions as having long outlived its usefulness has emerged once again after being paired up with cruise missiles and other precision guided munitions.[108] By adopting this concept of warfare, China recognizes its inability to confront a superior military power like the United States, and as such, seeks "to develop certain specialized capabilities designed to make it difficult, for U.S. forces to operate freely anywhere close to [its] coasts"[109] as an integral part of its anti-access/area denial strategy.

Implications for U.S. National Military Strategy

"One defends when his strength is inadequate; he attacks when it is abundant."[110] There is no denying that China is making progress in transforming and modernizing its military capabilities to an extent that it poses some serious challenges for the region and the world. However, lacking a full disclosure from the PRC regarding its intentions in the region, "the critical factor in assessing the modernization of the PLA's military force is…whether China is on the verge of challenging U.S. deterrence and developing war-winning capabilities."[111] According to the 2004 U.S. National Military Strategy, "the objectives of protect, prevent, and prevail provide the foundation for defining military capabilities and creating a joint force that can contend effectively

with uncertainty."[112] Collectively, "the armed forces must have the ability to defeat opponents that possess WMD/E (weapons of mass destruction-effects), combine both low-tech and high-tech capabilities and merge traditional and asymmetric capabilities in an attempt to overcome US military advantages."[113] If this is the case, what then are the implications of China's military build-up in challenging U.S. forces and thus it's National Military Strategy?

"In modern warfare, air power is often crucial."[114] In this situation, the United States has not had a true military peer since the "Cold War" - until now? Some analysts would argue that while the PLA Air Force is capable of extending its "reach" to the South China Sea and beyond it does so with fighter and bomber aircraft that are based on antiquated technology, inferior quality, and thus limited capabilities. Indeed, "more than a thousand of China's aircraft are types long considered obsolete by other major air forces."[115] The "most numerous of these are the J-6 (copied from Russian MiG-19s, which flew over a half century ago), its Q-5 attack derivative, and the H-5 (11-28)…which served as Russia's first jet bomber almost 60 years ago!"[116] But, what about China's ability to optimize "old" with "new" in order to increase the systems capabilities and effectiveness? For example, during the 60th anniversary in October 2009, China paraded the Kongjing-200, which optimizes the capabilities of balance beam-like radar technology with the airframe of a Yun-8 transporter providing lower-altitude and shorter-range mid-air combat information supply.[117] If China can optimize its systems in this manner, what about their ability to combine advanced air-to-air missiles with thousands of older generation fighters? However, China is not content with simply combining "old" with "new" to solve deficiencies in its Air Force. On January 7, 2010, China surprised

many analysts by flight testing its 5th generation stealth aircraft which is similar to the same technology used by the U.S. in its F-22 Raptor. This new system is reported to have "4S capabilities: stealth, super cruise, super maneuverability, and short take-off."[118] In an interview with Global Times, "PLAAF Commander Xu Qiliang stated, "superiority in space and in air would mean, to a certain extent, superiority over the land and the oceans," thereby highlighting the PLAAF's position in Chinese military planning."[119]

On the high seas, "China's naval modernization effort has substantially improved China's naval capabilities in recent years."[120] Again, some "observers believe China's Navy continues to exhibit limitations and weaknesses in several areas, including…sustained operations by large formations…joint operations…C4ISR systems, anti-air warfare, antisubmarine warfare, mine countermeasures and a dependence on foreign suppliers for key ship components."[121] However, these deficiencies have not gone unnoticed and the PLA Navy is actively working to narrow the gap in its forces by combining or "pairing-up" its capabilities, as discussed earlier, in order to create a stronger and more effective combat force. For example, "DOD [Department of Defense] and other observers believe China is developing anti-ship ballistic missiles…equipped with maneuverable reentry vehicles (MaRVs) capable of hitting moving ships at sea."[122] The combination of these systems, in conjunction with additional surveillance and targeting systems would make it "more difficult [for U.S. ships] to intercept than non-maneuvering ballistic missile reentry vehicles,"[123] but not impossible. In the end, these modifications or "minor additions in capabilities,"[124] such as the acquisition of the Russian-made SS-N-22 Sunburn and SS-N-27 Sizzler anti-ship cruise missiles do not

pose a serious threat to U.S. forces operating freely in the region, however, collectively the modernization of China's naval forces does cut into the gap between the two navies. As China continues to improve its naval forces she could achieve the strategic objective of delaying or disrupting the ability of U.S. naval forces to respond to any crisis in the region. For example, any response to hostilities directed against Japan, the Philippines, or Taiwan.

Regarding power projection, "China, of course, does want to extend its sphere of influence,"[125] however, "any such influence in the East China Sea"[126] and beyond into the Western Pacific Ocean is contingent on the combination of air and naval power. In this case, "PLA air and amphibious lift capacity has not improved appreciably since 2000 when the Department of Defense assessed the PLA as capable of sealift of one infantry division."[127] Additionally, while "China's at-sea replenishment has improved with experience since 2000…the PLA Navy today remains limited by a small number of support vessels – much as it did then."[128] Furthermore, "while China has a few aerial refueling aircraft, it does not have the number of tankers, properly equipped combat aircraft, or sufficient [joint] training [and integration] to employ this capability for [global] power projection."[129] Based on current capabilities, China does possess the capability for power projection in a regional sense and this may be sufficient in terms of accomplishing their strategic goals and objectives such as seizing control of key strategic resources and economic exclusion zones, securing them from other nations, influencing or controlling vital regional sea lanes, or simply responding as needed in support of natural disasters. Ultimately, the question is what is their intent? Is China trying to develop the capability to challenge and "impose its will"[130] on the United

States? Until the PRC is open and forthright regarding its intentions these questions will be a source of debate and friction between China and many Western countries.

"What naturally attracts the greatest attention is China's modernization of its strategic nuclear forces."[131] However, China possesses a limited nuclear capability estimated at a total of twenty-four liquid- and solid-fueled intercontinental ballistic missiles. As a result, there is no evidence that China has changed its policy of "no first use." Additionally, "China is understandably concerned that its nuclear force would lose its second-strike capability unless it has more and better warheads and delivery vehicles,"[132] especially in light of the preemptive-strike doctrine adopted by the United States. Based on current priorities, any effort by China to pursue a significant expansion of its strategic nuclear capabilities would divert much needed resources from other, more important transformation and modernization programs.

One area of China's high-technology programs in which it has been conducting broad research is unmanned aerial vehicles (UAVs). Following the concept of combining or "pairing up" capabilities, China's expanded use of "UAVs could provide the PLA with an advanced reconnaissance and weapons-delivery capability."[133] However, the PLA's ability to maximize the full potential of employing UAVs is problematic. For example, the PLA "lacks a secure platform from launching UAVs"[134] while at sea. Additionally, "the Chinese land-based UAVs would lack the range to target U.S. ships."[135] Furthermore, "without the full array of C4ISR capabilities and a secure maritime capability, UAVs cannot significantly contribute to China's effort to challenge U.S. maritime superiority."[136]

Other areas of China's "high-tech" programs in which it has been conducting extensive research and development are space and cyberspace. In space, China has been able to make successful progress in its ability to target space-based systems with anti-satellite missiles, while also using its own space-based capabilities to track and target ships at sea. While these capabilities have serious consequences, U.S. superiority in space technologies, "redundant satellite systems"[137], and its inherent ability to also target and degrade space-based systems significantly "minimizes China's ability"[138] to exploit the use of space against U.S. military forces.

In cyberspace, "trying to make sense of military modernization and assess the impact modernization might have must start by making judgments about the operational characteristics of the system/capability." Is it an offensive, defensive, or multi-role system? In this situation, "cyber warfare is an emerging problem." "In the episodes where it has actually been used, either by organized militaries or by non-state sponsored hackers, it should be considered an offensive capability." China's adaptation of this domain as an asymmetric means of warfare presents a credible threat to U.S. forces. Indeed, the "United States is…vulnerable to cyber attacks and a Chinese cyber offensive…could influence U.S. operations in the Western Pacific"[139] because "U.S. [systems] and advanced munitions are increasingly dependent on high-technology communications and surveillance technologies,"[140] which are extremely vulnerable to such attacks. However, "the reciprocal effect of [U.S.] cyber-warfare capability on Beijing's ability to wage high-technology warfare is equally significant."[141] In response to any Chinese cyber attack against the U.S., a counter cyber offensive would be immediately launched "and once the [U.S.] degrades the PLA's advanced

communications technologies, China would lose its high-technology asymmetric capability…and it would be very susceptible to a wide range of superior U.S. sea-based forces."[142]

Perhaps the most contentious and challenging aspect of China's military build-up is its potential to "up end" stability and security in East Asia. Today, "the United States enjoys military superiority in the Pacific Ocean and the South China Sea, as well as the ability to deter the use of force against maritime states and to defend them during hostilities."[143] However, China's on-going territorial dispute with its neighbors, especially Taiwan, threatens to "undermine American strategic partnerships in East Asia."[144] Currently, China continues to create friction "over exclusive economic zones and ownership of potentially rich oil and gas deposits…in the East China Sea."[145] "In the South China Sea, China claims exclusive sovereignty over the Spratly and Parcel island groups – claims disputed by Brunei, the Philippines, Malaysia, Taiwan, and Vietnam."[146] Additionally, the prevention of an independent Taiwan remains a key overriding objective of the PRC. In this situation, one could argue that the true intent of China's military build-up has been revealed. If China can develop the capability to deny or disrupt US freedom of access in the region while simultaneously attacking to seize control of strategic resources or land, then it can, in a sense, achieve strategic victory against the United States.

For Taiwan and other East Asia nations that are geographically closer to China's borders and power projection capabilities, the ability of U.S. forces to deter Chinese coercive and hostile actions is vital to their national interests. For example, according to Admiral Keating, former Commanding General, U.S. Pacific Command, in his remarks

to the Center for Strategic and International Studies military forum on East Asia, “twenty million containers [of goods] traffic through the Indian-Pacific Ocean region annually.”[147] Additionally, he stated that, “fifteen of the twenty largest sea ports in the world are located in East Asia”[148] and that “80 percent of the oil that reaches China, South Korea, Taiwan, and Japan traffics through the Straits of Malacca.”[149] However, “America’s power-projection capability has assured United States strategic partners that they can rely on the [U.S.] to deter another great power,”[150] “dominate regional sea-lanes”[151] to maintain open and free access for all, and “guarantee a favorable balance of power that prevents the emergence of a regional hegemon.”[152] “Despite China’s military advances and its challenge to America’s ability to project power in the region, the [U.S.] can be confident [in its regional partnerships] and in its ability to retain maritime dominance well into the twenty-first century.”[153]

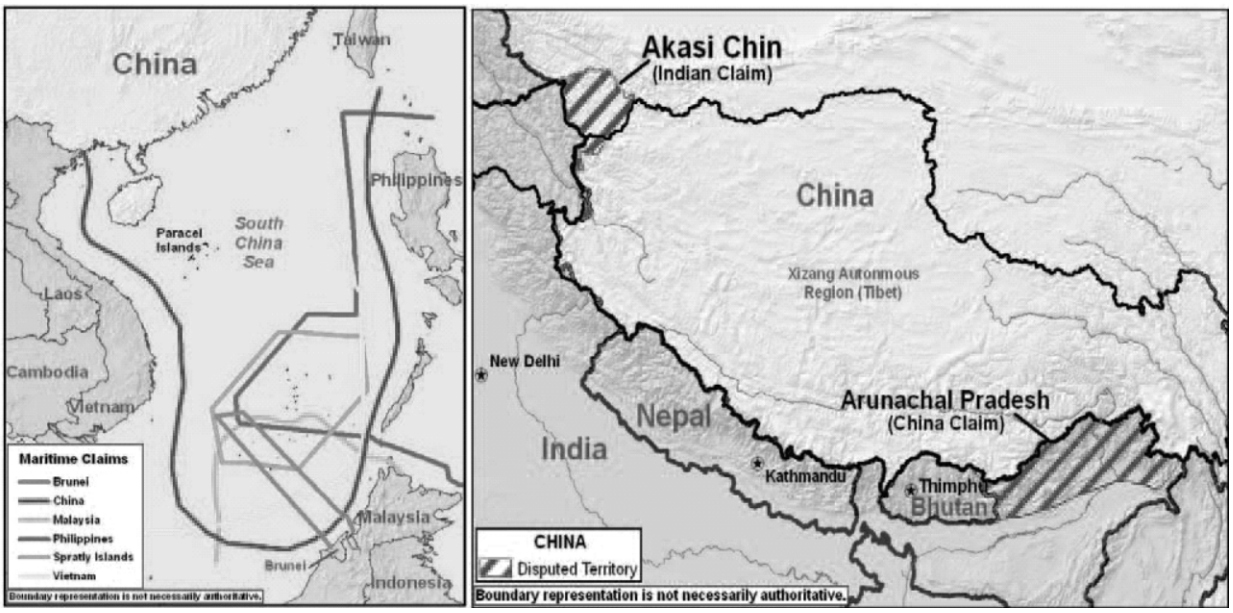

Figure 4. China’s Territorial Disputes. Source: Annual report to Congress Military Power of the People’s Republic of China 2008.

Recommendations for Change

In light of China's military build-up it is evident that "improved Chinese capabilities complicate U.S. naval operations and require greater caution in operating [its vessels] near the Chinese coast, particularly in the case of a conflict over Taiwan."[154] For example, "a carrier strike force may well have to follow a less direct route into the area and maintain a greater distance from China's coast to reduce its vulnerability to Chinese capabilities."[155] As a result, some analysts argue that "American power-projection capabilities in East Asia are more vulnerable now than at any time since the end of the cold war."[156] Given the implications of China's emerging military capabilities, how does it affect the U.S. National Military Strategy now and into the future?

First, what does not need to change as a result China's military build-up? Perhaps the most important aspect of the U.S. military strategy in East Asia is the strength of its commitment with its partners and allies. To sustain this effort, the U.S. must continue to reaffirm with its partners and allies the presence of U.S. forces in order to alleviate any of their issues or concerns regarding stability and security in the region. An essential part of this effort is the ability of the U.S. to sustain the capacity and capability of its partners and allies to provide for the defense of themselves and the region. As Admiral Keating stated, "increasing the capabilities of our partners and allies in the region affords the U.S. to commit U.S. forces to other areas as needed."[157] However, this must be done without imposing any ultimatums on US partners and allies in East-Asia. As discussed throughout this essay, several countries in the Asian-Pacific region have developed lucrative and long-term economic ties with the People's Republic of China. As such, the U.S. must respect these new and emerging economic

relationships and not allow the PRC to use them as a “wedge” between the U.S. and its partners and allies in the region. Additionally, the U.S. must continue to pursue military-to-military dialogue with China in order to build the trust and confidence needed to establish a positive, long-term relationship with China and maintain security and stability in the region. If these are the things that should not change as a result of China’s military build-up, then what should?

First, the U.S. needs to reassess how it views China if it is committed to pursuing military-to-military dialogue with China aimed at building needed trust and confidence. Overwhelmingly, the majority of the material produced about China’s military build-up focuses on its threat to the stability and security of East Asia. But, what about the opportunities it could provide, especially to the U.S.? As Admiral Keating stated, “How China emerges in its relationship with the U.S. is not solely up to them. It is a shared responsibility in terms of how the U.S. initiates and works cooperatively with them.”[158] In this effort, the U.S. military must seek out “confidence building measures”[159] in which U.S. forces can partner with China. By encouraging China to actively participate in bi-lateral or multi-lateral operations, military training exercises, or military educational exchange programs, the U.S. can combine its capabilities and as Liang and Xiangsui described “pair-up” with the Department of the State and encourage China to be less transparent about its military build-up, more open about its strategic goals, and become a more responsible “stakeholder” in ensuring peace and stability in the region.

Second, while the U.S. military must be willing to seek out opportunities with China it must do so with some degree of cautious optimism. Three areas in which the U.S. military continue to “hedge it bets” are space, cyberspace, and missile defense.

Since the first satellites were deployed in orbit around the Earth, the US military's use of space capabilities and their continuous technological improvements have "proven to be a significant force multiplier when integrated across joint military operations."[160] However, throughout this evolutionary process the military has not been the sole benefactor of space capabilities. Indeed, a quick scan of the domestic environment demonstrates how much the "civil and commercial sectors of the US [have become] increasingly dependent on space capabilities."[161] For decades, the US and the international community have enjoyed unimpeded access to space and the global interconnectivity it brings. Unfortunately, as the US grows more reliable and dependent on the use of space and the freedom of action it brings, it is also viewed as a potential vulnerability by current and future adversaries. As a result, this issue extends beyond the implications just for US National Military Strategy and into the realm of US National Security Strategy.

In the early morning hours of January 11, 2007, China successfully launched an anti-satellite (ASAT) missile and destroyed one its weather satellites. The weather satellite destroyed was traveling at an altitude of 864 kilometers in the highly congested area of low Earth orbit and at a speed of approximately 16,000 mile per hour. "It was not the start of the world's first war in space, but it could have been."[162] Every industrialized country relies on satellites every day, for everything from computer networking technology to telephone communications, navigation, weather predictions, television, and radio. "This makes satellites especially vulnerable targets."[163] "Imagine the US military suddenly without guidance for its soldiers and weapons systems, and its civilians without storm warnings or telephones."[164] In this context, what then is the US

national security space strategy that comprehensively integrates the ends, ways, and means necessary to implement an effective US National Security Space Strategy? "Unfortunately, no such wide-range and inclusive National Security Strategy (NSS) currently exist."[165]

In assessing this threat, the United States needs to develop a unified space strategy that integrates space operations across the elements of national power, including those of the international community. Consequently, a unified space strategy serves to bind the Departments, Agencies, and Services of the US in order to face the challenges of an uncertain world and advance the prosperity and security of the nation's interests to maintain freedom of action and operations in space. Therefore, the US should desire to adopt the three objectives outlined in the 2001 Space Commission's Report as a departure point for establishing a national space security strategy. First, "it is in the US national interest to promote the peaceful use of space."[166] Second, "the US should use the nation's potential in space to support its domestic, economic, diplomatic, and national security objectives."[167] Third, "the US should develop the means to deter and defend against hostile acts directed at US space assets and against the uses of space hostile to US interest."[168]

In cyberspace, one could argue that some, if not all, of the same convergent issues, challenges (e.g. proliferation of state and non-state actors, shared tendencies and potentials, increasing versatility and adaptability, global interconnectedness, etc.) and operational characteristics that exist in the maritime and space domains apply here as well. China's interest in growing and expanding its cyberwarfare capabilities enables the PLA to conduct cyber attacks with plausible deniability and virtual impunity. While

the U.S. Military has taken steps to create a new Cyber Command, it does so without the overarching resources and authorities that only a unified national cyber security strategy can provide. Similar to a national space strategy, a unified cyber strategy must not only serve to bind the Departments, Agencies, and Services of the Federal Government but incorporate the international community as well. “There is strong evidence that suggests the PRC cyberwarfare threat will increase in sophistication and severity as technology and the offensive advantage outpace cyber defense measures.”[169] China’s interest in cyberwarfare extends beyond intelligence collection into attacks geared towards both strategic and tactical disruption of U.S. power in order to gain an asymmetric advantage.”[170] Therefore, the U.S. must examine some of the comparative analysis conducted for space activities in order to inform a separate effort to analyze and develop a national security cyber strategy.

Lastly, China has “invested heavily in ballistic missile technology and continue[s] to challenge the “proficiency” as well as “sufficiency” aspects of [U.S.] defense[s] with maneuvering warheads, decoys, and early-release submunitions.”[171] To overcome this threat, the U.S. military must recognize that China’s broad array of strategic and regional conventional strike capabilities is not only a threat to U.S. ships at sea but U.S. forces forward deployed at various military bases throughout East Asia. Therefore, greater effort must be taken to emphasize joint solutions in countering this capability.

In assessing this threat, three areas of U.S. missile defense need to be addressed. First, a comprehensive joint missile defense program needs to be developed that provides a “common command and control system”[172] that integrates Air Force, Navy and Army capabilities. This system must provide a single integrated air

picture to bolster the deterrence and protection of U.S. forces and its partners and allies in the region. A common missile defense program will provide increased situational awareness and maximize the performance and effectiveness of "sensors" and "shooters" in responding to any type of missile attack. Second, the U.S. Army needs to reassess the force structure of its Air Defense Artillery to determine if it is properly fielding and forward stationing sufficient Patriot Missile and Terminal High-Altitude Area Defense (THAAD) units to counter the growing threat of strategic and conventional strike capabilities. Third, the U.S. military must examine the ability to equip its partners and allies with these systems in order to extend and strengthen its missile defense web in the Western Pacific.

Conclusion

"Military modernization can take two basic forms - first, simply replacing old systems [and] capabilities with a similar but new system…[or second] replacing old with new, while also adding entirely new systems [and] capabilities."[173] "Trying to make sense of military modernization and assess the impact modernization might have must start by making judgments about the operational characteristic of the system/capability."[174] "Is it an offensive, defensive, or multi-role system?"[175] "Military modernization goes on continuously…and not every modernization activity by any given country is an area of concern, or presages an arms race."[176] "Quite the contrary, as adding systems [and] capabilities that are clearly defensive in nature, or are carefully bounded in quantity and quality, can actually contribute to stability."[177] "In an ideal world, if every country were able to defend itself from aggression by its neighbor, stability would be the result."[178]

At present though, the state of China's military build-up requires the U.S. to go back and reassess its own internal gaps and vulnerabilities. This reassessment will allow the U.S. to develop the necessary systems and capabilities needed to implement an effective National Military Strategy for the future. However, the bigger issue for now remains the balance and stability in East-Asia. First and foremost, the U.S. must continue to improve, strengthen, and sustain its regional partnerships and alliances in the region. "American confidence in its capabilities and in the strength of its regional partnerships allows the United States to enjoy both extensive military and diplomatic cooperation with China while it consolidates its regional security interest."[179] Second, the U.S. must remember that its ultimate goal in East-Asia is not the containment of China but its emergence as a responsible "stakeholder" in ensuring peace and stability in the region. This effort requires a dedicated commitment to pursuing a continuous and frequent military-to-military dialogue with China in order to build the trust and confidence needed to establish a positive, long-term relationship. In the end, "China and the United States are [currently] pursuing two mutually contradictory approaches: access denial versus assured access."[180] "This is a serious issue"[181] and one that will "continue to provide a strong incentive for Washington's Asia-Pacific modernization efforts to receive a high priority."[182]

"Another category of modernization relates to offensive weapons systems; systems unambiguously designed to attack and not to defend."[183] "This category of modernization is normally undertaken for two reasons: either to deter a neighbor or potential foe from attacking or harming one's interests, or to prepare for aggression against a neighboring state."[184] In the case of China, it is apparent that the

transformation and modernization of its military leaves little doubt about the capabilities and use of its design and purpose. For example, if China is only concerned about protecting its nation and its vital interests, then why devote so much effort towards extending its "reach" to interdict or attack at long ranges through the use of space, cyber warfare, precision-guided ballistic missiles, land-based cruise missiles, long-range bombers, or extended surface-to-air missiles. Many analyst would argue that "there is but one obvious example of a capability being put in place to attack and seize another "country," and that is the case of the PLA's continuing efforts to put in place the systems and capabilities necessary to capture Taiwan."[185] "Because China claims that Taiwan is a renegade province and is an internal Chinese sovereignty issue, it naturally rejects arguments that modernization aimed at a successful capture is offensive in nature."[186] However, "the reality remains that capabilities useful for the Taiwan mission are also useful in any campaign against a Taiwan-sized island."[187]

It is evidently clear that China is increasing its military capabilities, but have they done so in a way that its challenges the ability of the U.S. to operate freely in the region? Furthermore, does China's military build-up pose an imminent threat to the U.S. National Military Strategy? Overall, despite China's military build-up and strategic advances, it is still incapable of conducting "sustained" power-projection operations and controlling vital regions of the ocean and seas near its border. However, China recognizes it gaps and deficiencies, as measured against U.S. forces, and is actively pursuing efforts to narrow or close them. As such, China's military transformation and modernization program is continuously evolving. Therefore, the U.S. military cannot afford to become complacent. While the maturation of China's military might may not

occur for many years, it has none the less, exposed some U.S. vulnerabilities that could be exploited by China or any number of potential adversaries. For now, "military to military engagement between the US military and the PLA, while necessary and appropriate, will tend to be colored with elements of suspicion or concern as each side participates in what could be termed a *capabilities competition*."[188]

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