

CHINA'S MILITARY AND SPACE TRANSFORMATION: IMPLICATIONS FOR U.S. AND NORTHEAST-ASIA

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AND NORTHEAST-ASIA**

by

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ABSTRACT

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Current trends indicate that China will have more global impact the next 20 years than any other country. The engine driving China's rise is an economy that appears to grow double-digits annually. The global financial crisis and China's huge cash reserves endow it with front-row seats in world affairs. Chinese leaders wax eloquently about China's peaceful rise as a global power. Yet China's actions around the world tell a much different story – one of unfair trade, piracy, counterfeiting, organized crime, environmental degradation, one-sided foreign affairs, cyberattacks, and wartime defense spending. China's intentions are difficult to gauge due to its lack of transparency, especially militarily. This SRP examines China's evolutionary military and space transformation and its implications for the United States and Northeast Asia. Additionally, it recommends U.S. policy changes and other actions to help shape China's peaceful rise while maintaining U.S. national security, forging effective alliances, and furthering national interests.

CHINA'S MILITARY AND SPACE TRANSFORMATION: IMPLICATIONS FOR U.S. AND NORTHEAST-ASIA

If the Americans draw their missiles...on China territory, I think we will have to respond with nuclear weapons...¹

—Major General Zhu Chenghu
People's Liberation Army (PLA)

Prospects of violent conflict between the United States and China are enough to send shivers down the spines of most Americans and Chinese. Unthinkable as it sounds to many, this scenario nearly became reality several times the past half-century, most recently during the 1995-1996 Taiwan Straits missile crisis.² Fortunately, cooler heads prevailed. What about next time? Given the lethality of modern weaponry and our historical tendencies, the scope of death and destruction in a U.S.-China conflict could exceed that of both World Wars combined and possibly trigger World War III. Inflammatory statements by hardline Chinese leaders like Major General Chenghu, coupled with China's massive military build-up and demonstrated weapon advances, such as its unannounced 2007 antisatellite missile launch,³ fuel U.S. mistrust of China's true intentions.

China is the world's oldest continuous civilization, spanning 5000 years.⁴ For centuries China prospered as a leading civilization, outpacing the rest of the world in the arts and sciences. But, during the 19th and early 20th centuries, it was beset by civil unrest, major famines, military defeats, and foreign occupation. After World War II, Chinese communists under Mao Zedong established an autocratic socialist system that, while ensuring China's sovereignty, imposed strict controls over everyday life. After 1978, his successor Deng Xiaoping focused on market-oriented economic development.

By 2000, China's output had quadrupled. Today, it is one of the world's fastest growing countries.⁵ Influential leaders like Sun Tzu,⁶ Confucius,⁷ and Mao⁸ have helped shape Chinese culture and thinking. China is the world's most populous country, containing 20% of the world's total population.⁹ Geographically, it is the world's fourth largest country; mainland China is larger than the 50 United States.¹⁰

Today, modern China remains an enigma – the nuclear elephant¹¹ in the room that is too big to ignore, too opaque to fully comprehend, and too dynamic to contain. In 2007, Chinese President Hu Jintao reaffirmed China's grand strategy of opening and development as it seeks to maintain domestic and regional stability while it develops its economic, military, scientific, and cultural power.¹² However, China's actions militarily and internationally tell a different story and raise international concerns because of its growing global influence and wartime defense spending. China's lack of transparency fuels U.S. suspicions of its actual intentions. Given this great wall of secrecy, do U.S. leaders need to study ancient Mandarin texts inscribed on timeless bamboo strips to discover China's true intentions? This SRP examines China's military and space transformation and its implications for the United States and Northeast Asia. It also recommends U.S. policy changes and other actions to help shape China's peaceful rise while maintaining U.S. national security, forging effective alliances, and furthering national interests.

Northeast Asia Strategic Environment

Physical Environment. Northeast Asia, China's regional home,¹³ has great potential that has been hampered by centuries of lingering tensions. Northeast Asia contains four of the world's largest militaries and five of the world's top economies.

Bordering to the south, emerging India boasts a thriving world economy and the world's second largest military. Additionally, the United States maintains interests and a sizable military presence throughout the region (Figure 1). The region's lifeline of trade flows through the Straits of Malacca, the world's second busiest passage. Fifteen million barrels per day, or 80% of Asia's oil, passes through this vital global strategic chokepoint.¹⁴ China remains focused on its security and economic relationships with prodigal Taiwan, resurgent Russia, ancient rival Japan, belligerent North Korea, fearful South Korea, emerging India, and the United States.

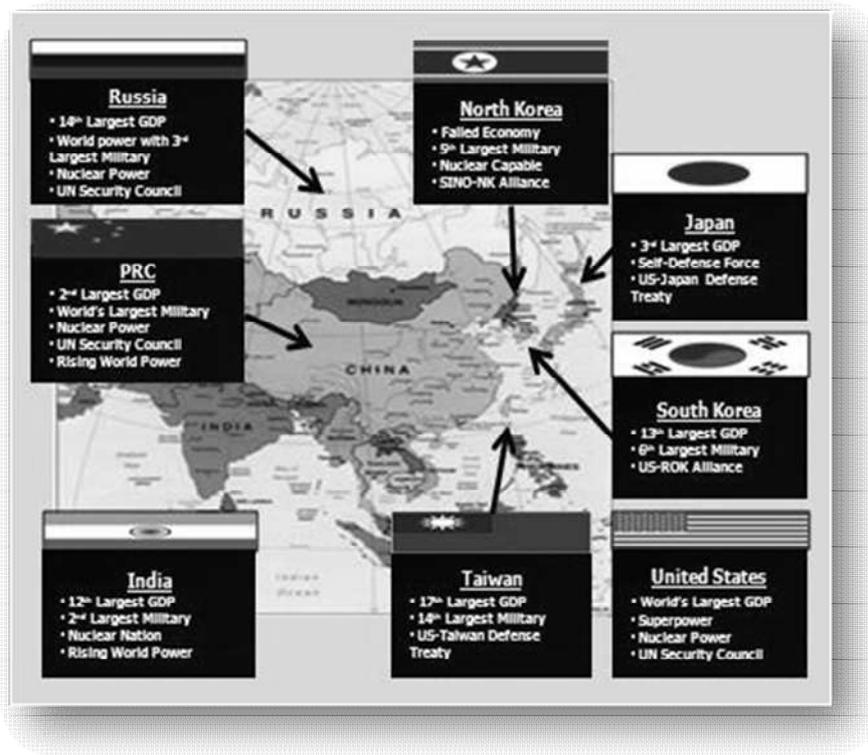


Figure 1: Northeast Asia Strategic Environment¹⁵

China's Regional Security. Beijing's post-Cold War security strategy is one of cooperation with reservations. Outside the region, China pursues cooperative security and multipolarity through the U.N. international system. Inside the region, China acts in

its own interests, which are often contrary to those of the United States and its regional allies.¹⁶ Inconsistent Chinese policy coupled with smoldering regional rivalries make Northeast Asia the world's most militarized and politically sensitive region, a flickering flashpoint for future conflict.

Opinions vary concerning China's view of regional security and its overall goals. Dr. Shulong, Director of the Strategic Studies Institute, regards Northeast Asia as the most dynamic sector of the global economy; and the region's most dynamic phenomenon is the rise of China.¹⁷ According to Shulong, of utmost importance to the Chinese state are territorial integrity and relations with the major global powers. He believes that most Chinese see the most serious threat to their national interests is Taiwanese independence, which China regards as an egregious threat to its sovereignty.¹⁸ Lastly, he posits that China sees the United States as a peer, not the sole military superpower in the region.¹⁹

Others agree that China thirsts for global power status in a post 9/11 world and that China seeks reunification of all former Chinese territories. Ong adds that China's concept of security emphasizes comprehensiveness, or *quan mian hua*. He is convinced that China's game plan calls for better incorporation of nonmilitary elements of security, including political and economic means, to achieve its regional goals.²⁰ Prior to 1830, no country could challenge China politically, economically, or militarily. This legacy of greatness spurs China's relentless pursuit of global power. However, in contrast to doomsday predictions of China's inevitable conflict with the West,²¹ Ong concludes China will focus on a peaceful rise within the current international system.²²

On the other hand, some analysts perceive Chinese security in a broader context. Rozman concludes that unresolved security issues in Northeast Asia pose six challenges to U.S. interests: Sino-U.S. rivalry, Russo-U.S. rivalry, Sino-Russian rivalry, North Korean belligerence, South Korean loss of trust in a U.S. alliance, and Sino-Japanese rivalry.²³ He advocates approaching these issues regionally for the best chance of resolution. For example, China played a leading role in 2007 nuclear nonproliferation activities, including its sponsorship of six-party talks to denuclearize North Korea. The resulting agreement was a significant milestone in Sino-U.S. cooperation and a template for addressing the remaining security issues in Northeast Asia.

C.P. Chung believes China's drive for institutionalization of regional and sub-regional cooperation is limited by the distribution of power among participants and relative importance of the issue. He claims that China's engagement in regional security and economic organizations is a calculated response to changing circumstances. China is a member of the Asia-Pacific Economic Cooperation along with Russia, Japan, and the United States; the Shanghai Cooperation Organization along with Russia; and the Association of Southeast Asian Nations (ASEAN) +3 along with several Southeast Asian states.²⁴ Although China has played a significant role in institutionalizing these regional organizations, its overall performance has been uneven and strictly limited to issues in its interests.²⁵

D. Shambaugh concurs with Chung's analysis, but surmises that China's rise and growing bilateral and regional cooperation does not signify a return to the Middle

Kingdom. He concludes that although China shares the regional stage with major regional powers and ASEAN, the United States remains dominant in the region.²⁶

Leonard likewise concludes that China remains concerned with its own region while pursuing its global interests. He theorizes that the thoughts and perceptions of average Chinese toward what he calls Yellow River capitalism are generally positive – that is, he sees broad popular support for recent Chinese industrialization and China's aggressive role in the world affairs. He concludes that China's economic and security approach enables its peaceful rise and increased integration in the world market.²⁷

However, lingering Chinese perceptions of unequal treaties signed during its so-called era of humiliation foster continued territorial disputes. Since 1949, China entered into agreements on 17 of 23 border disputes. Even so, significant issues remain unresolved. None is more poignant than Taiwan, which China views as a renegade province.²⁸ Other issues involve China's assertion of sovereignty over the seas and airspace in an exclusive economic zone that extends 200 miles from its coastal baselines and of outer space above its territory, contrary to international practices.²⁹ These salient issues are potentially ticking time-bombs given their political, economic, cultural, and military value to the state.

Chinese Economic Dynamics

China again seeks its place among the world's great powers, which it lost with the decline of the Qing Empire when China was producing approximately 30% of the world's wealth.³⁰ The National Intelligence Council (NIC) surmised that in terms of size, speed, and directional flow, the current West-to-East transfer of global wealth and economic power is unprecedented in modern history. This transfer derives from Asia's

increasing oil and commodity revenues and the shift in manufacturing and some service industries to Asia.³¹ China and its economy are the biggest benefactors of this remarkable shift.

The engine that drives China's rapid rise is its burgeoning economy, which recorded double-digit annual growth the past three decades.³² The NIC predicts that China will have the world's second largest economy in eight years.³³ Currently, China's gross domestic product (GDP) is \$7 trillion. In 2007, China earned \$1.2 trillion on exports and spent \$904.6 billion on imports. Its major trade partners were the United States, Japan, South Korea, and Taiwan.³⁴

China is not following the Western liberal model for self-development; instead it uses a different model, referred to as *state capitalism*. This term loosely refers to a system of economic management in which the state plays a prominent role. Other prosperous Asian nations use a similar model, including South Korea, Singapore, and Taiwan. But in contrast to these smaller nations, China has the global influence, labor force, and natural resources to present their model as a viable alternative to the Western model. Further, China can freely compete with other nations because it is not restrained by a Western prodemocracy and human rights ideology.³⁵

No longer focused inward, China now pursues its global economic interests. In 2001, China joined the World Trade Organization (WTO) and is currently a member of the International Monetary Fund (IMF). However, to date, China has persisted with its hybrid state model of a state-directed economic system as it consolidates its position as the world's fastest growing country. Alone among the world's economies, China refuses to allow its currency to respond to free-market alterations. China's leaders instead keep

its currency trading at an artificially low level in order to suppress export prices, in direct violation of IMF rules.

As a result of this and other factors, China has amassed a record \$2 trillion in foreign exchange reserves. It then invests these funds in new overseas investment vehicles.³⁶ There is increasing suspicion that China is seeking greater political advantage globally by locking up supplies of scarce resources around the world. Other Chinese government policies have harmed the United States. For example, China has made scant progress in curbing its counterfeiting and piracy of intellectual and entertainment properties – roughly 20% of products sold in China are counterfeit.³⁷ It also exports tainted foods, poisonous toys, and hazardous drugs.

Additionally, China has purposely flooded Asia, Africa, and Latin America with cheap credit favorable to the state, low-cost consumer goods, and millions of Chinese workers. The U.S. China Commission concluded that although China's measures are beneficial to both sides in the short term, their long-term effects could lead to conflict and instability in these often volatile regions.³⁸

Since China joined the WTO, the United States has accumulated a \$1.67 trillion deficit with China as a result of the persistent trade imbalance. Foreign technology companies, such as U.S. and European Union computer, aerospace, and automotive firms, have invested heavily in research and development and production facilities in China, sharing and sometimes losing technology and expertise. These precedents enable China to reap great benefits, while China fails to comply with WTO and IMF regulations. In the meantime, its global influence is growing exponentially.³⁹

Some argue that China's use of soft power beginning in 2000, dubbed its charm offensive, has enabled its peaceful development and enhanced cooperation among nations.⁴⁰ This policy offsets the weakness of its conventional hard power, compared to that of the United States, Russia, Japan, and India. Kurlantzick points out that China's stated peaceful rise, or *heping jueqi*, contrasts with its current practice of intimidation of its regional neighbors. However, this approach has garnered China increased global influence and power.⁴¹ Kurlantzick surmises that this "charming" approach will not last forever in view of the nations with whom China has engaged. Many of them have diverging interests and views. China's professed values of noninterference, respect for other nation's internal affairs, and state-directed economic gradualism enjoy appeal in areas inaccessible to the United States. However, the U.S. approach offers values with broader appeal to most people around the world.⁴²

In 2008, China surpassed Japan as the largest holder of U.S. government debt.⁴³ Also, China's largest export partner is the United States. And, consistent with Sun Tzu's theory, China is using its bulging economic muscles to influence and intimidate U.S. allies in Northeast Asia. It is trading with and making direct investments in reliable U.S. partners Japan, South Korea, and Taiwan. These factors greatly strengthen SINO-U.S. cooperation and regional economic interdependence.

In 2008, Chinese President Jintao participated in the Group 20 (G-20) Summit on Financial Markets and the World Economy held in Washington. He reiterated the need to reform the current world financial system, which remains unchanged since the end of World War II, to reflect existing realities.⁴⁴ In fact, some believe that this G-20 Summit, or so-called *Bretton Woods II*, could signal changes in the international system. Based

on some accounts, China appeared to hold all of the cards during the Summit. But it is unclear whether China will act responsibly by providing much-needed relief for the IMF to help suffering nations worldwide.⁴⁵ During her initial visit to China as U.S. chief diplomat, Secretary Clinton reemphasized this point with her Chinese counterparts.⁴⁶

China's Military and Space Transformation

China is a peer competitor to the United States. In 2008, it committed 4.3% GDP to its military, which was a 19% increase in funds over the previous year.⁴⁷ Likewise, PRC military factories produce roughly 20% of all domestically produced consumer goods in China.⁴⁸ Possessing the world's largest military and infused with a Confucian culture, China has a deep reservoir of national technical and scientific talent⁴⁹ – three times U.S. totals.⁵⁰ Last year, China graduated 600,000 engineers.⁵¹ China's PLA leverages these resources and advanced foreign technology to build an increasingly high-tech military. Lastly, China invests 60% of its total foreign direct investment in Asia. China enhances its political and economic influence by using these funds to build and improve seaports, airports, and infrastructure, which assumes a Chinese presence astride oil and trade routes in Asia.⁵² The presence of thousands of Chinese workers and China's PLA at these locations significantly enhances the PLA's reach and military potential.



Figure 2: PRC Political and Economic Influence aka *String of Pearls*⁵³

Chinese leaders learned much about U.S. military power from the Persian Gulf War. Foremost was the sobering reality that the PLA could not win a direct traditional war with U.S. forces. True to its Maoist roots, the PLA incorporated these experiences to enhance their military transformation. China's military strategy is based on active defense or *jiji fangyu*, which advocates an offensive defense, including preemptive strikes and other offensive options.⁵⁴ The PLA's posture supports this strategy and its regional defense policy objectives to win local wars using advanced technology.⁵⁵

To meet its objectives, the PLA is in the midst of a long-term comprehensive multiyear transformation from a mass army built for protracted wars of attrition on its territory to one capable of winning wars of short duration on its periphery. The pace of China's military transformation has quickened and its scope has widened due to acquisition of advanced foreign weapons mostly from Russia, considerable investments

in its internal defense and science and technology industries, and far-ranging organizational and doctrinal reforms of the armed forces.⁵⁶ Chinese near-term goals focus on enhancing anti-denial / anti-access asymmetric capabilities, power-projection, force protection, and incorporating joint warfare doctrine.⁵⁷

Land-Power Advancements. Already a formidable land power, the monolithic PLA seeks additional combat power through transformation. To this end, the PLA deployed 200 new T-98/T-99 main battle tanks.⁵⁸ It also grew its weapons stockpile of increasingly accurate conventional short-range ballistic missiles. To conduct precision strikes, the PLA seeks to acquire medium-range ballistic missiles that can target naval ships, including aircraft carriers operating far from China's shores. For stand-off precision strikes, the PLA seeks to acquire ground-launched land-attack cruise missiles, including domestically produced DH-10 cruise missiles. Additionally, the PLA imported Israeli-made and Russian-made antiradiation missiles for immediate use and other Russian antiradiation weapons, which Chinese scientists reverse-engineered into new antiradiation missiles produced domestically. Lastly, the PLA deployed new 300-millimeter multiple rocket launchers with a 100 kilometer range; it seeks to develop 400-millimeter multiple rocket launchers with a 200 kilometer range.⁵⁹ As a result, China can now strike targets across Asia with land-based conventional missiles (Figure 3).

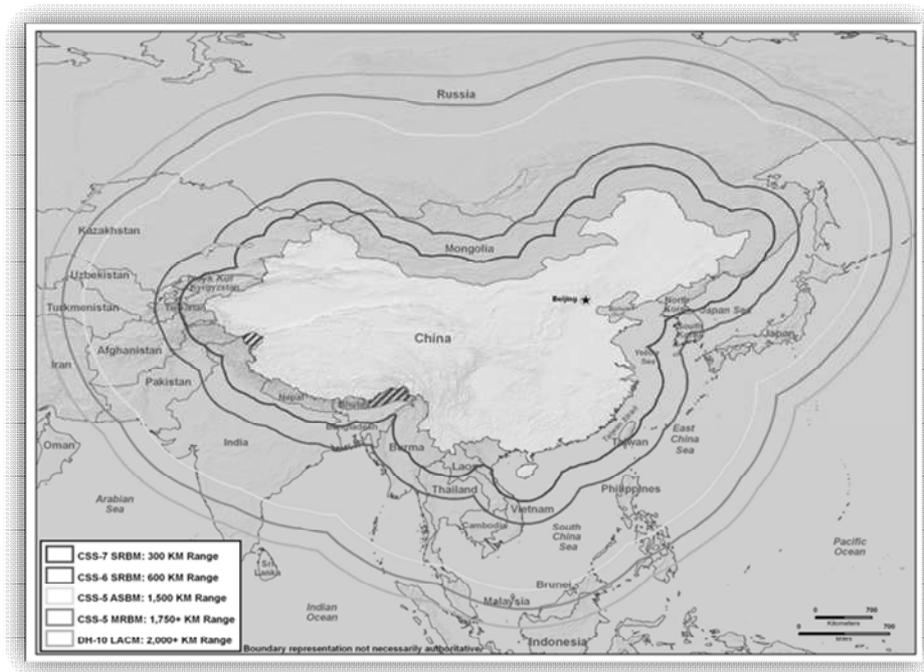


Figure 3: China's Regional Conventional Missiles⁶⁰

In terms of human capital, the PLA seeks to mold a new generation of officers and noncommissioned officers (NCOs) through improved accessible education, development, and training programs. Chinese officers are much better educated than their predecessors.⁶¹ Sources of commissioned officers include an estimated 70 military academies and civilian universities, along with 116 schools offering training similar to that of the U.S. Reserve Officers Training Corps. In a marked shift, 50% of Chinese officers now receive their commissions through civilian universities.⁶² Likewise, the PLA placed more students in America's graduate schools in 2000 than the U.S. military,⁶³ so China is quickly acquiring a greater understanding of the United States and its military. China's NCOs, who number over 600,000, now receive professional qualifications and expanded opportunities to increase their skills. Chinese NCOs now perform increased leadership roles and responsibilities, including those formerly performed by officers.⁶⁴

In 2007, the PLA General Staff provided annual guidance on military training. To further its transformation, the PLA aims to compile and validate a new framework for military training and evaluation that emphasizes realism and infocentric warfare. The PLA seeks to integrate training for approximately 1.25 million active duty units, 10-15 million militia forces, and 660,000 People's Armed Police. China's militia forces plan to shift their focus from single-service support to joint support functions.⁶⁵ The PRC State Council reports that the PLA made great progress in building and equipping its force.⁶⁶

Sea-Power Advancements. China has Asia's largest navy, with an estimated 235 surface ships, boats, and submarines.⁶⁷ Although not yet a great sea power, China possesses the essential ingredients needed to become one. Its maritime geometry, global interests, energy needs,⁶⁸ and offshore defense strategy make development of a Chinese blue-water navy inevitable.⁶⁹ Additionally, the collapse of the Soviet Union and emergence of lesser states have provided China with the opportunity to procure defense systems and advanced technology in an unfettered manner. These phenomena enabled China's military and defense industry to quickly advance exponentially.⁷⁰

In the past two years, China's naval fleet increased by 11 vessels, including two SHANG-class nuclear-powered attack submarines, one JIN-class nuclear-powered ballistic submarine, one hospital ship,⁷¹ and seven domestically produced combatant ships. China also commenced construction of two catamaran patrol boats. Additionally, China has an active aircraft carrier development program⁷² and hints that its first carrier is nearly completed.⁷³ In response to recent events, China deployed its first amphibious task force to the Gulf of Aden to join a U.N. antipiracy task force patrolling the waters off

Somalia to combat Somali piracy.⁷⁴ Looking forward, the PLA's naval program seeks to enhance the fleet's advanced antiair warfare to fill a known capability shortfall.

To augment land-based precision strike assets, the PLA has or seeks to acquire antiship cruise missiles from Russia or through research, development, and domestic production.⁷⁵ China also seeks to expand its strategic-strike capability by acquiring or developing a submarine-launched ballistic missile for launch on nuclear-powered submarines.⁷⁶ Lastly, the PLA has or seeks to improve over-the-horizon targeting capability with sky and surface wave radars and improved accuracy of sea-launched missiles.⁷⁷ The PRC State Council concluded that the PLA has made great strides in upgrading naval weaponry and equipment and optimizing weapon systems and equipment sets.⁷⁸

Air-Power Advancements. China's PLA has approximately 4,250 total aircraft.⁷⁹ Today, the PLA seeks to change its air force from an overland limited territorial defense force to a more flexible and agile force capable of operating offshore in both offensive and defensive modes. Since its inception, the PRC has relied heavily on Russia for aviation, avionics, and associated air capabilities. Wary of its overreliance on Russia for its aviation needs, China has achieved independence incrementally by developing its own independent aircraft, avionics, engines, and weapons capabilities. Additionally, China is receiving foreign assistance from Israeli, European, and U.S. aerospace companies, who are providing access to advanced avionics, computers, machine tools, and technical support for aircraft design. Currently, Chinese aerospace companies produce aircraft components used by Boeing's commercial airline fleet; also China

plans to produce its own fleet of commercial airliners⁸⁰ like China's first advanced regional airliner, the ARJ-21.⁸¹

China has greatly enhanced its air power and air defense capabilities. The PLA aims to improve its air strike, air and missile defense, early warning, and strategic capabilities.⁸² China has modernized its FB-7A fighter-bombers and the B6 bomber fleet. For air defense, China procured sufficient 200-kilometer surface-to-air systems to equip eight battalions. Also, China's aviation industry seeks to develop various airborne early warning and control aircraft to enhance its early warning and control, intelligence collection, and maritime surveillance.⁸³ By 2015, the industry plans to produce stealth-capable joint strike fighters to counter U.S. F-22/F-35 joint strike fighters.⁸⁴

To improve its standoff precision-strike capabilities, China seeks to develop air-launched land-attack cruise missiles. From foreign countries, China procured tactical air-to-surface missiles and precision-guided munitions, including satellite laser-guided bombs. It now desires to improve its airborne antiship capabilities.⁸⁵ The PRC State Council concluded that the PLA made great progress last year in improving its air force organization and structure and upgrading its aircraft and weapon systems.⁸⁶

Space-Power Advancements. Space is unequivocally the new strategic high ground. China's progressive space program unquestionably makes it a first-rate space power, comparable to the space capabilities of the United States, Russia, and the European Union. The PLA effectively runs China's commercial and military space programs. In 1970, China became the fifth world power to put a satellite into orbit. It later became only the third country to successfully conduct manned space flights and to launch multiple satellites used for both commercial and military purposes. China

possesses the facilities, satellite technology, mission control centers, and launchers required of a space power. Its five-year space plan emphasizes space exploration, next-generation satellite development, and lunar space missions.⁸⁷ China's space program, a glowing symbol of national prestige, earns revenue by providing launch services for other countries such as Brazil, Venezuela, and Nigeria.⁸⁸

In 2008, China launched 17 satellites, including its first data relay and tracking satellite that gives the PLA a real-time intelligence and collection capability.⁸⁹ State-owned satellites provide over-the-horizon communications and data relay, navigation and timing capability similar to that of U.S. global positioning satellites, advanced imagery and reconnaissance, and earth stations with military applications. Moving forward, China plans to develop or acquire data relay satellites that support global communications coverage.⁹⁰

Chinese counterspace developments may provide a significant capability for anti-access / anti-denial in a Taiwan Straits scenario. In 2007, China launched a kinetic kill antisatellite missile that obliterated one of its obsolete weather satellites – a shot heard around the world.⁹¹ In 2006, a U.S. scientific report concluded that PRC lasers had effectively blinded a U.S. satellite.⁹² China's PLA may have also acquired land-based jammers from Russia and former Soviet states; these devices can be used for narrow or full spectrum jamming of U.S. satellites. Finally, the PLA seeks development of micro- and nanotechnology satellites used for kinetic and nonkinetic counterspace activities.⁹³

China has an estimated arsenal of 100-400 nuclear weapons.⁹⁴ China's 2006 Defense White Paper cited three policy objectives of its nuclear weapons program: deterrence, sustained counterattack capabilities to assure no first-use and limited

development of nuclear weapons, and avoidance of a nuclear arms race with any other country.⁹⁵ Today, China has the means to deliver and explode a nuclear weapon in the earth's atmosphere, thereby creating a high electromagnetic pulse that can destroy U.S. satellites⁹⁶ and critical infrastructure.⁹⁷

China operates the world's most active ballistic missile program. PRC missiles can strike targets worldwide with conventional and nuclear warheads (Figure 4).⁹⁸ Its advanced space and supporting ground stations provide the PLA with accurate tracking, telemetry, and operational control of its ballistic missile arsenal. China's missile force has roughly 1,480 ballistic and cruise missiles with 419 launchers and 682 surface-to-air missiles.⁹⁹ China is a leading exporter of ballistic missile and nuclear technology to countries with no diplomatic relations with the United States, like Iran and North Korea.

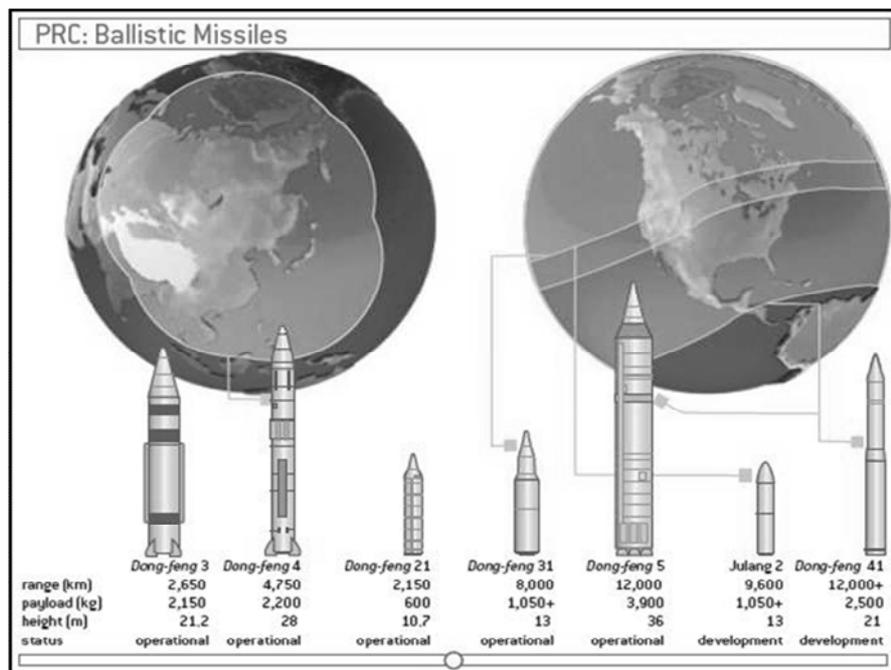


Figure 4: Chinese Ballistic Missiles¹⁰⁰

Cyberspace Advancements. China has the world's most active cyber-operations program. Estimates indicate that China has 253 million Internet users and 47 million

bloggers,¹⁰¹ along with 250 hacker groups that it tolerates or even encourages.¹⁰² As U.S. reliance on network and information systems technology increases, cyberattacks against U.S. computer and information systems are on the rise and continue an alarming trend (Figure 5).¹⁰³ Contributing factors for this increase are the inability to clearly identify sources of attacks and insufficient international laws to prosecute the offenders in a prompt and effective manner. China's cyber-espionage program is so sophisticated in cyber-operations technology and techniques that it sometimes operates undetected or cannot be attributed to China. Malicious codes hidden in emails, web sites, or on social engineering sites or attacks routed through a series of surrogate networks, computers, or Internet access points shield Chinese actors from detection. Under the code name *Titan Rain*, Chinese actors have penetrated DOD networks and downloaded 10-20 terabytes of data, equal to the entire print collection of the Library of Congress.¹⁰⁴

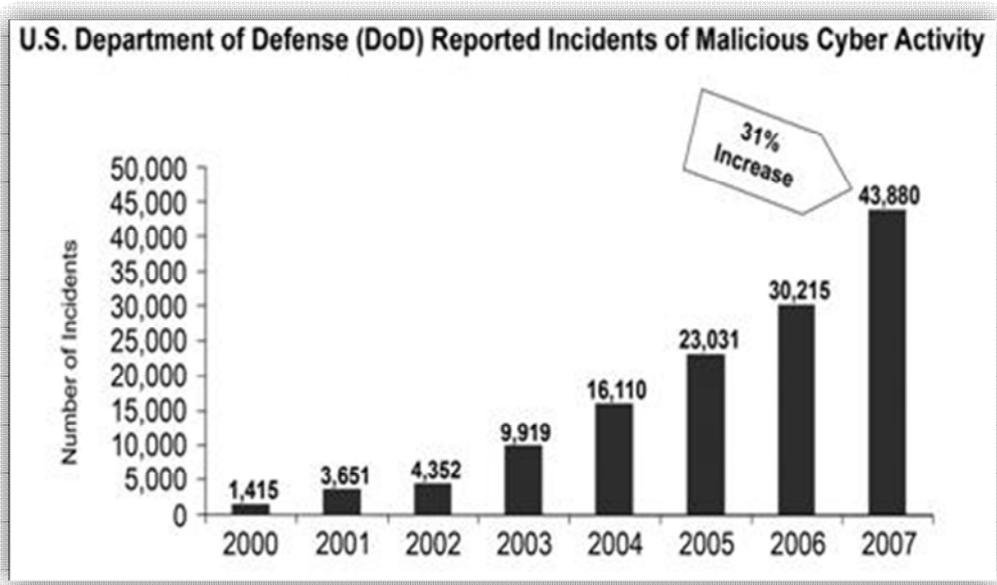


Figure 5: Malicious Cyber Activities against DOD¹⁰⁵

Implications for USPACOM and the region

Revolutions in military affairs – such as precision-guided munitions, unmanned aerial vehicles, and space technology – have greatly enhanced the accuracy and lethality of weapon systems and have increased situational awareness. However, these advancements do not remove the Clausewitzian friction or fog of war, its uncertainty, or its intelligence gaps.¹⁰⁶ Chinese leaders believe that technology and networks are the center of gravity of U.S. forces.

The 2006 Quadrennial Defense Review highlighted the DOD's shift in its portfolio of capabilities to address 21st-century challenges.¹⁰⁷ In light of ongoing wars in Iraq and Afghanistan, many senior policymakers in the Obama administration call for significant increases in capabilities to counter irregular threats,¹⁰⁸ but they fail to adequately address catastrophic and disruptive threats. Some call for a 70% reduction in Army brigade combat teams. However, they dismiss the obvious threats.

Russia exports more weapons to China than any other country. Recent Russian cyberattacks on Estonia¹⁰⁹ and Georgia¹¹⁰ are harbingers of Chinese military development. Beijing has invested heavily in PLA traditional capabilities, but its largest investments are in science and technology to develop emergent catastrophic and disruptive technologies that provide asymmetric and decisive advantages (Figure 6). These factors, coupled with China's long record of weapons proliferation to rogue states and other shady characters, will further exacerbate regional stability and global security. China's rising defense spending and lack of military transparency will prompt the United States to forge greater multilateralism, stronger military alliances, and more military presence in the region.

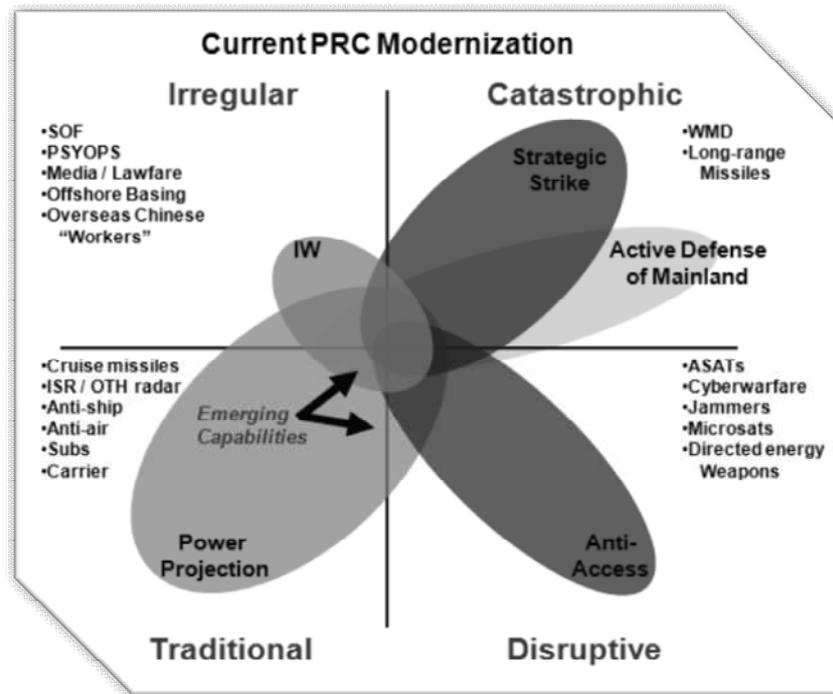


Figure 6: PRC Modernization¹¹¹

Greater Multilateralism. Outside of Taiwanese independence, China and U.S. interests in Northeast Asia do not necessarily conflict and can be mutually supportive. China relies heavily on the United States to ensure regional stability as it continues to rise. Some analysts argue that only better communications are needed to improve U.S.-Chinese relations. Dreyer contends that the United States and China routinely talk past each other on many issues like the trade imbalance, intellectual piracy and technology thefts,¹¹² Chinese defense budgets, human rights, and Taiwan.¹¹³ China's increased role in U.N. peacekeeping¹¹⁴ and regional security and economic organizations¹¹⁵ are positive signs as the United States continues to pursue lasting international and bilateral agreements that help prevent future conflict.

Stronger Military Alliances. USPACOM's Theater Security Cooperation Strategy focuses on multilateral security framework, common cause issues, and maturing the

U.S.-China military-to-military relationship.¹¹⁶ To counterbalance China's PLA, the U.S. plans to actively strengthen its regional military alliances; it has entered into bilateral strategic agreements with Japan and India. Given their geostrategic position and military power, these nations offer buffers to blunt China's military build-up and growing influence. Japan recently initiated a five-year plan to grow its Japanese Defense Forces.¹¹⁷ In 2008, the United States and India signed a historic civil nuclear cooperation agreement.¹¹⁸ Under the Taiwan Relations Act, the United States has security obligations to Taiwan. To this end, the United States has allocated an additional \$6.4 billion to provide aircraft and military aid to Taiwan.

Force Posture Adjustments. USPACOM has approximately 250,000 military personnel, roughly 20% of total U.S. military strength.¹¹⁹ Given the threat, USPACOM seeks to augment its 84,000 forces currently in Northeast Asia.¹²⁰ USPACOM also seeks greater stand-off distances by potentially establishing a greater military presence in Singapore¹²¹ or the Marianas¹²² and defensive measures that enhance U.S. force protection, such as theater missile defense. Additionally, the United States plans to realign the bulk of its marine forces from Japan to Guam and reposition ground forces within South Korea.

Risk Assessment

Consequences of PLA traditional and irregular land-power advancements are low and the risk is low. The bulk of these improvements come from acquisitions of Soviet weapon systems observed and addressed by U.S. technology advancements the past half-century.¹²³ Consequences of traditional PLA naval and air advancements are moderate and the risks are medium. PLA naval improvements pose a moderate threat

to USPACOM, based on the increased number of ships and nuclear-powered submarines capable of launching antiship cruise missiles and ballistic missiles.¹²⁴ Soviet-style PLA air force improvements pose a moderate threat to USPACOM, such as enhanced targeting and radar systems, and air and air defense precision-strike capabilities.¹²⁵ China's integrated joint operations, support functions, education and training program remain in their infancy and are critical vulnerabilities. USPACOM has sufficient flexible deterrence options to counter PLA conventional and irregular threats, but must actively monitor PLA's evolutionary land, maritime, and air transformation.

On the other hand, the consequences of China's space and cyberspace advancements are significant and the risks are high. China's PLA and state space, long-range ballistic missile, and cyber-operations improvements pose significant threats to U.S. national security and the region. Although China has an extensive nuclear capability that can inflict massive damage on the United States, the U.S. Commission on Strategic Posture of the United States does not designate China as a nuclear threat to the United States.¹²⁶ U.S. Space Policy declares national space assets as vital to U.S. interests.¹²⁷ The U.S. government published a strategy for securing cyberspace and DOD crafted the national military strategy for cyberspace operations.¹²⁸ But significant policy and strategy work remains. Some space advocates push for weaponization of space, but this is not a panacea in view of international fears of an impending arms race. However, better satellite protection,¹²⁹ ballistic missile defense, and counterspace defensive options can share in a hybrid solution.¹³⁰ USPACOM and federal agencies must develop and implement flexible deterrence options to mitigate China's catastrophic and disruptive threats.

Recommendations: The Way Ahead

Establish Clear U.S. China Policy. For seven administrations, U.S. policy has been to encourage China's opening and integration into the global system.¹³¹ The National Security Strategy establishes priorities of engaging China on regional growth, development, stability, and economic issues. It also cites measures to encourage China to be a responsible international player.¹³² The Bush Administration's hybrid strategy of engagement (favored by State Department) and containment (favored by DOD) and the Bush doctrine of preemptive attacks created deep resentment in China.

The Obama Administration should avoid policy pitfalls that hampered the last Democratic administration at the offset. The Clinton Administration attempted to implement a China policy of comprehensive engagement, but devious Chinese leaders had no intent to reciprocate U.S. good will. The result was the loss of advanced U.S. technology to the Chinese.¹³³ The Obama Administration should instead develop a China policy of cooperative engagement with strict preconditions. This approach best supports U.S. goals and aides China's peaceful rise. It also gives trade opportunities needed for capitalism to take full root in China and for much needed internal reforms.

Defense Appropriations. Congress should develop legislation that ensures next year's defense bill includes the provisions necessary to organize and equip DOD to meet the threat.¹³⁴ The 2001 Rumsfeld Commission report warns of a potential Pearl Harbor attack in space.¹³⁵ To ease concerns, the administration should develop a national strategy for space that supports current policy¹³⁶ and funds emerging space situational awareness capabilities at appropriate levels.¹³⁷ Congress should provide adequate funding for programs to protect critical U.S. computer systems, infrastructure,¹³⁸ and space assets, but resist siren calls for weaponization of space.

The National Science Foundation reports a decline in federal support for space activities, from \$8.5 billion high in the 1990s to \$5.3 billion low in the 2000s. Likewise, the Aerospace Commission and National Science Board have voiced concerns over the shrinking human capital pool within the aerospace industry.¹³⁹ The nation has assumed significant risks from aging space systems and lengthy delays/cancellation¹⁴⁰ of crucial space capabilities.¹⁴¹

Establish G-10. Khanna describes a multipolar world resembling a three-legged stool, with the United States, European Union, and China as dominant powers.¹⁴² His proposal to form a G-3 institution of the three powers is inadvisable because it ignores U.S. allies like Japan. Instead, the administration should gradually form a new G-10 consisting of G-8 members and new entrants China and India, when they are fully compliant with international laws and norms. This carrot can modify Chinese behavior.

International Cooperation. The Obama Administration should engage China on regional security issues. In 2008, Secretary of State Rice discussed Bush Administration foreign policy success, including the transformation of Asian allies like Japan, Korea, and Australia to meet 21st-century challenges. She also noted the successes of multilateralism in dealing with North Korea and elsewhere.¹⁴³ This model establishes a framework for resolution of lingering security issues in Northeast Asia.

Increased Chinese support of international intervention is crucial to U.N. efforts. Beyond peacekeeping, China has also engaged in a variety of nonproliferation actions and peace-building projects. Zhongying stresses that Western policies are riddled with contradictions and uneven enforcement.¹⁴⁴ U.N. Security Council has responsibility for the maintenance of international and regional peace. Permanent member China's initial

refusal for such action may have worsened the deteriorating situation in Darfur.

However, since 2005, China has embraced a comprehensive strategy featuring prevention, peace restoration, peacekeeping, and postconflict reconstruction.¹⁴⁵

China can assist with transnational issues like trafficking in persons, disaster relief, organized crime, and pandemics. The U.N. reports that China made significant progress in compliance with international trafficking-in-persons standards.¹⁴⁶ Speed is essential in responding to disasters, but China has significant strategic lift shortfalls.¹⁴⁷

This is an area of strength for U.S. forces. In terms of foreign investment, virtually every U.S. governor and several major business executives have visited China. More than 20 states have established offices in China; however, many Americans fear the consequences of Chinese companies purchasing assets in the United States.¹⁴⁸ Lastly, the Obama Administration should consider establishing a bilateral agreement with China for maritime cooperative security modeled after the U.S. Cooperative Strategy for Maritime Security.¹⁴⁹ Such an arrangement would assure burden-sharing and set the stage for further cooperation.

Conclusion

A peaceful, stable China that is fully integrated into the global community of nations is in both U.S. and Chinese interests. However, China faces a number of strategic choices: one option leads to a peaceful rise, while all other options may lead to future conflict.¹⁵⁰ Bilateral agreements between the United States and China are crucial. However, maintaining other alliances is equally important. To retain flexibility, regional alliances with Japan, Russia, and India provide the United States with a broad range of options to ensure that China's rise remains peaceful.

Endnotes

¹ If the Americans draw their missiles and precision-guided ammunition on the target zone on China territory, I think we will have to respond with nuclear weapons. If the Americans are determined to interfere, we will be determined to respond. We Chinese will prepare ourselves for the destruction of all cities east of Xian. Of course, the Americans will have to be prepared that hundreds of cities will be destroyed by the Chinese. In the end you care more about Los Angeles than you do about Taipei. Alexandra Harney, Demetri Sevastopulo, and Elward Alden, "Top Chinese general warns US over attack," *Financial Times*, July 14, 2005, <http://www.ft.com/cms/s/2/28cfe55a-f4a7-11d9-9dd1-00000e2511c8.html> (accessed February 23, 2009).

² Kurt Campbell and Richard Weitz, "The Limits of U.S.-China Military Cooperation: Lessons from 1995-1999," *The Washington Quarterly* (Winter 2005-2006), 179.

³ U.S. Congress, Congressional Research Service, *China-U.S. Relations: Current Issues and Implications for U.S. Policy* (Washington, DC: US Government Printing Office, October 9, 2008), 7.

⁴ Steven A. Leibo, "Peoples Republic of China," in *East and Southeast Asia 40* (Harpers Ferry, WV: Stryker-Post Publications, 2007), 15-16.

⁵ For much of the population, living standards have improved dramatically and personal freedoms have expanded. But political controls remain tight. U.S. Central Intelligence Agency, "China," *The World Factbook*, November 20, 2008, <https://www.cia.gov/library/publications/the-world-factbook/print/ch.html> (accessed November 15, 2008).

⁶ Sun Tzu said "For to win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill". According to folklore, Sun Tzu was the master strategist who championed the art of winning war and sustaining peace without fighting through the use of deception, intelligence, and weather – along with a strategy to shatter enemy alliances. Sun Tzu is believed to have lived in from 400-320 BCE. Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (Oxford: Oxford University Press, 1971), 77-78, 125, 146-147.

⁷ Chinese scholars equate Confucius with Socrates in the West. Confucianism still provides the foundation of Chinese thought and education. Confucius lived from 551-479 BCE. Jeffrey Riegel, "Confucius," *Stanford Encyclopedia of Philosophy*, September 5, 2006, <http://plato.stanford.edu/entries/confucius/> (accessed February 3, 2009).

⁸ Mao Zedong fathered the Peoples Republic of China (PRC). His ability to galvanize popular support for what he termed people's wars and his advocacy regarding learning from the experiences of others are linchpins of current Chinese political thought. Mao Zedong lived from 1893-1976. Mao Tse-tung, *Selected Military Writings of Mao Tse-tung* (Peking: Foreign University Press, 1963), 121.

⁹ China's climate and terrain across its vast continental mass rank among the world's most challenging, which greatly limits its inland strategic mobility. Surviving and ever prospering in this harsh environment is a testament to the resilience of Chinese people. In summer, the Chinese endure sweltering heat, monsoon rains, and titanic typhoons. During winter, the Chinese survive frigid cold and blistering winds. Its landscape includes some of the world's tallest mountains – the Himalayan Range. Michael Freeberne, "The People's Republic of

China,” in *The Far East and Australasia 38* (Harpers Ferry, WV: Stryker-Post Publications, 2007), 185, 187.

¹⁰ Leibo, “Peoples Republic of China,” in *East and Southeast Asia 40*, 15.

¹¹ Peter Navarro, *The Coming China Wars: Where they will be Fought and How they will be Won* (Saddle River, NJ: Financial Times Press, 2007), 210.

¹² Office of the Secretary of Defense, *Military Power of the People’s Republic of China 2008*, Annual Report to Congress (Washington, DC: Office of the Secretary of Defense, 2008), 1.

¹³ Liselotte Odgaard, “Chinese Northeast Asia policies and the tragedy of Northeast Asia’s security architecture,” *Global Change, Peace and Security 20*, no. 2 (June 2008), 185, 190.

¹⁴ U.S. Joint Forces Command, *The Joint Operating Environment: Challenges and Implications for the Joint Force*, (Washington, DC: U.S. Joint Forces Command, November 25, 2008), 18, <https://usjcom.mil/sites/J5/j59/default.apex> (accessed December 14, 2008).

¹⁵ U.S. Congress, Senate Armed Services Committee, *Statement of General Thomas A. Schwartz: Commander in Chief United Nations Command / United States Combined Forces Command and Commander United States Forces Korea*, 107th Cong., March 5, 2002, 2-3, http://www.shaps.hawaii.edu/security/us/schwartz_2002.html (accessed March 2, 2009). Chart builds upon earlier GEN Swartz’s chart by graphically illustrating the current NE Asia Strategic environment.

¹⁶ Odgaard, “Chinese Northeast Asia policies and the tragedy of Northeast Asia’s security architecture,” 185-186.

¹⁷ Chu Shulong, *East Asian Security: Two Views: The Security Challenges in Northeast Asia: A Chinese View* (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, November 2007), iii.

¹⁸ *Ibid.*, 5.

¹⁹ *Ibid.*, 21.

²⁰ Russell Ong, *China’s Security Interests in the 21st Century* (New York, NY: Routledge, 2007), 1.

²¹ Michael L. Levin, *The Next Great Clash: China and Russia and the United States* (Westport, CT: Praeger Security International, 2008), 1-3.

²² China will avoid unhelpful foreign entanglements by leveraging existing world order and international institutions. Ong, *China’s Security Interests in the 21st Century*, 113, 118-119.

²³ Gilbert Rozman, *East Asian Security: Two Views: The Security Challenges in Northeast Asia: A Chinese View* (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, November 2007), 34-35.

²⁴ Chien-Peng Chung, "China's Approaches to the Institutionalization of Regional Multilateralism," *Journal of Contemporary China* 17, no. 57 (November 2008), 747-749.

²⁵ *Ibid.*, 763-764.

²⁶ David Shambaugh, *Power Shift China and Asia's New Dynamics* (Berkeley, CA: University of California Press, 2005), 23.

²⁷ Mark Leonard, *What does China Think?* (New York, NY: PublicAffairs, 2008), 118-122.

²⁸ Recent agreements did not always favor China. A recent 2008 treaty with Russia resolved a 40-year dispute over two tiny islands located in a river separating the two behemoths. Even so, significant issues remain unresolved. None is more poignant than Taiwan, which China views as a renegade province. U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 110th Cong., 2nd sess. (Washington, DC: US Government Printing Office, November 2008), 141-142.

²⁹ *Ibid.*, 8.

³⁰ Freeberne, "The People's Republic of China," in *Far East and Australasia* 38, 167.

³¹ Based on current trends, the National Intelligence Council predicts that the United States will be less dominant globally, Asia will see greater regionalism, and China will rise to global power in the first half of the 21st century. U.S. Director of National Intelligence, *Global Trends 2025: A Transformed World*, vi, xi.

³² U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 19.

³³ The National Intelligence Council also predicts that China is poised to have more impact on the world the next 20 years than any other country. China may also become the world's largest importer of natural resources and its biggest polluter. U.S. Director of National Intelligence, *Global Trends 2025: A Transformed World*, 29.

³⁴ Contributors to its GDP by sector are agriculture (11.3%), industry (48.6%), and services (40.1%). In 2007, China earned \$1.2 trillion on exports and spent \$904.6 billion on imports. Its major export partners were the United States (19.1%), Hong Kong (15.1%), Japan (8.4%), South Korea (4.6%), and Germany (4%). Its major import partners were Japan (14%), South Korea (10.9%), Taiwan (10.5%), the United States (7.3%), and Germany (4.7%). U.S. Central Intelligence Agency, "China," *The World Factbook*, 1.

³⁵ Accordingly, China has no reservations about its dealings with North Korea, Myanmar, Iran, Syria, Sudan, Nigeria, and Cuba. U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 2.

³⁶ *Ibid.*, 2-4, 12. To China, its exclusive focus on growing its economy warrants unfettered access to markets and resources owned by rogue states, brutal dictators, and repressive regimes without preconditions. China also has an official sovereign wealth fund, Capital Investment Corporation.

³⁷ Microsoft suffers a 92% piracy rate in China. Erin Swike, Sean Thompson, and Christine Vasquez, "Piracy in China," *Business Horizons* 51, no. 6 (November/December 2008), 493, 498.

³⁸ The U.S. China Commission determined that China's actions sometimes undermine international efforts by reinforcing corrupt, brutal regimes with unrestricted resources and arms. At the same time, it isolates Taiwan from such support in trade. China has also granted debt forgiveness to weak struggling nations. U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 12.

³⁹ *Ibid.*, 2-5.

⁴⁰ China's Foreign Minister claims that safeguarding peace, promoting development, and enhanced cooperation are the common goals of all people. Joshua Kurlantzick, *Charm Offensive How China's Soft Power is Transforming the World* (New Haven, CT: Yale University Press, 2007), 37-38.

⁴¹ *Ibid.*, 37, 108-109.

⁴² *Ibid.*, 227-229.

⁴³ Today, a stable U.S. financial system serves the best interests of China, Northeast Asia, as well as the United States. Hu Yue, "Shaping up US Treasury Bonds," *Beijing Review* 51, no. 48 (November 27, 2008), 34.

⁴⁴ Given the global financial crisis and its huge foreign reserves holdings, President Jintao said that China, Japan, Korea, and ASEAN could be leaders in international financial fields. Ding Ying, "For a Better Financial Order," *Beijing Review* 51, no. 48 (November 27, 2008), 10-11.

⁴⁵ Based on its scale and severity, the current global financial crisis may trigger long-discussed changes to the world financial system and usher in a new world order. Chen Wen, "Emerging Player," *Beijing Review* 51, no. 48 (November 27, 2008), 12.

⁴⁶ At the end of the day, China needs U.S. trade, and the United States needs China to continue purchasing U.S. debt and investing in U.S. businesses. Stephanie Ho, "Clinton Seeks Stronger US Relations with China," *VOAnews*, (February 21, 2009), in *Early Bird*, (accessed February 24, 2009).

⁴⁷ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 31.

⁴⁸ Leibo, "Peoples Republic of China," in *East and Southeast Asia* 40, 39.

⁴⁹ China is investing heavily in human and physical capital. Skilled Chinese engineers, technicians, and scientist are deeply involved in scientific discovery around the world, and in building infrastructure for future prosperity and global integration. U.S. Joint Forces Command, *The Joint Operating Environment: Challenges and Implications for the Joint Force*, 28.

⁵⁰ U.S. National Intelligence Council, *Mapping the Global Future*, (Washington, DC: US Government Printing Office, December 2004), 112.

⁵¹ Between 1991 and 2001, Chinese doctoral degrees rose 535%. This year China graduates 600,000 engineers compared to 70,000 for the United States. Institute of Foreign Policy Analysis, *Missile Defense, the Space Relationship, and the Twenty-First Century*, Independent Working Group Report (Everett, MA: Merrill / Daniels Press, 2007), 106.

⁵² U.S. Congress, Congressional Research Service, *China's Foreign Policy and "Soft Power" in South America, Asia, and Africa*, (Washington, DC: US Government Printing Office, April 2008), 98-102.

⁵³ U.S. Joint Forces Command, *The Joint Operating Environment: Challenges and Implications for the Joint Force*, 28.

⁵⁴ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 16-17.

⁵⁵ China's military goals are to develop sufficient military power to achieve three broad objectives: deter or defeat attacks against the mainland, win local wars to defend sovereignty, and support Beijing's overall foreign policy and security objectives in Asia. Shambaugh, *Power Shift China and Asia's New Dynamics*, 266-268.

⁵⁶ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 1.

⁵⁷ China's modernization program encompasses multidimensional warfare (land, air, sea, space, and cyberspace) and emerging air defense, electronic, and information technologies. Additionally, the PLA is planning for development of greater strategic and conventional strike capabilities and for acquisition of offensively oriented capabilities. China is pursuing air and maritime power projection platforms. Shambaugh, *Power Shift China and Asia's New Dynamics*, 271.

⁵⁸ China's monolithic land army consists of an estimated 1.25 million active ground forces, 10-15 million militia forces, and 600,000 People's Armed Police, which augments the PLA during wartime. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 5, 18.

⁵⁹ *Ibid.*, 24. Although not precision weapons, these missiles can hit targets at 1000 kilometers and are easy to mass produce.

⁶⁰ *Ibid.*, 30.

⁶¹ *Ibid.*, 45-48.

⁶² Justin B. Liang and Sarah K. Snyder, *The "People" in the PLA: Recruitment, Training, Education in China's 80-Year-Old Military* (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, 2007), 2.

⁶³ U.S. Joint Forces Command, *The Joint Operating Environment: Challenges and Implications for the Joint Force*, 27.

⁶⁴ Liang and Snyder, *The "People" in the PLA: Recruitment, Training, Education in China's 80-Year-Old Military*, 2-3.

⁶⁵ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 5, 18.

⁶⁶ The Council also notes marked organizational improvements based on recent structural reforms and downsizing organizations from large rigid formations focused on regional defense to small, modular, and multifunctional units focused on three-dimensional offense and defense. Lastly, the Council assessed that the PLA possesses enhanced command and control, mobility, combined arms, logistics, reconnaissance, and surveillance capabilities. Information Office of the State Council of the Peoples Republic of China, *China's National Defense in 2008*, repro. Federation of American Scientists, January 2009, http://english.gov.cn/official/2009-01/20/content_1210227.htm (accessed February 5, 2009).

⁶⁷ China's naval forces include 74 principal combatants, 57 attack submarines, 55 medium and heavy amphibious ships, and 49 coastal missile patrol boats. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 4.

⁶⁸ China is the second largest energy consumer behind the United States. Rising oil demand and imports have made China a significant factor in world oil markets. A large portion of China's foreign direct investments is dedicated to construct oil and natural gas transnational pipelines between mainland China and Russia, Central Asia, and Southeast Asia. Many of these pipelines could be operational in 2009. China has also established an extensive strategic petroleum reserve to ensure its continuity of operation. U.S. Department of Energy, Energy Information Administration, *Country Analysis Briefs: China*, August 2006, www.eia.doe.gov (accessed December 12, 2008).

⁶⁹ China's PLA Navy administers 3 million square kilometers of maritime space. Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-First Century," trans. Andrew S. Erickson and Lyle J. Goodstein, *Naval War College Review* 59, no. 4 (Autumn 2006), 59-60.

⁷⁰ China plans to grow its sea power capacity and capability. David Saw, "Evolution and Revolution: Chinese Naval Developments," *Asian Defence and Diplomacy* (November/December 2008), 28.

⁷¹ Chris O'Brien, "Beijing Hospital Ship Harbors Soft Power," *Washington Times*, (January 26, 2009), in Early Bird (accessed January 28, 2009).

⁷² Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 4-5, 38.

⁷³ Christopher Bodeen, "China Hints It's Building Its First Aircraft Carrier," *Atlanta Journal Constitution*, (March 7, 2009), in Early Bird (accessed March 8, 2009).

⁷⁴ The Chinese task force includes three navy ships armed with Special Forces, helicopters, and missiles. Anne Barrowclough, "China sends navy to fight Somali Pirates," *Times Online*, (December 26, 2008), in Early Bird (accessed March 8, 2009).

⁷⁵ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 24.

⁷⁶ *Ibid.*, 2-3, 24.

⁷⁷ *Ibid.*, 4.

⁷⁸ The Council indicated it also sees progress in the maritime logistical support system and joint warfare capabilities. Finally, the Council reports improvement in naval education and training programs. Information Office of the State Council of the Peoples Republic of China, *China's National Defense in 2008*, 23-25.

⁷⁹ China's air assets consist of 2,250 operational combat aircraft, 450 transport aircraft, over 100 surveillance aircraft, and 1,450 older platforms used primarily for training, research, and development. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 52-56.

⁸⁰ David Saw, "The Chinese Air Force Growth Path", *Asian Defence and Diplomacy* (November/December 2008), 24-26.

⁸¹ Bradley Perrett, "ARJ21 Flies", *Aviation Week and Space Technology*, (December 8, 2008), 39.

⁸² Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 5, 13.

⁸³ *Ibid.*, 5.

⁸⁴ Saw, "The Chinese Air Force Growth Path," 26.

⁸⁵ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 24.

⁸⁶ The Council also notes progress in PLA Air Force air logistical support systems and integrated joint warfare training. Finally, the PLA Air Force showed marked improvement in its recruitment, education, and training. Information Office of the State Council of the Peoples Republic of China, *China's National Defense in 2008*, 26-28.

⁸⁷ Space can provide economic, scientific, and national security benefits to nations with space access. Jeff Kueter, "China's Space Ambitions - And Ours," *The New Atlantis*, no. 16 (Spring 2007), 2-3.

⁸⁸ U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 157.

⁸⁹ *Ibid.*, 158, 161.

⁹⁰ China also launched a number of small civil satellites used for meteorology, oceanographic activities, imagery, and environmental research. Lastly, China increasingly leases bandwidth and satellite services from commercial satellite providers such as Intelsat and

Inmarsat, who provide services to the West. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 27.

⁹¹ Ibid., 28.

⁹² Another capability in development is PLA air- and ground-based lasers that can disrupt U.S. satellites. David Steele, "The Weaponisation of Space: The Next Arms Race?," *Australian Defence Force Journal* 177 (2008), 19.

⁹³ Kueter, "China's Space Ambitions - And Ours," 2.

⁹⁴ Daryl G. Kimball, "Goading China: Of Madmen and Nukes," *Arms Control Association*, November 4, 2005, http://www.armscontrol.org/act/2005_11/focus (accessed February 27, 2009).

⁹⁵ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 26.

⁹⁶ Jon Kyl, *China's Anti-Satellite Weapons and American National Security* (Washington, DC: Heritage Foundation, February 1, 2007), 2.

⁹⁷ Institute of Foreign Policy Analysis, *Missile Defense, the Space Relationship, and the Twenty-First Century*, 9.

⁹⁸ Ibid., 4-5.

⁹⁹ Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 56.

¹⁰⁰ Institute of Foreign Policy Analysis, *Missile Defense, the Space Relationship, and the Twenty-First Century*, 5.

¹⁰¹ Ashley Esarey and Qiang Xiao, "Below the Radar: Political Expression in the Chinese Blogosphere," *Asian Survey* 48, no. 5 (September/October 2008), 753.

¹⁰² U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 163.

¹⁰³ Peter Eisler, "Raids on Federal Computer Data Soar: Major intrusions on networks are up 40%," *USA Today*, (February 17, 2009), in *Early Bird* (accessed February 19, 2009).

¹⁰⁴ U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 162. Their targets can include satellite control stations, power grids, critical infrastructure, financial systems, and a host of military and civil entities connected to the internet.

¹⁰⁵ Ibid., 163. U.S. Strategic Command estimates that in 2007 five million DOD computers experienced 43,880 malicious incidents, which represents a 31% increase in malicious cyber-activities over the previous year.

¹⁰⁶ Carl Von Clausewitz, *On War*, trans. by Sir Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1996), 89, 119-121.

¹⁰⁷ 21st Century challenges include traditional, irregular, catastrophic, and disruptive threats. Traditional threats include conventional air, land, and sea capabilities. Irregular threats include terrorism and its associated techniques. Catastrophic threats include weapons and mass destruction, biological and chemical weapons, and long-range ballistic missiles. Disruptive threats include advances in biotechnology, cyber-operations, space or directed-energy weapons, and spectrum jammers. Office of the Secretary of Defense, *Quadrennial Defense Review Report 2006* (Washington, DC: Office of the Secretary of Defense, 2006), 19-21.

¹⁰⁸ Michele A. Flournoy and Tammy Schultz, "Shaping U.S. Ground Forces for the Future: Getting Expansion Right," *Center for a New American Security*, June 27, 2007, <http://www.cnas.org>.

¹⁰⁹ Massive denial of service cyber attacks in Estonia and later Georgia foreshadow future hybrid conflicts. Defense Advanced Research Projects Agency has allocated \$25 million as start-up funding for a National Cyber Range, which is a move applauded by military officials who share their view of China's Cyber threat. David A. Fulghum, "Cyber-Attack Operations Near," *Aviation Week*, (January 18, 2009), in *Early Bird*, (accessed January 21, 2009).

¹¹⁰ Russia's attack on Georgia represents first known incidents when a state conventional military attack coincided with a massive government-influenced distributed denial of service cyberattacks against a state's military and commercial websites. President Bush issued National Security Directive 16 ordering the development of guidelines to regulate the use of cyber weapons in war. However, few international legal precedents cyber weapons and point to existing international law as unclear with respects to cyber attacks. Stephen W. Korn and Joshua E. Kastenberg, "Georgia's Cyber Left Hook," *Parameters* 38, no. 4 (Winter 2008-2009), 60, 63.

¹¹¹ Slide build upon QDR slide by illustrating the PRC's current portfolio of capabilities from a lens of its evolutionary military and space modernization. Office of the Secretary of Defense, *Quadrennial Defense Review Report 2006*, 19.

¹¹² Robert Slate, "China's National Intellectual Property Strategy: Implications for U.S. National Security," *Defense Intelligence Journal* 16, no. 2 (2007), 37, 43-44, 46-47.

¹¹³ June T. Dreyer, "US-China Relations: engagement or talking past each other?," *Journal of Contemporary China* 17, no. 57 (November 2008), 591.

¹¹⁴ Stefan Stahle, "China's Shifting Attitude towards United Nations Peacekeeping Operations," *The China Quarterly* (September 2008): 649, 653-655.

¹¹⁵ Morton Abramowitz and Stephen Bosworth, *Chasing the Sun: Rethinking East Asian Policy* (New York, NY: The Century Foundation Press, 2006), 27-29.

¹¹⁶ U.S. Pacific Command, *United States Pacific Command Strategy*, 2008, 5-6.

¹¹⁷ Jason T. Shaplen and James Laney, "Washington's Eastern Sunset: The Decline of U.S. Power in Northeast Asia," *Foreign Affairs* (November/December 2007), 2-4.

¹¹⁸ Cover story, "US President Bush signs India-US Civil Nuclear Cooperation Agreement," *India Review* 4, no. 11 (November 1, 2008), 1-5.

¹¹⁹ U.S. Navy and Marine forces are numerically the largest elements in the AOR. U.S. Pacific Fleet include five aircraft carrier strike groups and U.S. Marine Corps Pacific possesses about two-thirds of U.S. Marine Corps combat strength. The entire U.S. Navy-Marine team comprises more than 135,000 personnel, 180 ships, and 1,400 aircraft. U.S. Air Forces Pacific comprises approximately 39,000 airmen and 350 aircraft; and U.S. Army, Pacific has about 50,000 personnel, including four Stryker brigades. USPACOM also has more than 1,200 Special Operations personnel. Finally, there are more than 13,000 U.S. Coast Guard personnel available to support U.S. military forces in the region. U.S. Pacific Command, *USPACOM Fact Sheet: Headquarters U.S. Pacific Command*, <http://www.pacom.mil/about/pacom.shtml> (accessed March 12, 2009).

¹²⁰ USPACOM has 84,000 forces forward-deployed to Northeast Asia, including 42,000 forces in Japan, 28,000 forces in Korea, and roughly 14,000 naval forces in Northeast Asia. USPACOM plans to provide additional aircraft carriers, deep-strike and long-range aircraft, surveillance assets, and other naval assets. U.S. Forces Japan, "The History of U.S. Forces Japan," Official Military Website, http://www.usfj.mil/USFJ_History/USFJ_History.html (accessed March 3, 2009) and Richard Holloran, "U.S. changing its mission in Korea," *The Washington Times*, March 5, 2009, <http://www.washingtontimes.com/news/2009/mar/05/mission-changing-for-us-troops-in-korea/> (accessed March 3, 2009).

¹²¹ Robert D. Kaplan, "How We Would Fight," *The Atlantic Online*, June 2005 <http://www.theatlantic.com/doc/print/200506/kaplan> (accessed March 12, 2009).

¹²² Scott Tait, "China: A China Policy fir this Century," *Hoover Digest* 1, (2006) <http://www.hoover.org/publications/digest/2912081.html> (accessed October 28, 2008).

¹²³ USPACOM presently has sufficient flexible deterrence options and technology advantages to mitigate PLA conventional ground threats. PLA education and training have improved, but still lag far behind their U.S. counterparts and remain critical weaknesses. USPACOM must actively monitor PLA expeditionary logistics and forward basing developments and activist military presence abroad. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008*, 13, 48.

¹²⁴ *Ibid*, 4-5. USPACOM has adequate flexible deterrence options to counter increased maritime threats from China, but over time China can achieve maritime superiority in conflict. USPACOM must actively monitor the PLA Navy's aircraft carrier, expeditionary, undersea warfare, maritime intelligence, reconnaissance and surveillance, and fleet developments.

¹²⁵ *Ibid*, 5. Consequences of PLA Air Force's air and air defense advancements are moderate and risk is medium. USPACOM has adequate flexible deterrence options to counter the increased air threats. USPACOM must closely monitor the PLA Air Force's extended range power projection, air defense, refueling, and development.

¹²⁶ U.S. Congress, U.S. Commission on the Strategic Posture of the United States, *CCSP 2008 Interim Report to Congress* (Washington, DC: U.S. Government Printing Office, December 11, 2008), 8.

¹²⁷ NSPD-49 establishes overarching national policy for conduct of space activities. It designates U.S. space assets as vital to U.S. national interests. PLA space improvements represent a significant threat to USPACOM forces, the region, and CONUS. USPACOM and federal agencies must closely monitor and develop flexible response options to counter emergent PLA space and cyberspace threats. Office of the President of the United States, *National Security Policy Directive 49: U.S. Space Policy* (Washington, DC: The White House, August 31, 2006), 1.

¹²⁸ Consequences are significant and risk is high. China's PLA and state cyberspace operations pose a significant threat to U.S. national security and to regional security. The U.S. government published a strategy for securing cyberspace and DOD created a national military strategy for cyberspace operations.¹²⁸ But significant work remains. USPACOM and federal agencies must be develop, acquire funding, and implement flexible deterrence options to mitigate China's cyberspace capability. Office of the Secretary of Defense, *National Military Strategy for Cyberspace Operations* (Washington, DC: Office of the Secretary of Defense, 2006), iii, v, A-1, B-1,

¹²⁹ Michael Mecham and Amy Butler, "Wideband Solution," *Aviation Week and Space Technology* (December 8, 2008), 44-45.

¹³⁰ Institute of Foreign Policy Analysis, *Missile Defense, the Space Relationship, and the Twenty-First Century*, 42-44.

¹³¹ U.S. Department of State, Bureau of East Asian and Pacific Affairs, *Country Report: China*, (October 2008), <http://www.state.gov/r/pa/ei/bgn/18902.htm> (accessed December 17, 2008), 11.

¹³² NSS encourages China to be responsible player by providing transparency, adopting flexible exchange rates, and opening up for financial services. Office of the President of the United States, *National Security Strategy of the United States* (Washington, DC: The White House, 2006), 40-42.

¹³³ Today, the situation with Chinese leaders remains the same. Implementing this new policy will require full engagement of all U.S. elements of national power, with a diplomatic lead (or *Big Diplomacy*) and significant reliance on the military as a deterrent (or *Big Military*). It also requires informational and economic components to ensure China's compliance with international laws and norms. Timothy Maier, "Why Red China Targeted the Clinton White House," *Insight Magazine*, May 26, 1997, http://findarticles.com/p/articles/mi_m1571/is_n19_v13/ai_19448569 (accessed November 20, 2008).

¹³⁴ Kyl, *China's Anti-Satellite Weapons and American National Security*, 7.

¹³⁵ Rosita Dellios, "China's Space Program: A Strategic and Political Analysis," *Culture Mandala* 7, no. 1 (December 2005), 5.

¹³⁶ U.S. Congress, U.S.-China Economic and Security Review Commission, *USCC 2008 Annual Report to Congress*, 163-167.

¹³⁷ DOD projected 2009 budget lists nearly \$6 billion in funding for new DOD satellites. Of which, less than 1% is identified for emergent space situational awareness and space control capabilities. These capabilities are most needed in monitoring and deterring China's emergent space capabilities. Frank A. DiStasio, Jr., *Fiscal Year 2009: Army Budget – An Analysis* (Washington, DC: Association of the United States Army, Institute of Land Warfare, 2008), 50.

¹³⁸ U.S. reliance on networks and information technology makes terrestrial, space, and undersea communications paths increasingly vulnerable. For example, a commercial ship off the coast of Egypt dropped its anchor and inadvertently severed an undersea cable in 2008, which crashed Internet, telecommunications, and network services for 75 million users in 13 countries in Asia and Africa. Countries included India, Bahrain, Saudi Arabia, Syria, United Arab Emirates, Bangladesh, Sudan, Algeria, Lebanon, Kuwait, Maldives, Egypt, and Pakistan. This fiber optic cable cut also impacted U.S. and Coalition forces in the region. Intelligence indicates that China's PLA seeks to acquire or develop additional cable laying vessels capable of cutting subsea communications cables in a Taiwan Straits scenario. Peter Milano, "How One Ship Crashed the Internet for 75 million," *Maritime News Discoverer*, (February 2, 2008), <http://gcaptain.com/maritime/blog/tag/undersea-cable/> (accessed March 25, 2009).

¹³⁹ Kueter, "China's Space Ambitions – And Ours," 11.

¹⁴⁰ U.S. civil and military intelligence and communications satellites have faced repeated delays and cancellations, which now force America to rely on a decaying and vulnerable fleet of commercial and military satellites. Craig Covault, "Night Fright," *Aviation Week and Space Technology*, (December 8, 2008), 28.

¹⁴¹ Amy Butler and Michael Micham, "Protecting Comms: The way forward on Transformational Satellite remains elusive, with U.S. officials debating requirements for first Increment," *Aviation Week and Space Technology* (December 8, 2008), 47-48.

¹⁴² Parag Khanna, "Inter-Imperial Relations," *International Politik* (Fall 2008), 28-30.

¹⁴³ Secretary Rice cited China's growth and integration into the global market, urging the need for Chinese transparency and observances of international norms. Condoleezza Rice, "The Bush Legacy," *The Ambassadors Review* (Fall 2008), 1-3.

¹⁴⁴ Pang Zhongying, "China: Partner or Ward," *International Politik* (Fall 2008), 42.

¹⁴⁵ China's endorsement is essential for execution of U.N. peacekeeping actions. China feared an indiscriminate use of force. Also, China does not want to be regarded as interfering in African affairs. Susan H. Allen, "The Domestic Political Costs of Economic Sanctions," *The Journal of Conflict Resolution* 52, no. 6 (December 2008), 916.

¹⁴⁶ U.S. State Department, Office to Monitor and Combat Trafficking in Persons, *Trafficking in Persons Report 2008*, <http://www.state.gov/g/tip/rls/tiprpt/2008/105387.htm> (accessed February 5, 2009).

¹⁴⁷ Nirav Patel, "Chinese Disaster Relief Operations, Identifying Critical Capability Gaps," *Joint Force Quarterly* 52 (1st Quarter 2009), 111-113.

¹⁴⁸ Wei He and Marjorie A. Lyles, "China's outward foreign direct investment," *Business Horizons* 51 (2008), 485-487.

¹⁴⁹ U.S. Department of the Navy, *A Cooperative Strategy for the 21st Century Seapower* (Washington, DC: U.S. Department of the Navy, October 7, 2008), 4.

¹⁵⁰ Robert Gates, "A Balanced Strategy: Reprogramming the Pentagon for a New Age," *Foreign Affairs* (January/February 2008), <http://foreignaffairs.org/20090101faessay88103/robert-m-gates/a-balanced-strategy> (accessed December 5, 2008).

