

**JOINT FORCES STAFF COLLEGE
JOINT ADVANCED WARFIGHTING SCHOOL**



**CHINA'S ENERGY SECURITY AND ITS MILITARY MODERNIZATION
EFFORTS: HOW CHINA PLANS TO DOMINATE THE WORLD**

by

Christopher J. Larson

Major, USAF

A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.

Signature: _____

23 May 2007

Thesis Adviser: Charles Cunningham, USAF, Lt Gen (Ret)

Unlimited Distribution

Abstract

This report examines China's increasing demand for energy and how that demand has the potential to threaten the stability of China's Communist Party regime. It illustrates that China's demand for energy will continue to grow and that China will become increasingly reliant on oil imports to meet its energy needs. This reliance on oil imports has forced China, in the short term to adopt an energy security strategy that seeks to protect its access to oil by adopting a non-threatening military posture complemented by use of its economic bargaining power. At the same time, China has adopted a long range strategy, that runs side-by-side with the short-term strategy, of "Bide our time and build up our capabilities." This long-term strategy consists of a "String of Pearls" approach to gain the necessary forward bases to secure its energy lifeline and the development of asymmetric military capabilities. The ultimate goal of this long-term strategy is to develop sufficient military capability to challenge the West and achieve great power status.

Table of Contents

Abstract.....	ii
Table of Contents.....	1
Table of Figures.....	2
Introduction.....	3
Thesis Statement.....	5
Analysis.....	7
China’s Peaceful Development Road.....	7
Relevance of Ancient Chinese Statecraft.....	12
A Hidden Agenda?.....	15
China’s Energy Security.....	19
China’s Energy Sector.....	19
Why Energy is so Important to China’s Leadership.....	22
Securing Energy Supplies.....	24
Defending China’s Energy Supplies – A String of Pearls Approach.....	29
China’s Military.....	35
Posture - China’s Official Assessment.....	36
Spending – Official Assessment.....	37
Spending – Unofficial Assessment.....	39
Chinese Strategic Military Thought.....	43
Current Military Capabilities.....	49
Conclusion.....	60
Works Cited.....	64

Vita.....	67
-----------	----

Table of Figures

Figure 1 - Primary Energy Demand in China	20
Figure 2 - China’s Crude Oil Imports	30
Figure 3 - China’s “String of Pearls” / Sea Lines of Communication	31
Figure 4 - Comparison of Defense Expenditures of Major Countries in 2005	38
Figure 5 - Comparison of Percentages of Defense Expenditures in GDP of Major Countries in 2005	39
Figure 6 - Comparison of Defense Expenditures of Major Countries in 2005 with U.S. High and Low Estimates	41
Figure 7 - Comparison of Percentages of Defense Expenditures in GDP of Major Countries in 2005 with U.S. High and Low Estimates	42

Introduction

This report attempts to demonstrate that it is logical to view China as a future peer competitor of the United States. As such, it can be postulated that China and the United States are on a march to potential future conflict. This march toward conflict is marked and illustrated by China's mercantilist¹ approach towards global energy geopolitics, their purposeful and systematic transformation of the People's Liberation Army (PLA)² into a modern military force, and their carefully and thoughtfully developed long-term efforts aimed to gain the time necessary to accumulate modern forces capable of turning the People's Republic of China (PRC) into a major regional and then a world power on par with the United States and the European Union. The reason for this modernization is to support China's growing need for energy.

China is promoting a gradual build-up of increasingly potent operational military capability aimed at developing an indigenous capability to protect its own access to global energy resources. The modernization effort is the centerpiece of a strategy that, according to Anatoly Klimenko,³ places China's military "at the service of the state's economic and political interests, the interest of increasing the states' aggregate power and enhancing the role and importance of the PRC initially on the regional scale and then also

¹ The author defines China's mercantilist approach towards energy as a desire to obtain equity oil rights instead of relying on the free market to meet required demands. An equity oil right essentially means China purchases the right to drill for and distribute the oil directly from a third party, thus bypassing the recognized international oil market.

² When referring to the People's Liberation Army (PLA) in this paper, the author is referring to the collective army as a whole which consists of traditional army units as well as a navy (PLAN) and an air force (PLAAF).

³ Anatoly Klimenko, Lieutenant General (Reserves), is the leading researcher at the Russian Academy of Sciences Institute for Far Eastern Studies

on the global scale.”⁴ Additionally, this modernization effort is occurring in a deliberate manner, following a staged pattern of reform concentrating on the development of key asymmetric and high-technology capabilities that can deal with both near-term and long-term threats. History has proven that the Chinese people have the determination, patience, and perseverance necessary to endeavor over the long-term. The military modernization may reflect an expression from ancient Chinese statecraft—“*tao guang yang hui*.” This expression is from China’s Warring States Era and when translated means “Bide our time and build up our capabilities.”⁵

The implication for U.S. and European military planners and policy makers alike, is that without a sober and balanced approach to China’s military development combined with an understanding of China’s quest for energy there could be conflict over access to energy resources. The ultimate purpose of this study is to examine the connection between the economic and security nature of China’s rise, a connection perhaps far more significant than China would like the world to believe.

This study is divided into three sections which outline the author’s methodology. The first section critically examines China’s Grand Strategy. It frames the political backdrop of China’s economic rise against its official foreign policy titled “China’s Peaceful Development Road” and examines this current policy in relationship to ancient

⁴ A. F. Klimenko, "The Evolution of China's Military Policy and Military Doctrine," in *Military Thought* (East View Publications, 2005), 49.

⁵ The Warring States (475–221 BC) era is one of the most influential times in China’s history. It is a period in which small feuding kingdoms or fiefdoms struggled for supremacy. This period was dominated by seven or more small feuding Chinese kingdoms. It was during this period that many of the government institutions and cultural patterns that now characterize China were established. Source: Encyclopedia Britannica online--<http://www.britannica.com/ebc/article-9382341>. The translation of the ancient expression comes from Michael Pillsbury, *China Debates the Future Security Environment* (Washington, DC: National Defense University Press, 2000), xxxix.

statecraft, particularly from China's Warring States Era. This section addresses how official Chinese foreign policy serves as the framework that links China's growing need for energy to its military modernization efforts and ultimately to its national security strategy.

The second section outlines China's indigenous energy capabilities and discusses China's future energy needs. It illustrates why energy security is so critically important to China's leadership and how China's energy policy has influenced the world energy market. This section closes with an examination of how and where China plans to meet its energy needs and suggests that China has an increasing need to build a modern military that is capable of guaranteeing access to China's worldwide sources of energy.

The third section examines China's current and developing military capabilities. This section begins by broadly examining China's current military posture and defense spending. It then explores some of China's military thought and how that thought shapes both its military modernization efforts and China's Grand Strategy. It then examines military modernization efforts, which center on asymmetric and anti-access capabilities, with the assertion that China's focused modernization effort supports a less obvious national strategic interest of achieving great power status. The paper concludes by summarizing the potential threat that China's military modernization and security strategy present to the West.

Thesis Statement

China's approach towards securing global energy access is combined with their purposeful and systematic transformation of the PLA. This is a carefully developed effort aimed at a gradual development of a technically capable military force which is

part of a long-term national security strategy to turn the People's Republic of China into a dominant regional power and then a world power on par with the European Union and the United States.⁶

⁶ A term that will be used in this paper to describe China's desire to emerge as a regional and then world power is "hegemony." Merriam-Webster's Collegiate Dictionary defines hegemony as: 1. preponderant influence or authority over others: DOMINATION. 2. The social, cultural, ideological, or economic influence exerted by a dominant group.

Analysis

China has successfully embarked on a road of peaceful development. . . . Along this road, the Chinese people are working hard to build China into a prosperous, powerful, democratic, civilized and harmonious modern country. . .

China's Peaceful Development Road

China's Peaceful Development Road

Before examining the specifics of China's geopolitics and its military modernization efforts, it is important to understand the political backdrop against which these efforts are occurring. This section begins by examining China's official policy to build China into a prosperous, powerful, and modern country. This policy is titled "*China's Peaceful Development Road*." This is followed by a discussion of the important role ancient statecraft has on Chinese politics. This section closes by examining an alternative to China's officially sanctioned foreign policy that provides a more realistic outlook of China's overall grand strategy.

China's Peaceful Development Road is a 2005 White Paper that outlines the methodology and establishes the framework for China's economic and developmental agenda to build a great nation. The basic premise of this policy is that China can prosper and grow in a peaceful manner. The policy also suggests that China's economic growth will serve as a catalyst for additional international economic growth and prosperity. This White Paper is China's first attempt to systematically, frankly, and honestly provide a public presentation of the official Chinese strategy.⁷

⁷ The White Paper consists of five chapters: 1) Peaceful Development Is the Inevitable Way for China's Modernization; 2) Promoting World Peace and Development with China's Own Growth; 3) Developing by Relying on Its Own Strength, Reform and Innovation; 4) Seeking Mutual Benefit and

The White Paper begins by stating that “peaceful development is a sincere hope and unremitting pursuit of the Chinese people. Since the policies of reform and opening-up were introduced at the end of the 1970s, China has successfully embarked on a road of peaceful development . . . Along this road, the Chinese people are working hard to build China into a prosperous, powerful, democratic, civilized and harmonious modern country”⁸ In the view of the Chinese, the road of peaceful development links China’s domestic development to the outside world. They also believe that this link is fundamentally beneficial to the common interests of both the Chinese people and the international community at large. A residing theme of the document is that China’s development will be “peaceful.” The paper continually emphasizes this fact and goes so far as to say that it is “inevitable” that China will follow a “peaceful” path as it develops into a prosperous and modern country. The paper cites three reasons why China’s development will *inevitably* be peaceful: based on its national conditions, based on its historical and cultural traditions, and based on present world developments.

The paper points to China’s recent history as it suggest that it is *inevitable* that China will unswervingly persist to a peaceful road of development based on its *national conditions*. Here the paper attempts to portray China, since the mid-nineteenth century, as a victimized country that needs to be left alone so it can build itself up into an independent and prosperous nation capable of providing for its own people. It states that “During the 100-odd years following the Opium War in 1840, China suffered humiliation

Common Development with Other Countries; and 5) Building a Harmonious World of Sustained Peace and Common Prosperity.

⁸ "China's Peaceful Development Road," (Beijing: Information Office of the State Council of the People's Republic of China 2005), Section I. (<http://www.china.org.cn/english/features/book/152684.htm>).

and insult from big powers.”⁹ It goes on to say that it is because of this humiliation that peace “has become the assiduously sought goal of the Chinese people to eliminate war, maintain peace, and build a country of independence and prosperity, and a comfortable and happy life for the people.”¹⁰

The 2nd reason given in the White Paper is China’s historically peaceful culture and history of non-aggression against other countries. The White Paper suggests that *China’s historical and cultural traditions* prove that China’s development will inevitably be peaceful. Here the paper showcases Zheng He, a famous Chinese naval explorer, as proof of China’s peaceful intentions. In 1405 Zheng was dispatched by Chinese Emperor Yongle of the Ming Dynasty to command the then largest fleet in the world which consisted of 62 ships and nearly 30,000 men.¹¹ According to the White Paper, Zheng and his fleet “made seven voyages to the ‘Western Seas,’ reaching more than 30 countries and regions in Asia and Africa.”¹² Each time Zheng embarked with thousands of men and several thousands of tons of Chinese goods to trade. What was most notable about Zheng’s voyages, according to the paper, is the fact that what Zheng “took to the places he visited were tea, chinaware, silk and technology, but [he] did not occupy an inch of any other’s land. What he brought to the outside world was peace and civilization, which fully reflects the good faith of the ancient Chinese people. . . .”¹³ Here, the paper attempts

⁹ Ibid.

¹⁰ Ibid.

¹¹ Christopher J. Pehrson, *String of Pearls: Meeting the Challenge of China’s Rising Power across the Asian Littoral* (Strategic Studies Institute, 2006), 1.

¹² “*China’s Peaceful Development Road*,” Section I.

¹³ Ibid.

to emphasize that although Zheng certainly had the military capacity, with nearly 30,000 men, to invade and conquer foreign lands his mission was a peaceful one focusing on trade--an activity that is mutually beneficial to each party involved. The intent here is to show that the “Chinese culture is a pacific culture” historically and that “the Chinese nation has always been a peace-loving one.”¹⁴

The third reason given, in regards to *present world development trends*, is the trend toward globalization. The White Paper suggests today’s economic globalization has brought a few challenges, but many more opportunities for world peace and economic development. It goes on to suggest that as long as countries are willing to work together that gradually, over many years, the goal of building a world of sustained peace and common prosperity can be reached. China’s role in this process is maintaining its continued economic development, which creates “development opportunities and bigger markets for the rest of the world.”¹⁵

These three reasons for peaceful development attempt to show that with things going so well for China and the rest of the world, “why wouldn’t China continue on a peaceful development path?” The answer is summed up by the following quote from the paper: “China cannot develop independently without the rest of the world. Likewise, the world needs China if it is to attain prosperity.”¹⁶ This White Paper serves as the foundation of China’s strategic communication strategy to systematically paint a picture

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

that shows China's peaceful development not only poses no threat to the international community, but is actually beneficial to the rest of the world.

In summary, the White Paper suggests that China's security strategy is based on economic integration with the rest of the world. China's development and rise are entirely peaceful and pose no threat. The theme of the White Paper is exemplified by remarks made by Zheng Bijian:

We're totally different from Japan or Germany or the Soviet Union, whose rise led to war. The reason that we can design and plan our way differently is because we live in new times and conditions. As a nation, we also have different goals and character. I just can't see a major war happening in the future now. To develop China, we realize we have to be part of the global system, not subvert it with violence as Germany or Japan did. If we have some differences, we'll use the way of reform, negotiation and discussion. That way we can develop our socialism with Chinese characteristics independently, but without creating trouble for other countries. That'll realize double benefits, with all winning and developing together.¹⁷

China's leaders intend for its "peaceful rise" White Paper to show that they are taking a transparent, pragmatic, predictable, long-term, and most importantly, a non-threatening approach in this endeavor.

So why does official Chinese policy emphasize "peaceful development" to such a degree? One compelling argument is that China's leaders are genuinely concerned that foreign leaders, particularly those of the West are "reluctant to welcome China's rise in world affairs and would prefer to delay or obstruct its progress."¹⁸ This outlook is reminiscent of similar struggles that China has faced throughout its history. One specific

¹⁷ Zheng Bijian was formerly the Executive Vice-President of the Party School of the CPC Central Committee and is a long time advisor to China's senior leadership. Quotation is from Zheng Bijian, "China's Rise Will Be Peaceful," *New Perspectives Quarterly* 23, no. 1 (2006).

¹⁸ Michel Oksenberg, *Taiwan, Tibet, and Hong Kong in Sino-American Relations* (Stanford, CA: Stanford University Press, 1997), 56.

historical example is China's Warring States Era, where rising states consistently faced a brutal hegemonic leader. Although the Warring State Era was an inter-state conflict within China, when viewed in the context of today's modern environment, many feel that China's rise today involves a similar relationship with the West, which reminds China's leaders "never to forget the eternal verities of geopolitics and worst case scenarios."¹⁹ This deep rooted historical belief in worst case scenarios and in dealing with a hegemon has a profound impact on, and becomes a critical component of, Chinese strategic thought.

Relevance of Ancient Chinese Statecraft

Scholars readily agree that ancient statecraft, particularly statecraft from the Warring States Era in Chinese history, has had a noticeable influence on Chinese international politics. Lessons learned from this ancient statecraft have been used by Chinese leaders since the 1970s. Deng Xiaoping, one of the most powerful Chinese leader since Mao Zedong and the dominant political force in China during the late 1970s and throughout the 1980s, advocated a strategy of '*tao guang yang hui*.' This idiom, "literally translated, means 'Hide brightness, nourish obscurity,' or, as the official Beijing

¹⁹ Michael Pillsbury, *China Debates the Future Security Environment* (Washington, D.C.: National Defense University Press, 2000), xxi.

China Debates the Future Security Environment represents the compilation of a study made by Michael Pillsbury. As stated in the preface of the book "this study offers over 600 selected quotations from the writings of over 200 Chinese authors published from 1994 to 1999. Analysis and interpretation are kept to a minimum so that the Chinese may speak for themselves. Many Chinese scholars assisted with this study by providing hard-to-get books and articles unfamiliar to most Westerners. Half the authors were interviewed in China. They explained some of the viewpoints in recent debates about the future security environment. Debates in China are generally concealed, and frequently authors pretend they do not exist. However muted they may be, China's debates about the future nevertheless exist and merit attention if we are to understand the premises of China's national strategy and set a baseline from which to measure any future change in these premises."

interpretation translates the four-character idiom, ‘Bide our time and build up our capabilities.’”²⁰ Today, as in the past, this strategy applies to dealing with a powerful hegemon.

Deng Xiaoping advocated this strategy because he felt that “China at present is too poor and weak and must avoid being dragged into local wars, conflicts about spheres of influence, or struggles over natural resources.” Stated more simply, Deng suggested that China “yield on small issues with *the long term* [emphasis mine] in mind.”²¹ The fact that Deng Xiaoping specifically emphasizes the “long term” is no trivial matter. It is no accident that Deng Xiaoping advocates a long-term strategic outlook for China.

Again, an illustration from statecraft of the Warring States Era is particularly relevant:

Warring states that *rose too fast* [emphasis mine] suffered attack, dismemberment, and even complete extinction. In the final phase of the Warring States Era, as every literate Chinese knows, a brilliant strategist formed a coalition that stood for several decades against the predatory hegemon. . . .²²

By adopting a long-term strategic outlook, China believes it can avoid provoking the West in the short-term and slowly, methodically, and systematically build its economy and military capability to emerge at a future date when the West can no longer do anything about it.

Deng’s influence continues today in the words of Liu Jinghua of the Chinese Academy of Social Sciences who states: “At present, it is wise to *tao guang yang hui*

²⁰ It was under the tutelage of Deng Xiaoping that China’s economy began to blossom into the thriving economy that we see today. He was the main architect behind China adopting many of its free-market properties while still firmly keeping the Chinese Communist Party in control of the central government. The translation of this ancient idiom comes from Pillsbury’s book *China Debates the Future Security Environment*, xxxix.

²¹ Pillsbury, *China Debates the Future Security Environment* xxxix.

²² *Ibid.*, xxxviii-xxxix.

(conceal abilities and bide time), in order to *eliminate the China Threat Theory* [emphasis mine]²³ In a complementary statement, Li Peng, former Premier of the People's Republic of China, downplays the 'China Threat Theory:' "It will take more than 30 years for China to achieve modernization. Therefore, the China Threat Theory is not an objective view. It was spread by anti-China forces in Western countries with ulterior motives to contain China."²⁴ Li Peng further states "China will never practice hegemonism nor seek any spheres of influence. Even when it gets stronger in the future, it will, as always, maintain friendly relations with other countries."²⁵ These statements show that . . . some in China's highest leadership ranks clearly support using the element of time to China's advantage.

Another important premise from the statecraft of the Warring States Era that has influenced Chinese strategic thought is known as "*sha shou jian*." This expression portrays a concept of "victory in warfare through possession of secret weapons that strike the enemy's most vulnerable point (called an acupuncture point), at precisely the decisive moment."²⁶ The application of this particular premise has had a huge impact on China's

²³ Liu Jinghua, "Ershi yi shiji ershi sanshi niandai Zhongguo jueqi ji waijiao zhanlue xueze" (Diplomatic strategic alternatives for a rising China in 2020 to 2030), *Zhanlue yu guanli* (Strategy and Management) 4, no. 3 (1994), 119. as listed in *China Debates the Future Security Environment*, xlv.

The Chinese Academy of Social Sciences (CASS) is the highest academic research organization in the fields of philosophy and social sciences as well as a national center for comprehensive studies in the People's Republic of China.

²⁴ Li Peng on Domestic, International Affairs," Beijing Xinhua Domestic Service, January 2, 1996, in FBIS-CH1-96-002, January 3, 1996.

²⁵ Pillsbury, *China Debates the Future Security Environment* xxx.

²⁶ The importance of the expression *sha shou jian* can be seen in its continued usage over time, both originally in traditional Chinese novels and ancient statecraft texts, as well as today in the daily military newspaper. This term captures the concept of how asymmetric technology can win a war. Source: Pillsbury's *China Debates the Future Security Environment*.

military modernization efforts. This strategy has emphasized the need for the development and procurement of asymmetric and anti-access military capabilities, a subject that will be explored in much greater detail in the third section of this paper.

It is clear that principles of ancient statecraft are part of the framework used by modern political and military leaders to shape Chinese strategy. With this in mind, the author argues that it is difficult to reconcile the prevalent existence of these less than peaceful ancient themes with China's official proclamation of peaceful economic growth and integration with the world community. The author would suggest that these ancient guiding principles are actually representative of a broader "hidden agenda," that sits side-by-side China's official peaceful rise strategy, focused on gradual military preparation and readiness to challenge a hegemon. The realization of these two complimentary strategies over time will enable China to emerge as the dominant regional player in Asia and, given the time, on par with the West.

A Hidden Agenda?

China's military authors have called the future multipolar world 'amazingly' similar to the Warring States Era and declare that China's future security environment resembles the Warring States Era in several ways

China Debates the Future Security Environment

The validity of the existence of a "hidden agenda" is difficult to examine from a Chinese perspective. Unlike the west where academics and policy-makers alike routinely debate, examine, and very often criticize official government policy, such action is almost unheard of in China. This makes it extremely difficult to critically examine official Chinese foreign policy from anything but an outside perspective. As Pillsbury states, "In sharp contrast to widespread Western interest and writing about the

consequences of the rise of China, this subject cannot be addressed by Chinese analysts beyond certain boilerplate phrases used by senior leaders in international fora (sp). There is no discussion of alternative scenarios about the rise of China as a great power. Analysts only repeat platitudes that China will never be a superpower, never seek hegemony, and will always be a force for peace and stability.” Candid academic examination of China’s future role as a world power simply is not available in open source forum and the topic of China’s “rise” as a military power is simply avoided. Instead, daunting challenges are emphasized and “China's leaders repeatedly warn that no one should be worried about China as a rising military power.”²⁷

Although there are very few Chinese sources that critically analyze China’s rise there is no lack of such analysis from academics and military professionals outside of China. One prominent foreign analyst who has studied extensively on this subject is Lieutenant General Anatoly Klimenko, leading researcher at the Russian Academy of Sciences Institute for Far Eastern Studies. He states that “Beijing’s military and political line is, on the whole, entirely predictable and *oriented toward winning time to gather strength and, in the long run, transform China into a full-fledged global center of power, comparable to the United States and the European Union in its might and influence in the world.* [emphasis mine]” He further states that “under today’s conditions, geostrategic goals are not achieved in open armed conflicts. . . . Rather, they can be reached in the labyrinthine and decades-long political combinations and operations that are

²⁷ Pillsbury, *China Debates the Future Security Environment* xxix.

characteristic of traditional Chinese political thought.”²⁸ In the same view, Avery Goldstein, a senior fellow at the Foreign Policy Research Institute, argues that China’s peaceful development strategy “*aims to engineer China’s rise to great power status* [emphasis mine] within the constraints of a unipolar international system that the United States dominates.”²⁹ He states that China is fully aware of the international constraints and context that it must operate in as it pursues its quest for great power status. Goldstein sees China’s “peaceful rise” strategy as the means to sustain the “conditions necessary for continuing China’s program of economic and military modernization as well as to minimize the risk that other, most importantly the peerless United States, will view the ongoing increase in China’s capabilities as an unacceptably dangerous threat that must be parried or perhaps even forestalled.”³⁰

These analyses indicate that China must posture itself and its Peaceful Development Road in such a way as to minimize potential conflict with the West. The Chinese are not fools and they have no desire to enter into open conflict with the West, a fight that for the moment they know they cannot possibly win. To this end, Beijing has pragmatically adopted an outwardly peaceful, albeit transitional, strategy designed to portray China as a responsible non-threatening member of the international community. This pragmatic outlook in no way diminishes Beijing’s ultimate desire to emerge as a great power in the future.

²⁸ Anatoly Klimenko, "On the Evolution of China's Military Policy and Military Strategy," *Far Eastern Affairs* 32, no. 2 (2004): 40.

²⁹ Avery Goldstein, *Rising to the Challenge: China's Grand Strategy and International Security*. (Palo Alto, CA: Stanford University Press, 2005), 12.

³⁰ *Ibid.*

Having established the possibility that China has a long-term “hidden agenda” to emerge as a great power, the upcoming sections of the paper will examine the critical components that can make this strategy a reality—energy security and a modern and capable military force.

China's Energy Security

Undoubtedly energy security plays a central role in China's foreign policy and the need for energy security certainly influences many of China's political, diplomatic, military, and economic decisions. The U.S.-China Economic and Security Review Commission reports that "China's energy security policy has three main objectives: to secure an adequate energy supply to meet industrial, residential, and transportation needs; to keep prices low for domestic consumption and to ensure secure delivery."³¹ This section of the paper seeks to examine in greater detail the effects that China's energy security policy has on the following three areas: domestic political concerns, international energy geopolitics, and military modernization. However, before examining these areas, a brief overview of China's energy sector will be presented to set the stage for follow on discussion.

China's Energy Sector

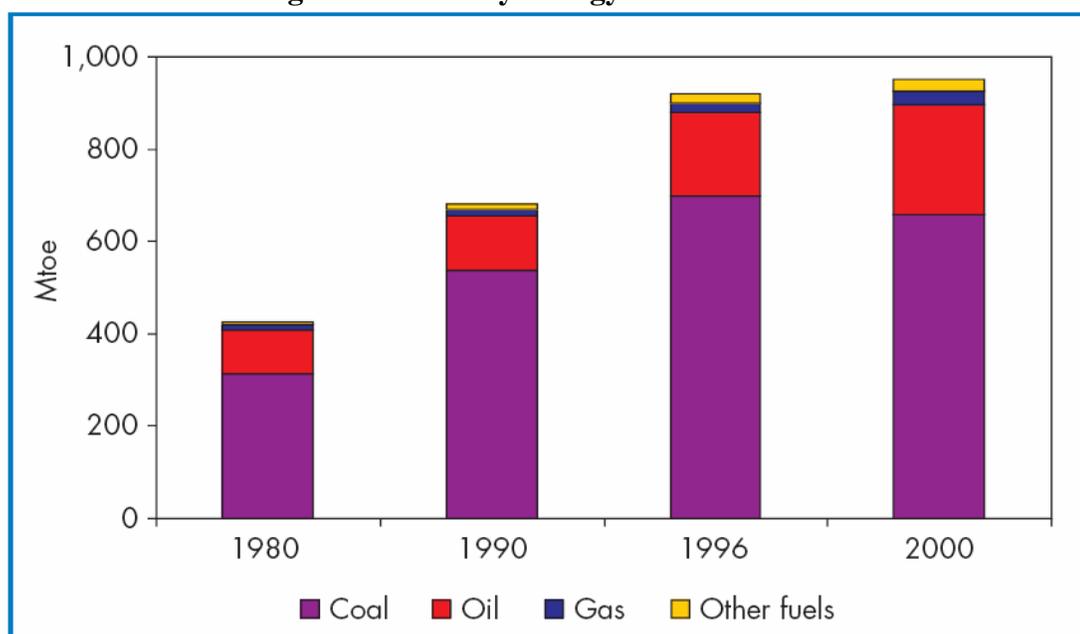
China's primary sources of energy are coal and oil, with natural gas, nuclear power, hydroelectric power, and renewable power playing additional, but very small roles, in the overall energy sector. Coal is China's main fuel source and it meets nearly 70 percent of China's energy needs. Oil is the second largest component of China's energy sector and it accounts for nearly 25 percent of China's total energy needs.³² The remainder of China's energy needs is met by natural gas, which accounts for

³¹ "U.S.-China Economic and Security Review Commission," (U.S. Government Printing Office, 2006), 96.

³² Bernard D. Cole, "Oil for the Lamps of China--Beijing's 21st-Century Search for Energy," Mcnair Papers (Washington, D.C.: National Defense University, 2003), 15.

approximately 3 percent of China's total energy needs and a combination of hydroelectric, nuclear, and renewable power sources which account for the remaining 2 percent (see Figure 1). Why this breakdown of China's energy sector is relevant to the greater issue of energy security will now be examined.

Figure 1 - Primary Energy Demand in China



Source: World Energy Outlook (Paris: International Energy Agency, OECD, 2002), 241.

To begin with, although China is blessed with substantial proven reserves of both coal and oil, these resources are very unevenly distributed in relation to China's industrialized regions. Many of China's proven energy resources are located in the west, central, north, and north-west parts of the country, while most of the energy consumption occurs in the more industrialized areas located in the eastern and coastal portions of China. This uneven distribution of resources is further aggravated by a lack of supporting infrastructure that can quickly and economically deliver these domestic energy resources to the regions that need them the most. This lack of infrastructure, coupled with China's strong economic growth and increasing need for energy, has led to

the outstripping of China's domestic energy supplies, ultimately causing a supply-demand gap for energy to develop.

Beijing has been diligently working to address the supply-demand gap issue through both infrastructure investments and by trying to increase the efficiency of existing systems. However, the needed infrastructure improvements require massive capital investments which, particularly in the short-term, have proven to be less cost effective than just importing energy. Beijing has also forced several restructurings of the state run oil industry to make it more competitive and efficient. However, most analysts agree, that this restructuring is "unlikely to result in any significant increase in oil production in the near future."³³ Others note the decline since 2000 in the efficiency of energy use per incremental dollar of gross domestic product (GDP).³⁴ Such inefficiencies only aggravate the existing supply-demand gap problem that China faces. Meanwhile, China's demand for oil and oil imports continues to grow almost unchecked.

In addition to the growing supply-demand gap problem caused by poor infrastructure and lack of energy efficiency, China's heavy reliance on large and inefficient coal-burning technologies as its primary energy source is causing major pollution. This has caused Beijing to seek more energy efficient oil and gas-based manufacturing as China's industrial base continues to grow and mature.³⁵ Of course, such a focus places an increasing demand on China's domestic oil and natural gas

³³ Heinrich Kreft, "China's Quest for Energy," *Policy Review*, no. 139 (2006).

³⁴ Kenneth Lieberthal and Mikkal Herberg, "China's Search for Energy Security: Implications for U.S. Policy," *NBR Analysis* Volume 17 Number 1 (2006): 11.

³⁵ *World Energy Outlook*, 239.

production capabilities, which cannot keep up with the growing demand, further aggravating the existing supply-demand gap.

The goal of this portion of the paper has been to illustrate that the nature of China's energy sector and the forces that are now acting upon it have caused a supply-demand gap to develop. So far the principle means of addressing this supply-demand gap has been imported oil, but natural gas imports are expected to enter into the equation in the very near future as a secondary approach to minimize China's growing supply-demand gap problem. The importance that China's leadership has placed on addressing this supply-demand gap problem is the basis for the next section of this paper.

Why Energy is so Important to China's Leadership

Securing a steady energy supply is the top priority for China, it has everything to do with national security

*Jin Riguang*³⁶

Beginning with Deng Xiaoping's ascent to power in the late 1970s, China's Communist Party has ensured its legitimacy by consistently delivering sustained economic growth and by leveraging its economic power to attain greater international prominence. Sustaining China's economic growth depends largely on how well China's Communist Party succeeds in providing for China's ever expanding energy needs. Until the early 1990s this did not present a problem for China's leadership as they were self-sufficient in supplying their energy needs indigenously. However, beginning in 1992

³⁶ Allen T. Cheng and Wing-Gar Cheng, "Ahmadinejad Makes Iran Focus of China Security Summit (Update2) " in *Bloomberg.com* (2006). Jin Riguang is an energy adviser to the Chinese government.

China became a net importer of oil and their demand for oil has steadily increased every year since.

In the short term, it has been relatively easy to cover domestic oil production shortfalls via imports. However, in the future, as competition for the world's limited supplies of oil increases, meeting growing domestic needs via imports is likely to become increasingly difficult and more expensive. It is estimated that today, only 15 years after beginning to import oil, China imports nearly 40 percent of its oil. In 2002 China imported around 2 million barrels per day (bpd). By 2030, the International Energy Agency (IEA) forecasts that China could import up to 11 million bpd, representing 80 percent of its oil requirement.³⁷ According to one analyst, the demand for oil over the next generation will place "Beijing in an acutely uncomfortable position . . . [because] its growth and legitimacy depend squarely on the supply of a fuel source controlled in the main by regimes that are unstable, unfriendly, or in the sphere of influence of its strategic competitor, the United States."³⁸

China will likely need to import other energy sources, such as natural gas, in the coming years. As China attempts to diversify its fuel energy sources, the overall usage of natural gas is expected to rise sharply in the future. Although China currently enjoys a surplus in natural gas production, IEA estimates indicate that by 2010 China will become a net importer of natural gas and that by 2030 it will rely on foreign imports for nearly 27

³⁷ Kreft: 63.

³⁸ James Kynge, *China Shakes the World* (Boston, New York: Houghton Mifflin Company, 2006), 139.

percent of its natural gas needs.³⁹ The major provider of exportable natural gas is expected to be the Middle East, forcing China into competition with other nations of the world for access.

China's "increasing dependence on fuel imports has generated among the nation's leaders a strong sense of insecurity and concern that an interruption of fuel supplies or unforeseeable price rises could put the brakes on [economic] growth. Any slowdown might lead, it fears, to social unrest, which could in turn undermine its own power as well as Communist Party control."⁴⁰ With their own political legitimacy at stake, it is easy to see why energy security is of such importance to China's leadership. The criticality of this issue to China's leadership provides the backdrop for examining the various approaches and steps China is taking to address its energy security needs.

Securing Energy Supplies

Unlike the West, which relies on free market access to energy, China seeks more direct control to guarantee access to energy resources. Beijing's effort to secure adequate supplies of energy focuses on both a domestic approach as well as an external approach. The domestic approach focuses on pursuing opportunities to reduce reliance on foreign petroleum supplies. The goal is to increase the efficiency and maximize the utilization of indigenous energy sources located both on and offshore. A secondary effort in this area involves the creation of a national strategic energy stockpile. These efforts typically do not draw too much international attention as they are mostly internal Chinese efforts

³⁹ *World Energy Outlook* (Paris: International Energy Agency, OECD, 2004), 140.

⁴⁰ Kreft: 64.

which studies indicate, as mentioned earlier, are unlikely to appreciably impact China's overall supply-demand gap.

One notable exception in this area, which does draw considerable international attention, is China's pursuit of offshore energy sources. This particular subject has proven quite contentious because most of China's efforts involve claims of control for oil in the South and East China Seas which many countries including China lay claim to. The Spratly Islands are a case in point.

The external approach is related to China's discomfort over its increasing reliance on foreign suppliers to meet its energy needs. China's primary approach to this problem has been a focused effort on securing equity oil rights (i.e. directly controlling production capability and access to the oil) abroad, an approach viewed by many as mercantilist.⁴¹ Chinese oil companies are also seeking ways to assure uninterrupted supply as much as possible. China has adopted this mercantilist approach towards energy supplies because it fears establishing a reliance on the world's free market, which it feels is totally dominated by the West. "With its own security at stake, 'it [China] views state ownership of energy assets, i.e. production of its own reserves and purchasing oil at the wellhead, as more secure than reliance on the world market for trade oil.'"⁴² China's willingness to adopt an approach that is so fundamentally at odds with "the concept of energy security to which the United States adheres: participation in and dependence on

⁴¹ An interesting comparison may be drawn between present-day China and Great Britain just a century ago, a world power completely dependent on imports for petroleum. This dependence led Britain into imperialist ventures to secure such resources, notably in Mesopotamia and Central Asia. From *Oil for the Lamps of China* by Bernard Cole.

⁴² "U.S.-China Economic and Security Review Commission," 96.

the international market and diversification of resources”⁴³ shows how serious this issue is to Beijing. China’s leadership views this as an integrated and multi-part problem where secure access to foreign oil resources is a requirement for continued economic growth; economic growth in-turn serves as the foundation of China’s domestic stability; domestic stability in-turn is deemed necessary for the continued survival of the Chinese Communist regime. The next section examines the fruits of Beijing’s mercantilist approach to energy security.

The global hunt for oil

Since the mid 1990s, when it became a net-importer of energy, China began a massive global campaign in search of energy supplies. This campaign includes both domestic efforts and direct dialogue with foreign nations. This carefully managed and controlled campaign on the part of Beijing has resulted in formal energy relationships “all across the Middle East, Southeast Asia, Russia, Central Asia, Africa, and Latin America.”⁴⁴ In building these relationships, China has shown it is equally willing to purchase from countries that have traditionally been under the United States’ sphere of influence, deal with some of the United States’ staunchest allies, as well as deal with nations the United States and many other countries consider rogue regimes.

China’s expanding effort into Latin America is an example of their willingness to deal with countries traditionally under the United States’ sphere of influence. China has poured nearly half a billion dollars in foreign direct investment into Latin America over the past decade, with significant effort placed on building relationships with Brazil,

⁴³ Ibid.

⁴⁴ Cole, 16.

Argentina, and Venezuela.⁴⁵ Beginning in 2004, Beijing began courting the Canadian government, expressing an interest in funding development of Alberta's massive oil sands deposits as well as its natural gas sector.⁴⁶ China has also expressed interest in investing in the development of a nearly \$2 billion dollar oil pipeline to carry oil to Canada's western coast for shipment to China. China has also made significant inroads in turning around its relations with Australia, one of America's staunchest allies in the Asia-Pacific region. Fueled by expanding trade and a twenty-five year natural gas export deal worth nearly \$1 billion dollars a year, China has significantly increased its soft power influence in Australia.⁴⁷ Finally, one of the most brazen ventures into the United States' sphere of influence was the attempt by China's National Offshore Oil Corporation, one of China's state-owned oil companies, to purchase Unocal, one of the United States' national oil giants in an effort to acquire and control its vast global reserves.

If China's courting of United States' allies and its overtures into the United States' traditional sphere of influence weren't antagonistic enough, China's willingness to approach *any* country as part of its cold and self-serving energy-driven foreign policy only makes matters worse: "In its search, China is scouring the backwaters of the world, from monsoon-lashed Myanmar to the deserts of Iran, to the deep seas off Sudan and

⁴⁵ Phillip C. Saunders, *China's Global Activism: Strategy, Drivers, and Tools* (Washington, D.C.: National Defense University Press, 2006), 46.

⁴⁶ David Zweig and Bi Jianhai, "China's Global Hunt for Energy," *Foreign Affairs* 84, no. 5 (2005): 30-31.

⁴⁷ *Ibid.*: 30.

This article goes on to state that the Australian Foreign Minister has made known that "Washington should not automatically assume that Australia would help it defend Taiwan against a Chinese military attack" and that polls show that 72 percent of Australians agree with this sentiment.

North Korea, cutting deals with nations the U.S. and many other countries consider pariahs.”⁴⁸ China’s excuse for working with these pariahs is nicely captured by statements made by Chinese Deputy Foreign Minister Zhou Wenzhong when he was commenting on China’s business ventures in Sudan: “Business is business. We try to separate politics from business . . . I think the internal situation in the Sudan is an internal affair.”⁴⁹

The fundamental economic importance of these energy driven relationships cannot be overstated. China’s energy relationship building efforts are a key component of China’s long-term “hidden agenda” to emerge as a regional and ultimately world power. As an illustration, consider how China’s energy building relationship efforts, besides the obvious economic benefits, are effectively spreading goodwill towards China around the globe. More often than not, China’s energy relationships come with an equity oil agreement in one hand and foreign aid, infrastructure investments, debt relief, and favorable bilateral trade agreements in the other.

Another method China uses to gain favorable energy contracts is to offer a friendly disposition when it comes to China’s influence (veto power) on the United Nation’s Security Council. China’s relationship with Iran is a perfect example of this. In 2004, for example, China's second-largest state-owned oil company, Sinopec Group,

⁴⁸ William Mellor and Le-Min Lim, "China's Oil Deals with Iran, Myanmar Put It at Odds with U.S.," in *Bloomberg.com* (2006), n.p.

⁴⁹ Jianhai: 32.

Since the late 1990s, China has invested billions of dollars in oil-rich Sudan. This is despite condemnation from the international community that cites evidence that the Khartoum government supports militias that have massacred thousands of innocent people in the Darfur region. Further evidence suggest that much of the weaponry used by the military and militias was supplied by China as a reciprocating gesture for its lucrative oil contracts.

signed a preliminary agreement worth over \$100 billion dollars to buy a 51 percent stake in Iran's Yadavaran oil field. This deal, if completed, would guarantee 150,000 barrels a day of Iranian oil for 25 years as well as nearly 250 million tons of liquefied natural gas. As the United States and Europe are seeking the United Nations to impose sanctions on Iran because of its refusal to terminate its uranium enrichment program, China, as a member of the Security Council, has consistently threatened to veto any measures that impose such sanctions.⁵⁰ The fact that China is willing to face off with the U.S. and Europe over Iran at the United Nations clearly shows just how important securing energy supplies is to Beijing, no matter the cost.

China's mercantilist approach to energy security only solves half of China's energy problem. After it secures oil abroad, it must also get the energy resources home. China's strategy for developing this capability is the subject of the next section of the paper.

Defending China's Energy Supplies – A String of Pearls Approach

The “pearls” extend from the coast of mainland China through the littorals of the South China Sea, the Strait of Malacca, across the Indian Ocean, and on to the littorals of the Arabian Sea and Persian Gulf.

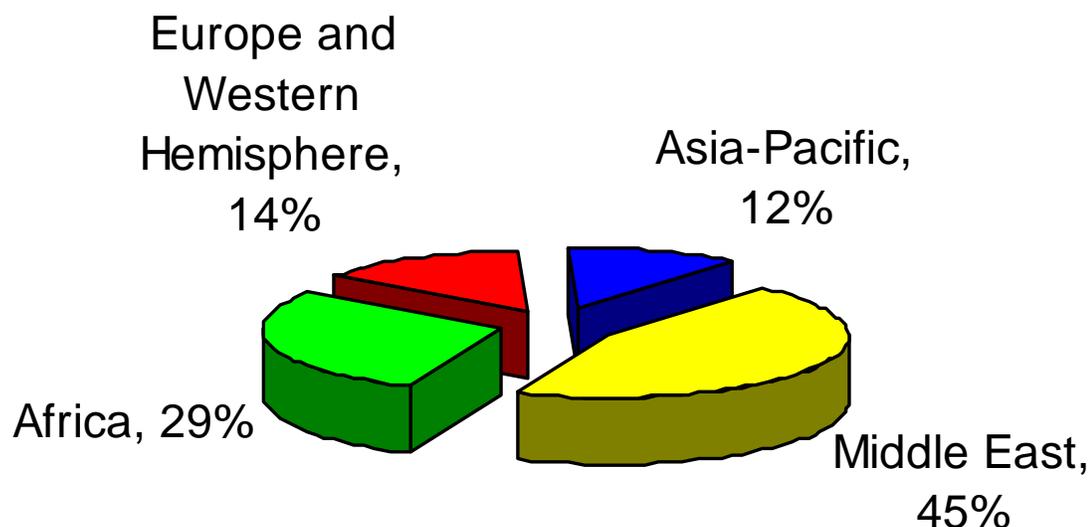
String of Pearls: Meeting the Challenge of China's Rising Power Across the Asian Littoral

Over 70 percent of all of China's imported oil comes from Africa and the Persian Gulf (see Figure 2). The sea lanes through the Indian Ocean to northeast Asia, the main supply route for China's oil, are effectively under the control of the U.S. Navy. It should not surprise anyone that China's leaders are concerned about the strategic leverage this

⁵⁰ Mellor and Lim, n.p.

provides the United States.⁵¹ Largely due to its lack of a blue water navy China feels defenseless against any hostile action taken to choke off its energy supplies and this

Figure 2 - China's Crude Oil Imports



Source: David Zweig and Bi Jianhai, "China's Global Hunt for Energy," *Foreign Affairs* 84, no. 5 (2005): 28

vulnerability has set Beijing scrambling for alternative safe supply routes for its energy shipments.⁵² Although China cannot challenge the U.S. Navy for security of its oil lifeline, it has pursued a gradualist policy of extending its maritime reach by securing increased cooperation, port access agreements, and maritime ties with strategically located countries along this lifeline such as Pakistan, Bangladesh, and Myanmar. These efforts will place China in a better position to protect its energy transportation routes extending along these sea lines of communication (SLOCs), particularly during a time of

⁵¹ Krefl: 65.

⁵² Tarique Niazi, "Gwadar: China's Naval Outpost on the Indian Ocean," *China Brief* Volume V Issue 4, no. Feb 2005 (2005): 6.

crisis (see figure 3).⁵³ China's attempt to build strategic relationships and develop a capability to establish a forward presence along the SLOCs that connect China to the Middle East has been titled by some as "A String of Pearls" approach.

Figure 3 - China's "String of Pearls" / Sea Lines of Communication



Source: Map from Christopher J. Pehrson, *String of Pearls: Meeting the Challenge of China's Rising Power Across the Asian Littoral* (Strategic Studies Institute, 2006), 3. Additional graphic overlays by author.

In *String of Pearls: Meeting the Challenge of China's Rising Power Across the Asian Littoral*, Christopher Pehrson describes each pearl in the "String of Pearls" as a nexus of Chinese geopolitical influence or military presence:

Hainan Island, with recently upgraded military facilities, is a "pearl." An upgraded airstrip on Woody Island, located in the Paracel archipelago 300 nautical miles east of Vietnam, is a "pearl." A container shipping facility in Chittagong, Bangladesh, is a "pearl." Construction of a deep water port in Sittwe, Myanmar, is a "pearl," as is the construction of a navy base in Gwadar, Pakistan.

⁵³ Herberg: 23-24.

Port and airfield construction projects, diplomatic ties, and force modernization form the essence of China's "String of Pearls."⁵⁴

The strategic economic importance of these pearls is undeniable and on one hand it is quite reasonable to view these endeavors as a part of China's "Peaceful Development Plan." These pearls, however, are equally supportive of the long-term hedging "*tao guang yang hui*" (bide our time and build up our capabilities) strategy which supports China's "ambition to attain great power status."⁵⁵ Whether peaceful or not, China's security policy is adapting to its growing demand of energy.

The role of the PLA in energy security

The People's Liberation Army is involved in China's security efforts on several fronts. The first involves direct military involvement in the construction and expansion of China's energy infrastructure. China's 2006 Defense White Paper states that elements of the PLA have "taken part in more than 430 key construction projects for transportation, hydropower, communication and energy infrastructure."⁵⁶ A second area that the PLA plays a role is in enforcing China's territorial claims throughout the South China Sea. China, along with seven other nations, claim part or all of the various territories of the sea and its corresponding resources. China itself claims nearly 80 percent of the entire South China Sea as its own along with the oil and gas fields therein.⁵⁷ China estimates total petroleum reserves as high as 213 billion barrels of oil

⁵⁴ Pehrson, 1-2.

⁵⁵ *Ibid.*, 3.

⁵⁶ "China's National Defense in 2006," (Beijing: Information Office of the State Council of the People's Republic of China 2006), n.p.

⁵⁷ Tran Dinh Thanh Lam, "Vietnam Oil Find Fuels China's Worries," in *Asia Times Online* (2004).

with almost half of that located in the area of the Spratly Islands and a natural gas reserve of more than 2,000 trillion cubic feet. Although most Western experts feel Beijing's estimates of the size of the reserves are extremely optimistic few dispute that significant reserves likely exist.⁵⁸

China has already proven its willingness to use military force to enforce its claims, as exemplified in its seizing of the Paracel Island chain from Vietnam.⁵⁹ In addition to routinely deploying forces to the Paracel Islands, China has also made several deployments to the potentially resource rich Spratly Islands. China's willingness to use force in what it considers its own backyard is in large part due to the large estimated size of the South China Sea's petroleum and gas reserves.

China's activities to secure oil and gas resources in the South China Sea are consistent with its overall maritime strategy, which views the PLA Navy as an important instrument to guarantee access to ocean resources in support of important national security objectives, such as energy security. These same activities support a longer term strategy focused on regional maritime dominance--a strategy which is advancing China's naval modernization efforts. According to one American strategy writer "Beijing is building a navy capable of decisively influencing the operational aspects of the Taiwan and South China Sea situations, should diplomacy and other instruments of statecraft

⁵⁸ Cole, 21.

⁵⁹ China forcefully ejected Vietnam from the Paracel islands in January 1974.

fail.”⁶⁰ As China’s energy demands grow so will the role of China’s military in protecting access to energy.

⁶⁰ Bernard D. Cole, "Waterways and Strategy: China's Priorities," *China Brief* Volume V Issue 4 (2005): 3.

China's Military

According to the U.S. Department of Defense (DOD) the People's Liberation Army is in the process of long-term transformation from a mass army designed for protracted wars of attrition on its territory to a more modern force capable of fighting short duration, high intensity conflicts against high-tech adversaries. In the near term, analysis suggests that China's military build-up appears primarily focused on Taiwan Strait contingencies. China's ongoing military acquisitions suggest it is also generating capabilities that could apply to other regional contingencies, such as conflicts over resources or territory.⁶¹ The DOD readily admits that China's ability to sustain military power at a distance is limited today, but qualifies this by stating "China has the greatest potential to compete militarily with the United States and field disruptive military technologies that could over time offset traditional U.S. military advantages."⁶² This view is not limited solely to the U.S. government. Anatoly Klimenko, of the Russian Academy of Sciences Institute for Far Eastern Studies, states that "the PRC has the necessary potential to become 'one of the poles' in a multipolar world and to hold a leading position in the region. The process of realizing this potential is proceeding well."⁶³ Careful analysis reveals that Chinese military modernization is focused on developing two main capabilities: first, an ability to protect access to energy, and second, anti-access and asymmetric capabilities specifically designed to offset the technological

⁶¹ "Military Power of the People's Republic of China 2006," Annual Report to Congress (Department of Defense, 2006), I - 7.

⁶² "Quadrennial Defense Review Report," ed. Department of Defense (2006), 29.

⁶³ Klimenko, "On the Evolution of China's Military Policy and Military Strategy," 31.

capabilities of a more powerful opponent.⁶⁴ Not surprisingly, Chinese officials paint a much different picture of their military modernization and military threat to the international arena.

Posture - China's Official Assessment

China's State Council Information Office released the latest White Paper on China's National Defense on December 29, 2006. This document summarizes China's official national defense policy.⁶⁵ As a general theme, the White Paper argues that China's military modernization is a natural and non-threatening process that runs hand-in-hand with their economic development. The paper justifies China's modernization by stating that modernization is necessary to keep "up with new trends in the global revolution and development in military affairs, and of maintaining China's national security and development." It further states that modernization is required "on the basis that security issues related to energy, resources, finance, information and international shipping routes are mounting."⁶⁶ While assessing that "China will not engage in any arms race or pose a military threat to any other country" the document notes that the "United States is accelerating its realignment of military deployment to enhance its military capability in the Asia-Pacific region. The United States and Japan are strengthening their military alliance in pursuit of operational integration and that Japan seeks to revise its constitution and exercise collective self-defense coupled with a military

⁶⁴ Asymmetric capabilities provide an "out-of-balance" or "disproportionate" advantage compared to one's opponent. *Roget's New Millennium™ Thesaurus, First Edition (v 1.3.1)*. Lexico Publishing Group, LLC. <http://thesaurus.reference.com/browse/asymmetric> (accessed: March 31, 2007).

⁶⁵ The full text of the paper is at <http://www.china.org.cn/english/Books&Magazines/194419.htm>.

⁶⁶ "China's National Defense in 2006," n.p.

posture that is becoming more external-oriented.”⁶⁷ The paper also issues a veiled jab at the United States and its allies when it condemns “the practice of a small number of countries that have intensified their military alliances and resorted to force or threats of force in international affairs,” arguing that these actions “hinder efforts to improve international security.”⁶⁸ The White Paper also downplays what it describes as a small number of countries stirring up a racket about a “China Threat” and insists that China pursues a national defense policy that is purely defensive in nature.

All of the official rhetoric of the White Paper sounds good and if taken at face value paints a very “pretty picture” of the nature and purpose of China’s military modernization. China would undoubtedly like the international community at large to accept as fact that its military modernization is a modest and reasonable course of action undertaken by a growing major power that seeks to update antiquated and outdated equipment and as such poses no threat. However, actions speak louder than words and in the case of China the “devil is definitely in the details.” Two details of particular importance are the overall level of China’s defense spending as well as what they are spending their money on.

Spending – Official Assessment

Official Chinese figures on defense spending are provided by the White Paper on national defense. The White Paper emphasizes that China’s spending on defense is very

⁶⁷ Ibid.

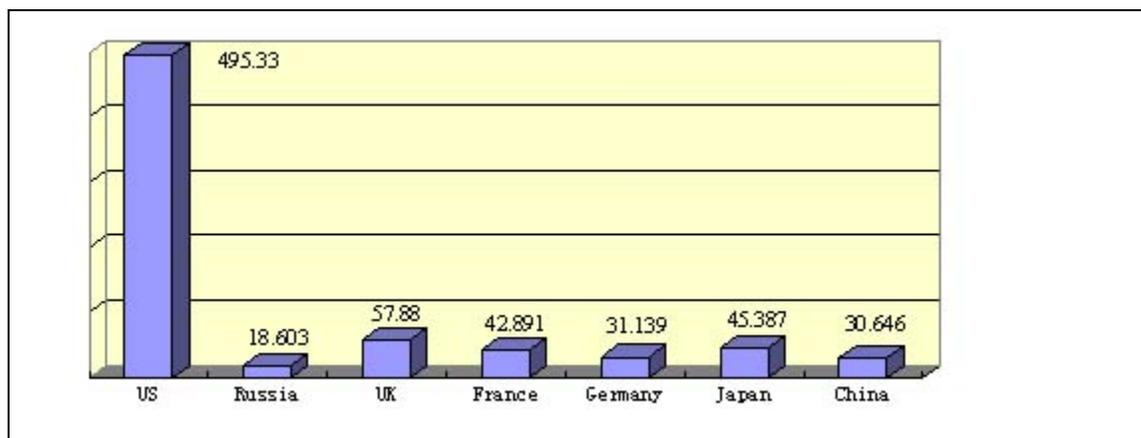
⁶⁸ Ibid., 2-4.

modest. The following excerpt from the paper summarizes China's official view on defense spending:

Since the early 1990s, to safeguard its sovereignty, security and unity, and to keep pace with the global revolution in military affairs, China has gradually increased its defense expenditure *on the basis of its economic development* [emphasis mine]. This increase, however, is compensatory in nature, and is designed to enhance the originally weak defense foundation. *It is a moderate increase in step with China's national economic development* [emphasis mine]. In the 1980s, China began to shift the focus of its work to economic development. At that time, it was decided that national defense should be both subordinated to and serve the country's overall economic development. As a result, national defense received a low input, and was in a state of self-preservation.⁶⁹

The White Paper further attempts to demonstrate that China's overall spending on defense is very modest by using comparative analysis techniques; two areas the paper compares China's expenditures to other major countries include overall defense expenditures and expenditures as percentage of gross-national product. The results are graphically displayed in figure 4 and 5 below.

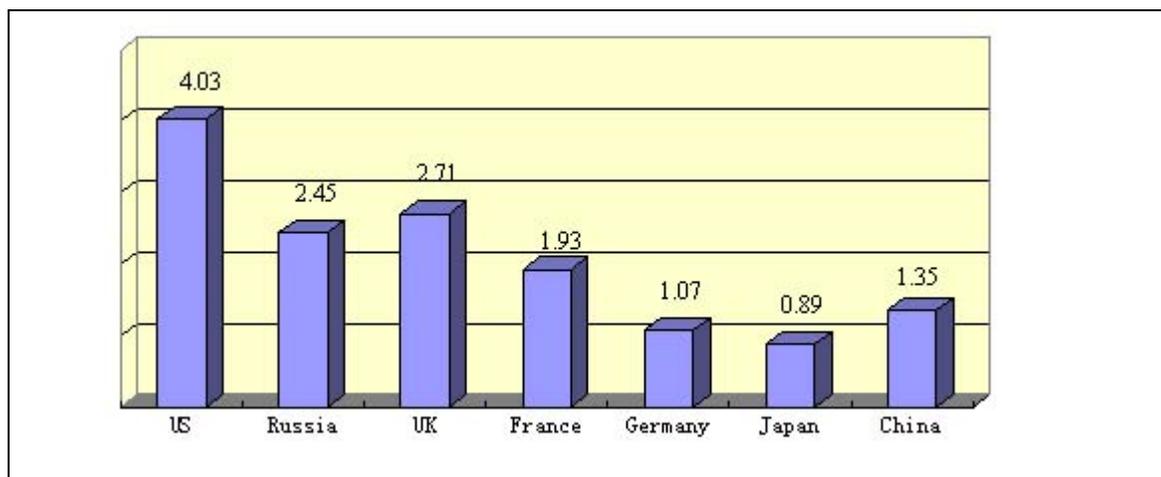
Figure 4 - Comparison of Defense Expenditures of Major Countries in 2005



Source: *China's National Defense in 2006*.

⁶⁹ Ibid.

Figure 5 - Comparison of Percentages of Defense Expenditures in GDP of Major Countries in 2005



Source: *China's National Defense in 2006*.

As one would expect, these figures portray China in a favorable light when compared to other major countries and, at face value, paint a fairly non-threatening picture of China's defense spending. However, there is almost universal agreement among defense experts across the globe that China does not accurately report its total outlays on defense.

Spending – Unofficial Assessment

Most experts would argue that China's official defense spending figures are very misleading. Anthony Cordesman points out that "most outside experts feel China's real military expenditures exceed the officially stated numbers, and that Chinese published expenditures for 2006, – \$35 billion – do not suffice to support an organization that keeps 2.3 million service personnel and an increasingly sophisticated and therefore expensive

arsenal of weapon systems.”⁷⁰ There is general agreement among experts that official Chinese defense spending reports do not include items that are considered standard reporting for most other countries. Some examples of these areas include:⁷¹

- Arms imports, foreign weapon procurement, military aid for and from foreign countries
- Expenses for paramilitary forces
- Expenses for strategic and nuclear forces
- Government subsidies for military production
- Expenses for military R&D
- The PLA’s own fundraising

Since these areas are not included in the official spending reports it is difficult to precisely calculate the true “bottom line” of Chinese defense spending. However, examination of the varying sources for such figures reveals that there is “consensus among Western analysts that China’s actual military expenditures are four to five times higher than officially reported.”⁷² The U.S Department of Defense makes a more conservative estimate and states in its *Annual Report to Congress -- The Military Power of the People’s Republic of China* that “total military-related spending will amount to between \$70 billion and \$105 billion in 2006—two to three times the announced budget.”⁷³ Using the more conservative DOD estimates to reconstruct the graphs presented in the Chinese National Defense White Paper one sees a remarkably different result (see figures 6 and 7). As can be seen in Figure 6, even using the low DOD

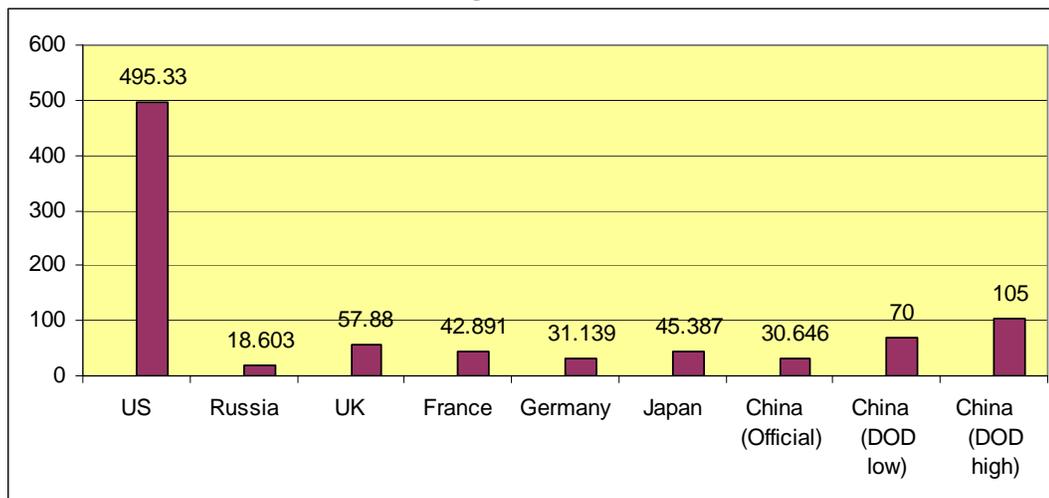
⁷⁰ Anthony H. Cordesman and Martin Kleiber, *Chinese Military Modernization and Force Development* (Washington, DC: Center for Strategic and International Studies, 2006), 17.

⁷¹ Ibid.

⁷² Ibid., 18.

⁷³ "Military Power of the People’s Republic of China 2006," 19.

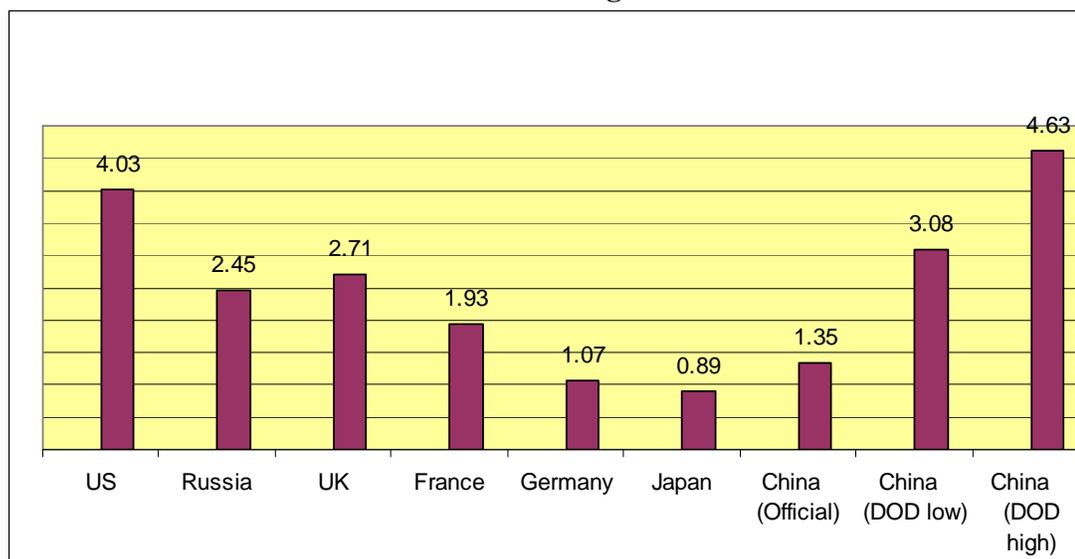
Figure 6 - Comparison of Defense Expenditures of Major Countries in 2005 with U.S. High and Low Estimates



Source: Graph produced by author. Data from *China's National Defense in 2006* and *Military Power of the People's Republic of China 2006*

estimate, China's defense spending emerges as the second largest in the world. More strikingly though, China's percentage of GDP spent on defense (Figure 7) is almost on par with that of the U.S. and even exceeds it if one accepts the higher DOD estimate of total defense spending. No matter which figure of total spending one chooses to accept (official Chinese figures, US DOD, etc.) the fact remains that the rate of China's overall

Figure 7 - Comparison of Percentages of Defense Expenditures in GDP of Major Countries in 2005 with U.S. High and Low Estimates



Source: Graph produced by author. Data from *China's National Defense in 2006* and *Military Power of the People's Republic of China 2006*

defense spending is on the rise. In fact, the average annual growth rate for total defense expenditures from 1995 to 2006 (using official Chinese figures) is 14.5 percent--a figure which is "high in international comparison."⁷⁴ The end result of this increasingly large defense budget has been an ability to substantively modernize China's armed forces. However, before examining the specifics of Chinese military modernization, the reader must understand the impact of Chinese strategic military thought on China's modernization efforts. Critical analysis of this area provides the background necessary to understand the context and methodology that China's leaders are using to frame their modernization efforts.

⁷⁴ Kleiber, 24.

Chinese Strategic Military Thought

Chinese military thought can be broadly categorized into three areas of focus: combating hegemonism, how to portray the PLA as a defensive organization, and the PLA's philosophy of war. The following section will briefly examine these three areas in an effort to illustrate their importance to China's national security. The influence of ancient statecraft, particularly in the areas of combating hegemonism and the PLA's philosophy of war, will also be addressed. Immediately following these sections, the paper will then examine how China's strategic military thought is directly impacting its force modernization efforts.

Chinese Communist Party and military leadership alike often justify China's military build-up and modernization against the backdrop of U.S. hegemonism. China views U.S. hegemonism as a threat to the international community at large. "Because hegemonism is the chief menace to world peace, we must oppose hegemonism in order to safeguard world peace."⁷⁵ Deng Xiaoping, one of China's most powerful and influential leaders stated: ". . . we oppose hegemonism and safeguard world peace." Deng further stressed that "whoever practices hegemonism, we will fight against him, and whoever commits aggression, we will fight against him."⁷⁶ The basic message here is China is facilitating world peace by opposing U.S. hegemonism and it is further justified in building its military capability to protect itself as well as to protect others under the shadow of U.S. hegemonism.

⁷⁵ Colonel Hong Baoxiu, *Deng Xiaoping's Theory of War and Peace*, ed. Michael Pillsbury, trans. Michael Pillsbury, Chinese Views of Future Warfare (Washington DC: National Defense University Press, 1998), 24.

⁷⁶ *Ibid.*, 23.

Although Chinese leaders will often use U.S. hegemonism as a convenient excuse for their military modernization, they take a very pragmatic long-term view that is consistent with many of the ancient principles of Chinese statecraft. Many influential Chinese thinkers project there will be a sharp decline in the global role of the United States towards the middle of the twenty-first century while Japan, the European Union, and ultimately China emerge as more equal players in the global arena. With this in mind, the concept of U.S. hegemonism can be viewed as a temporary problem that can be offset by adopting a long-term strategy of slowly building a more powerful military and avoiding conflict. Then, “Within two or three decades, or so, the problem will solve itself, as happened many times in the Warring States Era. . . . Patience and caution are thus seen to be wiser than aggressive coalition building against the United States.”⁷⁷

Strategic Communications – Military modernization is self-defensive in nature

As Deng’s statements reveal, China portrays its military modernization efforts as completely self-defensive in nature. Chinese military thinkers highlight general trends in global military technology and suggest that with technology changing so rapidly it is natural for China to adopt some of these new technologies. China also suggests that they have a long history of being unfairly attacked by foreign powers and as such they have a strong historical justification to maintain a modern and powerful armed force. China will also quickly point out that their low spending levels on defense are indicative of it being

⁷⁷ Pillsbury, *China Debates the Future Security Environment* xl.

only for self-defense. Zhen Bijian provides a good example of Chinese thinking on this topic:⁷⁸

The concept for our military force is to focus on maintaining peace with other countries, even with Taiwan across the straits. We have no goal to catch up with other big countries that are spending so much more than us militarily or become a threatening or hegemonistic power. We only want to make sure of our right to exist as a nation and our development rights.

It is true that global military technology and equipment have been undergoing a revolutionary change, but this isn't driven by China, but by America. It's America that is pushing improvements in military technology and equipment. Its level of sophistication is so high that China can't compete with that. Under such a situation, as I just mentioned, our goal is only to obtain the basic defenses needed to protect our population and border.

Others will argue that China's five principles of coexistence support the self-defensive nature of China's military: "China pursues a foreign policy of peace and has all along adhered to developing relations with other countries on the basis of the five principles of peaceful coexistence."⁷⁹ We do not seek a sphere of influence in any place in the world, and we do not want an inch of land from another country. In the future, when our economy is developed, our country has become strong, and our national defense force strengthened, we shall still resolutely not practice hegemonism and power politics."⁸⁰

⁷⁸ Zheng Bijian is a close associate and adviser to Chinese President Hu Jintao. Zheng served as Hu's vice director of the Central Party School just prior to Hu's ascension to power as China's president. He now serves as head of the China Reform Forum, a government-affiliated think tank.

⁷⁹ The Five Principles are: mutual respect for sovereignty and territorial integrity, mutual non-aggression, non-interference in each other's internal affairs, equality and mutual benefit, and peaceful coexistence. They have become widely accepted as China's official norms for relations between countries. (Source: (<http://english.people.com.cn/dengxp/vol3/note/C0150.html>))

⁸⁰ Colonel Fang Ning, *Defense Policy in the New Era*, ed. Michael Pillsbury, trans. Michael Pillsbury, *Chinese Views of Future Warfare* (Washington DC: National Defense University Press, 1998), 56.

The PLA's philosophy of war (Local war under high-tech conditions)

We should be good at learning the new characteristics and new patterns of limited warfare under modern high-technological conditions. We should give full play to our strong points while striking the enemy at its weak points. We shall adopt flexible tactics to win future wars against aggressors.

Senior Colonel Peng Guangqian, *Deng Xiaoping's Strategic Thought*

China's leadership views the most effective way to organize and use its military forces to protect and pursue its national interests in the current international environment is based on a military strategy that Chinese writers describe as "local war under high-tech conditions."⁸¹ This strategy recognizes that China's military will remain technologically inferior overall for the near to mid-term, but that superiority in specific areas can be applied to leverage counterbalancing effects against adversary vulnerabilities. It is inherently offensive in nature and it places emphasis on preemptive strikes.

The main premise of this philosophy is a belief that technology is transforming the basis of warfare and that these technological changes represent both a danger to as well as a great opportunity for the Chinese military of the future. The danger is in the significant technological capabilities of potential foes like the U.S. military. The opportunity, harking back to principles of ancient statecraft, relies on exploiting potential enemy weaknesses and can be stated as "no matter what new techniques or weapons are used, there is the possibility of a weaker force defeating the powerful opponent. So long as we stick to the combat principles of defeating the superior with the inferior and actively create the conditions, we will be able to win victory in future high-tech wars."⁸²

⁸¹ Mark Burles and Abram N. Shulsky, *Patterns in China's Use of Force* (Rand, 2000), 3.

⁸² Senior Colonel Shen Kuiguan, *Dialectics of Defeating the Superior with the Inferior*, ed. Michael Pillsbury, trans. Michael Pillsbury, *Chinese Views of Future Warfare* (Washington DC: National Defense University Press, 1998), 219.

This concept of the weaker overcoming the stronger has materialized as the foundation for much of China's current military modernization. The main thrust of China's modernization efforts has been shaped by their need to provide for energy security and to triumph over the hegemonic West in the future. China believes that asymmetric warfare capabilities are the keys to their success in these efforts.

Weaker Overcomes the Stronger – An Asymmetric Approach to Warfare

As long as one makes the most of his strong points and takes advantage of the enemy's shortcomings, he can turn the enemy's advantage into disadvantage, his own disadvantage into advantage, and even with his inferior weaponry, he can defeat the enemy's superior weaponry.

Senior Colonel Shen Kuiguan, *Dialectics of Defeating the Superior with the Inferior*

Chinese writers, as early as 1995, began to explore the concept of asymmetric warfare. These first writings suggested that an asymmetric approach to naval warfare would allow a less powerful navy to defeat a far more powerful foe. Five specific asymmetric approaches were suggested. The first suggested attacking the enemy's space-based communications and surveillance systems, attacking naval units from space, and carrying out anti-reconnaissance strikes against space satellites and other space systems. Another approach suggested the use of surface-to-surface missiles and less costly aircraft instead of developing a large symmetric naval fleet. Here the writers suggest that technology improvements will allow land-based weapons and aircraft to react faster and more efficiently, will provide overwhelming mass, will allow strikes at increasingly longer range, and will offer precision strike capability against individual targets. A third approach suggested the development of "Assassin's Mace weapons" such as tactical laser

weapons and stealth technology for both naval ships and cruise missiles.⁸³ The fourth approach suggested attacking the naval logistics of the superior navy. Citing examples from the Gulf War, where ammunition usage rates and fuel and oil consumption far exceeded that of past wars, the writers suggested that logistics survival would be a far greater challenge in future wars and that interdicting and disrupting the relatively unprotected supplies of American naval operations could be decisive. The final approach suggested that China focus on attacking command and information systems.⁸⁴

This writing is one of many examples of Chinese military writings where the application of asymmetric warfare techniques is seen as the key to China's victory over a stronger opponent. Moreover, this view is not only held by Chinese writers, but by prominent U.S. writers as well. As an example, Dr. Milan Vego stated, when writing an analysis of Operation Enduring Freedom, "the [U.S.] emphasis on technology and tactics of weapons and platforms already has some serious and negative repercussions. This trend must be reversed soon. Otherwise the United States might find itself outthought and outfought by a relatively weaker but a more agile opponent who pays attention not only to tactics, but also to operational art and strategy and therefore better matches ends,

⁸³ An Assassin's Mace weapon can be defined as "a label for an idea, rather than for a particular weapon. It might be manifest in an actual weapon or an unlooked-for stratagem, but needs to be something that delivers a lot of bang for the buck. It is not something that the PLA would see as a kind of *war-winning super-weapon* [emphasis mine] that would redress the overall military balance, but something that, in the particular situation of the Taiwan Straits, might be seen to make any US intervention in the straits too expensive - whether terms of men and material or in cost of disruption to the US economy - for Washington to take the risk in the first place. Or, should such an intervention occur, it would pose an effective enough challenge to give the Chinese time to complete their mission and switch to diplomacy to end what could become a disastrous full-scale confrontation. From: *China's 'Assassin's Mace' meets the Taiwanese 'Scorpion*. Accessed online (28 March 2007). <http://www.infowar-monitor.net/modules.php?op=modload&name=News&file=article&sid=1044>.

⁸⁴ Michael Pillsbury, *China's Military Strategy toward the U.S. - a View from Open Sources* (U.S.-China Economic and Security Review Commission, 2001), 11.

means, and ways to achieve victory.”⁸⁵ Analysis such as this definitely provides some credibility to China’s adoption of an asymmetric approach to warfare. The next section of the paper will examine how the three components of China’s strategic military thought are guiding China’s military modernization.

Current Military Capabilities

A complete examination of the current force structure of China’s armed forces is well beyond the scope of this report. However, it is important to briefly highlight some of the major force modernization trends in order to illustrate the focused effort China is placing on anti-access and asymmetric warfare capabilities. China’s leaders view these types of military capabilities as the “ways” in a broader ends, ways, and means approach to this problem set, with the desired “ends” being to establish energy security and turn China into the dominant region power and ultimately a world power on par with the West fueled by the “means,” a mercantilist approach to energy security along with increased military spending. China views these capabilities as enablers in achieving its broader national security objectives.

In general, the PLA’s modernization effort has been focused on improving asymmetric capabilities such as “. . . missile programs, information and electronic warfare capabilities, C⁴I networks, and anti-air defenses.”⁸⁶ These efforts are coupled with an on-going effort focused on building a modern tactical air force, a navy capable of operations further away from the coast, and a ground force that is capable of rapid

⁸⁵ Dr. Milan Vego, "What Can We Learn from Enduring Freedom?," *Proceedings* July (2002).

⁸⁶ David Shambaugh, *Modernizing China's Military* (Berkeley: University of California Press, 2002), 330.

reaction and power projection. Few would argue that China has the legitimate right to modernize its armed forces as long as they do not threaten others. However, unlike the past decade, when China's military was obviously out-of-date and incapable of threatening others, that is no longer the case today. The U.S. Department of Defense states that "Long-term trends in China's strategic nuclear forces modernization, land and sea based access denial capabilities, and emerging precision-strike weapons have the potential to pose credible threats to modern militaries operating in the region."⁸⁷ The following sections will highlight some of the key asymmetric and anti-access capabilities being pursued and developed by China's armed forces that support China's strategy to secure energy and emerge over the long-term as a great power on par with the West.

Asymmetric Assassin's Mace Weapons

The concept of "Assassin's Mace Weapons" is central to the concept of the "inferior defeating the superior" as advocated by China's "high-tech war under modern conditions" strategy of war. This terminology began to appear in Chinese military thinking in the late 1980s and has often been a central theme in Chinese military writing regarding the United States, particularly on the topic of Taiwan, where Chinese thinkers believe these types of weapons will be the key to Chinese victory. Keep in mind that the idea behind an Assassin's Mace Weapon is to use a special capability or weapon to suddenly incapacitate an enemy instead of fighting him according to the rules. It is educational to understand the scope and types of capabilities and weapons that Chinese writers and researchers are exploring as potential Assassin's Mace Weapons. The following is a short list of some of the titles of relevant articles collected from open

⁸⁷ "Military Power of the People's Republic of China 2006."

source Chinese publications that show the breadth of China's research into this area of concern:⁸⁸

- *Information Warfare as an Assassin's Mace Weapon*
- *Nuclear Weapons as Assassin's Mace*
- *Countering US Air Attacks with Assassin's Mace*
- *EMP Bombs Targeted on Command Centers as Assassin's Mace Weapons*
- *Surface to Air Missiles as Assassin's Mace*
- *Information Warfare Requires Assassin's Mace Weapons*
- *Special Forces and Network Assassin's Mace Weapons*
- *Cruise Missiles as Assassin's Mace Weapons*
- *Assassin's Mace Weapons for "Joint Information Warfare.*
- *Mobile ICBM is an Assassin's Mace Weapon*
- *Genetic or DNA Assassin's Mace Weapons*
- *Assassin's Mace Weapons Are Mainly Long Range Precision Strike and IW*
- *Russian Assassin's Mace Weapons – ASAT, Plasma Weapons, and Satellite Warning*
- *America's Assassin's Mace Weapon: Airborne Divisions*
- *US Space Strike Fighters are Assassin's Mace Weapons*
- *Ballistic Missiles as Assassin's Mace Weapons*

Most of these topics can be broadly categorized into one of three areas, which will focus the examination in the upcoming sections of China's emerging asymmetric capabilities.

These three broad categories include:

- 1) Space based Assassin's Mace Weapons
- 2) Information Operations Based Assassin's Mace Weapons
- 3) Area Denial Assassin's Mace Weapons

Space Weapons

Chinese military planners and strategists alike have noted the key role that U.S. space assets played in the U.S. military's resounding successes in battle over the past decade and a half. They took particular note of how U.S. spy satellites enabled detailed planning followed by surgical precision bombing guided by U.S. navigation satellites.

⁸⁸ Pillsbury, *China's Military Strategy toward the U.S. - a View from Open Sources*, 13-16.

These same planners saw that if China ever confronted the U.S. military that they would need a way to offset the U.S. military's high-tech advantage in orbit.⁸⁹ This realization has set into motion focused anti-access efforts on the part of China to counterbalance the dominance of the United States in space.

Literature shows that China has been actively researching the development of anti-satellite technologies as far back as the 1960s. However, the program gained renewed vigor when Deng Xiaoping ascended to power in the 1980s. Since then literature has suggested that China has been actively researching anti-satellite weapons using ground based missiles, high-powered ground based lasers designed to blind and or destroy sensitive satellite electrical components, air launched anti-satellite missiles, and parasitic micro-satellites designed to "stick" to targeted satellites and either disable them through jamming or destroy explosively when commanded.⁹⁰ The ground based missile and ground based kill mechanism have already been actively demonstrated.

In October of 2006 the U.S. confirmed China had "successfully blocked one of its spy satellites using a ground-to-space laser. . . . The high-powered light was able to blind onboard cameras, acknowledged National Reconnaissance Office Director Donald Kerr, responding to a report in *Defense News*. He said: 'It makes us think.'"⁹¹ More recently, in January of 2007, China successfully demonstrated a successful anti-satellite test using a kinetic kill vehicle to destroy an aging Chinese weather satellite.

⁸⁹ Peter N. Spotts, "Alarm over China's Arms Pursuit - in Space," *Christian Science Monitor*, November 20, 2006

⁹⁰ Pillsbury, *China's Military Strategy toward the U.S. - a View from Open Sources*, 20.

⁹¹ Chris Williams, "Pentagon Confirms Beijing's Anti-Satellite Laser," in *The Register (on-line)* (Friday 6th October 2006).

Other open source literature indicates that China has explored the use of space to counter U.S. aircraft carriers. “An unusually detailed article in the June 2000 issue of *Missiles and Space Vehicles* assessed the challenge of developing re-entry warheads that could attack aircraft carriers, or what was euphemistically called ‘slowly moving targets on the sea’ in the English language summary that the journal’s Chinese editor provided.”⁹² Although there is little data to support that the Chinese have successfully developed this capability, the concern that China is willing to develop space weapons is cause for concern.

The author finds the pursuit of these asymmetric space capabilities rather interesting in light of official Chinese policy regarding space as outlined in the White Paper – Chinese Space Activity in 2006. This document states:

The aims of China's space activities are: to explore outer space, and enhance understanding of the Earth and the cosmos; *to utilize outer space for peaceful purposes* [emphasis mine], promote human civilization and social progress, and benefit the whole of mankind; to meet the demands of economic construction, scientific and technological development, national security and social progress; and to raise the scientific quality of the Chinese people, protect China's national interests and rights, and build up the comprehensive national strength.⁹³

The author would suggest that anti-satellite rockets, satellite blinding lasers, and the pursuit of space based system designed to target aircraft carriers support China’s long-term strategy to emerge at a future date on par with the West.

⁹² Pillsbury, *China's Military Strategy toward the U.S. - a View from Open Sources*, 27.

⁹³ "China's Space Activities in 2006," (Beijing: Information Office of the State Council of the People's Republic of China 2006), n.p.

Information Operations

Chinese leaders view information warfare, in today's increasingly high-tech battlefield environment, as a particularly attractive and powerful asymmetric option for "overcoming the superior with the inferior." Chang Mengxiong in *Weapons of the 21st Century* states that "Information warfare will be the most complex type of warfare in the 21st century, and it will decide who will win and who will lose the war."⁹⁴ Information operations are seen as particularly appealing because they have the ability to impact both the attacking military force and the political will of the people behind that military. The U.S.-China Economic and Security Review Commission reports that Chinese military writings suggest the use of information warfare to attack "key civilian targets such as financial systems" as well as to destroy or cripple military targets. The report further states that "The PLA, leveraging private sector expertise, steadily increases its focus on cyber-warfare capabilities and is making serious strides in this field."⁹⁵ Another particularly appealing aspect of information operations is its ability to influence the enemy at longer ranges compared to its conventional warfare counterparts. Additionally, information operations are "also believed to enjoy a high degree of 'plausible deniability,' rendering it a possible tool of strategic denial and deception."⁹⁶ In general, Chinese information warfare advocates argue that information operations are a useful supplement to China's conventional support to strategic goals.

⁹⁴ Chang Mengxiong, *Weapons of the 21st Century*, ed. Michael Pillsbury, trans. Michael Pillsbury, *Chinese Views of Future Warfare* (Washington DC: National Defense University Press, 1998), 255.

⁹⁵ "U.S.-China Economic and Security Review Commission," 137.

⁹⁶ "Chinese Information Operations Strategies in a Taiwan Contingency", in *U.S.-China Economic and Security Review Commission* (2005).

Dr. James Mulvenon, Deputy Director for Advanced Analysis and a specialist on the Chinese military from Defense Group Inc., reports that a core concept of emerging Chinese military doctrine is the preemption “strategy of *xianfa zhiren*, or ‘gaining mastery before the enemy has struck.’” Dr. Mulvenon cites a Chinese author who writes that information operations should be used “to take advantage of serious gaps in the deployment of forces by the enemy with a high tech edge by launching a *preemptive* [emphasis mine] strike during the early phase of the war or in the preparations leading to the offensive.” Other Chinese writers have focused on the vulnerability of critical civilian infrastructure to computer network attack , which if attacked would “shake war resoluteness, destroy war potential and win the upper hand in war, thus undermining the political will of the population for participation in military conflict.”⁹⁷ The U.S.-China Economic and Security Review Commission report summarizes China’s offensive outlook towards information operations:

The PLA’s cyber-warfare strategy has evolved from defending its own computer networks to attacking the networks of its adversaries and limiting their ability to obtain and process information, and PLA information warfare units are developing viruses to harm the computer systems of its enemies. Such attacks would be intended to disable defense systems that facilitate command and control and intelligence communication and the delivery of precision weapons, primary instruments for the conduct of modern U.S. warfare.⁹⁸

Another disturbing aspect of China’s information operations capabilities is its growing cyber-espionage program. *TIME* magazine has reported that “in recent years, the counterintelligence community has grown increasingly anxious that Chinese spies are

⁹⁷ Ibid.

⁹⁸ "U.S.-China Economic and Security Review Commission," 137.

poking into all sorts of American technology to compete with the U.S.”⁹⁹ *TIME*'s article focuses on a cyber-espionage ring that U.S. investigators have code-named “Titan Rain,” which since 2003 has “been conducting wide-ranging assaults on U.S. government targets to steal sensitive information.”¹⁰⁰ The article also suggests that “Titan Rain could be a point patrol for more serious assaults that could shut down or even take over a number of U.S. military networks.”¹⁰¹ U.S. officials are quick to point out that “they don't yet know whether the spying is official, a private-sector job or the work of many independent, unrelated hands,” but that the “the FBI is ‘aggressively’ pursuing the possibility that the Chinese government is behind the attacks.”¹⁰² Independent experts are more forthright in attributing these attacks to the Chinese government. Alan Paller, the director of the SANS Institute states that “the attacks have been traced to the Chinese province of Guangdong, and the techniques used make it appear unlikely to come from any other source than the military. . . . These attacks come from someone with intense discipline. No other organization could do this if they were not a military organization.”¹⁰³

Why is cyber-espionage so important to the Chinese? David Szady, head of the FBI's counterintelligence unit, summed up the answer in an interview with *TIME*--“When

⁹⁹ Nathan Thornburgh, “The Invasion of the Chinese Cyberspies (and the Man Who Tried to Stop Them),” in *TIME* (<http://www.time.com/time/magazine/article/0,9171,1098961,00.html>) (2006).

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ The SANS (SysAdmin, Audit, Network, Security) Institute was established in 1989 as a cooperative research and education organization. It is one of the most trusted and by far the largest source for information security training and certification in the world. Quotation from: “Hacker Attacks in U.S. Linked to Chinese Military: Researchers,” in *Breitbart.com* (<http://www.breitbart.com/news/2005/12/12/051212224756.jwmkvntb.html>) (Dec 15, 2005).

it comes to advancing their military by stealing data, the Chinese are more aggressive than anyone else. . . . If they can steal it and do it in five years, why [take longer] to develop it?"¹⁰⁴ Practically speaking, espionage has allowed the Chinese military to make great advances in technology in a very short time and at a fraction of the cost. Some examples of the fruits of China's efforts include new weapons systems that seem to "clone the Tomahawk cruise missile and the Aegis seaborne radar system."¹⁰⁵ This same technology cost the U.S. hundreds of millions of dollars in research and development costs and often represented decades of work.

Area Denial Weapons

Another focus area where China is attempting to gain an asymmetric advantage is in their pursuit of area denial weapons. The U.S. Department of Defense reports that "China is developing forces and concepts focused on denying an adversary the ability to deploy to locations from which it can conduct military operations. Increasingly, China's area denial forces overlap, providing multiple layers of defensive capability."¹⁰⁶ Foremost among China's acquisitions in this area has been improved ballistic cruise missiles, new and advanced submarines, and advanced anti-ship cruise missiles (ASCM).

The cornerstone of China's sea denial capability is its growing capability in naval weapons systems and platforms. China has made heavy investments in platforms capable of deploying mines, missiles, and advanced torpedoes. These improvements, coupled with new medium range ballistic missiles, provide China a potent area-denial capability

¹⁰⁴ Thornburgh.

¹⁰⁵ James Kitfield, "Espionage, the Sequel," *Air Force Magazine* March 2007, 73.

¹⁰⁶ "Military Power of the People's Republic of China 2006," 25.

as well as a potent offensive weapons capability should they choose to use it. The cornerstone of China's area denial capability is its growing submarine force. The submarine is one of China's most lethal and coercive sea-going elements. China is actively building its own indigenously produced SONG and YUAN class submarines as well as purchasing Russian-made KILO class submarines. These submarines have the capability to lay mines, launch ASCMs submerged, and attack ships with wire-guided and wake-homing torpedoes. China's willingness to posture its growing sea-denial capabilities offensively is evidenced by its recent stalking of a U.S. carrier battle group in the Pacific. The Washington Times reported that "The Kitty Hawk and several other warships were deployed in ocean waters near Okinawa..." when a Chinese submarine "surfaced within firing range of its torpedoes and missiles before being detected." The article further states that "Chinese submarines rarely have operated in deep water far from Chinese shores or shadowed U.S. vessels."¹⁰⁷

Another disturbing trend in China's offensive asymmetric capability is in its ballistic and cruise missile programs. China has made extensive investment in developing its longer-range ballistic missile force. It has developed a road-mobile, solid-propellant, intercontinental ballistic missile, which "can target most of the world, including the continental United States."¹⁰⁸ Former U.S. Secretary of Defense, Donald Rumsfeld commented on China's efforts to expand its missile force to include missiles

¹⁰⁷ Bill Gertz, "China Sub Secretly Stalked U.S. Fleet," *Washington Times*, November 13, 2006.

¹⁰⁸ "Military Power of the People's Republic of China 2006," 3-4.

capable of reaching targets around the world, not just the Pacific region: “Since no nation threatens China, one must wonder: Why this growing investment?”¹⁰⁹

China’s asymmetric military modernization efforts are part of China’s long-range strategy. China’s growing asymmetric capabilities nicely complement China’s energy security needs as well as China’s desire to gradually build its military power to challenge a hegemon. The realization of these efforts will enable China to emerge as the dominant regional player in Asia and ultimately on par with the West.

¹⁰⁹ Kynge, 234.

Conclusion

China's increasing demand for energy is a dilemma of growing proportion. China's energy demands will continue to grow and most likely will become increasingly dependent on foreign oil imports. This is a factor that potentially threatens the stability of China's burgeoning economy and as such, China's leadership must do everything in its power to satisfy China's energy needs. Failure to do so would likely precipitate economic panic and collapse of the sort that could unhinge the Communist Party's regime and authority. China's leadership faces an imperative—China's thirst for energy must be fed.¹¹⁰

China is seeking to protect its access to oil using economic bargaining power over military power in the short-term. This strategy is rooted in Chinese history and focuses on assuming a non-threatening posture while slowly developing capabilities necessary to challenge a hegemon and achieve great power status. China's willingness to strike deals for access to energy resources wherever they become available has brought China into increasing strategic and diplomatic conflict with the West. China's growing military capabilities and its increasing assertiveness in laying the military framework to guarantee "the safe passage back home of the oil and other resources it acquires in foreign climes" as evidenced by its "String of Pearls" initiative reflects the importance China places on energy security.¹¹¹

¹¹⁰ Ibid., 227.

¹¹¹ Ibid., 235.

China's String of Pearls approach and its military modernization are the two approaches that reflect China's overall strategy. China is simultaneously pursuing basing and access rights and the development of asymmetric military capabilities. China consistently downplays the threat of its military modernization and eloquently argues that it intends to rise peacefully. As proof, China offers its "Peaceful Development Road" White Paper. This policy framework is nothing more than recognition by China's leadership that it must adopt a long-term strategy that avoids direct military conflict with the United States if it is to succeed in its efforts. Unlike the West, China is patient, and it is willing to wait a few years or decades to make its desires a reality. China also suggests that its military modernization is purely defensive in nature and that it is in-synch with its "Peaceful Development Road" framework as evidenced by its low overall spending on defense. China's actual defense spending and its focused effort to develop asymmetric capabilities indicate that China's true intentions are focused on a broader objective of achieving great power status.

It seems appropriate to close with the following thoughts. China has a very long history where they were *the* dominant power in all of Asia. In fact, China has dominated culturally, economically, and militarily its "known world" almost since the beginning of its recorded history. As Steve Mosher has observed, "with the exception of the Roman Empire at its height, the major Chinese dynasties dwarfed in population and geographical extent contemporaneous empires in other parts of the world."¹¹² China's fall from greatness is a very recent occurrence when viewed from the perspective of China's rich

¹¹² Steve Mosher, "The Struggle for Democracy in China: Tiananmen Square in Retrospect, 2007," Witherspoon Lectures (<http://www.frc.org/get.cfm?i=WT00E2>), Family Research Council.

imperial history--a history that has instilled a strong sense of national greatness. China's fall from greatness is no small matter in the mind of the Chinese and it represents a great loss of "face," which must be assuaged. What better way to relieve the humiliation of China's fall from greatness than to plot a course to re-emergence as a great power. The world must not be naïve to China's true intentions. China's increasing need to secure energy resources and its increasingly powerful military are clear signs that China is a very credible threat to the West and the world at large.

The author acknowledges that China is very good at hiding its true intentions and at saying all the "right" things to hide its true intentions. Two statements made by vice-presidents of China's Academy of Military Science are worth of note. The statements were made by prominent senior PLA leaders holding the same position within the military separated by only a few years (Lieutenant General Mi Zhenyu immediately preceded Lieutenant General Li Jijun as vice-president of the Academy). The key difference in these statements is the audience who received them. In the case of General Li Jijun, he was speaking to western military professionals and clearly desired to portray a politically correct message that downplayed China's military threat:

The People's Republic of China is the world's largest developing country. The United States is the world's largest developed country. Both are permanent members of the U.N. Security Council. A healthy relationship between our two countries will contribute greatly to world peace and to the stability and prosperity of the Asian-Pacific region. To be objective, we have our differences. But the common interests that we share are greater than our differences. This fact provides us with a foundation for a robust and stable Sino-American relationship in the 21st century.

Some rather perceptive people have pointed out that a policy of "containing" China is reminiscent of Cold War thinking. If ideology continues to divide our two countries, the consequences will be really undesirable. If you treat China as an enemy, you will have 1.2 billion enemies with which to contend. The price for that will be very high. In my opinion, it is time to abandon Cold War thinking once and for all. Cooperation is better than confrontation, and

consultation is better than conflict. Economic policies that are mutually beneficial are preferable to economic sanctions. Mutual respect is better than discrimination, just as trust is better than suspicion.¹¹³

General Mi Zhenyu's comments, on the other hand, were made when speaking to the leadership of his country. These comments suggest a far more sinister outlook and are far more realistic and representative of China's true intentions:

. . . for a relatively long time it will be absolutely necessary that we quietly nurse our sense of vengeance. . . . We must conceal our abilities and bide our time.¹¹⁴

¹¹³ Li Jijun, "Traditional Military Thinking and the Defensive Strategy of China," in *Letort Paper No. 1* (Strategic Studies Institute: 1997).

¹¹⁴ Richard Bernstein and Ross Munro, *The Coming Conflict with China* (New York: Alfred A. Knopf Inc., 1997), 3.

Works Cited

- Baoxiu, Colonel Hong. *Deng Xiaoping's Theory of War and Peace*. Translated by Michael Pillsbury. *Chinese Views of Future Warfare*, ed. Michael Pillsbury. Washington DC: National Defense University Press, 1998.
- Bijian, Zheng. "China's Rise Will Be Peaceful." *New Perspectives Quarterly* 23, no. 1 (2006): 50-55.
- Burles, Mark, and Abram N. Shulsky. *Patterns in China's Use of Force*. Rand, 2000.
- Cheng, Allen T., and Wing-Gar Cheng. "Ahmadinejad Makes Iran Focus of China Security Summit (Update2) " In *Bloomberg.com*, 2006.
- "China's National Defense in 2006." Beijing: Information Office of the State Council of the People's Republic of China 2006.
- "China's Peaceful Development Road." Beijing: Information Office of the State Council of the People's Republic of China 2005.
- "China's Space Activities in 2006." Beijing: Information Office of the State Council of the People's Republic of China 2006.
- "Chinese Information Operations Strategies in a Taiwan Contingency". In *U.S.-China Economic and Security Review Commission*, 2005.
- Cole, Bernard D. "Oil for the Lamps of China--Beijing's 21st-Century Search for Energy." Washington, D.C.: National Defense University, 2003.
- _____. "Waterways and Strategy: China's Priorities." *China Brief* Volume V Issue 4 (2005): 1-3.
- Gertz, Bill. "China Sub Secretly Stalked U.S. Fleet." *Washington Times*, November 13, 2006.
- Goldstein, Avery. *Rising to the Challenge: China's Grand Strategy and International Security*. Palo Alto, CA: Stanford University Press, 2005.
- "Hacker Attacks in U.S. Linked to Chinese Military: Researchers." In *Breitbart.com* (<http://www.breitbart.com/news/2005/12/12/051212224756.jwmkvntb.html>), Dec 15, 2005.
- Herberg, Kenneth Lieberthal and Mikkal. "China's Search for Energy Security: Implications for U.S. Policy." *NBR Analysis* Volume 17 Number 1 (2006): 1-42.

- Jianhai, David Zweig and Bi. "China's Global Hunt for Energy." *Foreign Affairs* 84, no. 5 (2005): 25.
- Jijun, Li. "Traditional Military Thinking and the Defensive Strategy of China." In *Letort Paper No. 1*. Strategic Studies Institute, 1997.
- Kitfield, James. "Espionage, the Sequel." *Air Force Magazine* March 2007.
- Kleiber, Anthony H. Cordesman and Martin. *Chinese Military Modernization and Force Development*. Washington, DC: Center for Strategic and International Studies, 2006.
- Klimenko, A. F. "The Evolution of China's Military Policy and Military Doctrine." In *Military Thought*, 14, 45-62: East View Publications, 2005.
- Klimenko, Anatoly. "On the Evolution of China's Military Policy and Military Strategy." *Far Eastern Affairs* 32, no. 2 (2004): 30-42.
- Kreft, Heinrich. "China's Quest for Energy." *Policy Review*, no. 139 (2006): 61(10).
- Kuiguan, Senior Colonel Shen. *Dialectics of Defeating the Superior with the Inferior*. Translated by Michael Pillsbury. *Chinese Views of Future Warfare*, ed. Michael Pillsbury. Washington DC: National Defense University Press, 1998.
- Kynge, James. *China Shakes the World* Boston, New York: Houghton Mifflin Company, 2006.
- Lam, Tran Dinh Thanh. "Vietnam Oil Find Fuels China's Worries." In *Asia Times Online*, 2004.
- Mellor, William, and Le-Min Lim. "China's Oil Deals with Iran, Myanmar Put It at Odds with U.S." In *Bloomberg.com*, 2006.
- Mengxiong, Chang. *Weapons of the 21st Century*. Translated by Michael Pillsbury. *Chinese Views of Future Warfare*, ed. Michael Pillsbury. Washington DC: National Defense University Press, 1998.
- "Military Power of the People's Republic of China 2006." Department of Defense, 2006.
- Mosher, Steve. "The Struggle for Democracy in China: Tiananmen Square in Retrospect, 2007." Witherspoon Lectures (<http://www.frc.org/get.cfm?i=WT00E2>), Family Research Council.
- Munro, Richard Bernstein and Ross. *The Coming Conflict with China*. New York: Alfred A. Knopf Inc., 1997.
- Niazi, Tarique. "Gwadar: China's Naval Outpost on the Indian Ocean." *China Brief* Volume V Issue 4, no. Feb 2005 (2005): 6-7.

- Ning, Colonel Fang. *Defense Policy in the New Era*. Translated by Michael Pillsbury. *Chinese Views of Future Warfare*, ed. Michael Pillsbury. Washington DC: National Defense University Press, 1998.
- Oksenberg, Michel. *Taiwan, Tibet, and Hong Kong in Sino-American Relations*. Stanford, CA: Stanford University Press, 1997.
- Pehrson, Christopher J. *String of Pearls: Meeting the Challenge of China's Rising Power across the Asian Littoral*. Strategic Studies Institute, 2006.
- Pillsbury, Michael. *China Debates the Future Security Environment* Washington, DC: National Defense University Press, 2000.
- _____. *China Debates the Future Security Environment* Washington, D.C.: National Defense University Press, 2000.
- _____. *China's Military Strategy toward the U.S. - a View from Open Sources*. U.S.-China Economic and Security Review Commission, 2001.
- "Quadrennial Defense Review Report." ed. Department of Defense, 2006.
- Saunders, Phillip C. *China's Global Activism: Strategy, Drivers, and Tools*. Washington, D.C.: National Defense University Press, 2006.
- Shambaugh, David. *Modernizing China's Military*. Berkeley: University of California Press, 2002.
- Spotts, Peter N. "Alarm over China's Arms Pursuit - in Space." *Christian Science Monitor*, November 20, 2006
- Thornburgh, Nathan. "The Invasion of the Chinese Cyberspies (and the Man Who Tried to Stop Them)." In *TIME* (<http://www.time.com/time/magazine/article/0,9171,1098961,00.html>), 2006.
- "U.S.-China Economic and Security Review Commission." U.S. Government Printing Office, 2006.
- Vego, Dr. Milan. "What Can We Learn from Enduring Freedom?" *Proceedings*, July (2002).
- Williams, Chris. "Pentagon Confirms Beijing's Anti-Satellite Laser." In *The Register* (*on-line*), Friday 6th October 2006
- World Energy Outlook*. Paris: International Energy Agency, OECD, 2002.
- World Energy Outlook*. Paris: International Energy Agency, OECD, 2004.

Vita

Major Christopher Larson is a B-2 Weapons Officer currently completing in residence intermediate developmental education at the Joint Advanced Warfighting School (JAWS), Joint Forces Staff College, Norfolk, VA. JAWS produces graduates that can create campaign-quality concepts, plan for the employment of all elements of national power, accelerate transformation, succeed as joint force operational / strategic planners and be creative, conceptual, adaptive and innovative.

Maj Larson is a 1993 honor graduate of the U.S. Air Force Academy and has had operational flying assignments in the B-52, the RQ1-A Predator Unmanned Aerial Vehicle, and the B-2 Stealth Bomber. Maj Larson is a weapons officer and senior pilot with more than 2500 hours total flying time and has flown in support of Operations ALLIED FORCE, JOINT FORGE, and IRAQI FREEDOM.